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Improving the Ability to Recognize the Concept of Subtraction in Group B Children through Bowling Games at RA Athohiriyah

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ABSTRACT

This study aims to improve the ability to recognize the concept of subtraction in early childhood, especially children in Group B at RA Athohiriyah, Limo, Depok, through bowling game activities. The background of this study is the low understanding of children towards the concept of subtraction as seen from the results of initial observations, where most children have not been able to subtract correctly and are still confused about distinguishing between the concepts of addition and subtraction. This study is a Classroom Action Research (CAR) which is carried out in two cycles, with each cycle consisting of planning, implementation, observation, and reflection stages. The subjects of this study were 20 children in Group B in the 2017-2018 academic year. Data were collected through observation, interviews, documentation, and assessment of children's performance. The results of the study showed that the implementation of bowling games can significantly improve children's ability to recognize the concept of subtraction. In cycle I, children who achieved the learning completion criteria were 55%, increasing to 85% in cycle II. Children become more enthusiastic, active, and understand the concept of subtraction concretely through fun and interactive play activities. Thus, bowling games are proven to be effective as a learning medium that can help children understand basic mathematical concepts contextually and enjoyably. This study recommends the use of educational games in learning mathematical concepts for early childhood, in order to create a more meaningful and enjoyable learning atmosphere.

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Introduction

Early childhood education is an important foundation in shaping children's cognitive, social, and emotional abilities. One aspect that is the main focus in early childhood education is the ability to think logically and mathematically, including understanding the concept of subtraction. This ability is important because it is the basis for the development of more complex arithmetic skills at the next level of education. However, not all children are able to understand the concept of subtraction easily. Therefore, a

creative and fun learning approach is needed so that children can learn without pressure, while understanding basic mathematical concepts more meaningfully.

This study was motivated by the results of initial observations at RA Athohiriyah Limo, Depok, which showed that most children in group B had difficulty in recognizing and understanding the concept of subtraction. Children tend to get bored quickly if given conventional exercises such as questions in workbooks or monotonous arithmetic activities. Based on this fact, researchers feel the need to find a more interesting and fun learning strategy, one of which is by using bowling as a learning medium. This game is not only fun, but also allows children to be actively and directly involved in activities that contain the concept of subtraction.

Games as a learning method have been widely researched and applied in early childhood education. According to Piaget (1962), early childhood is in the preoperational stage, where they learn best through concrete activities and direct experiences. In addition, Vygotsky (1978) emphasized the importance of social interaction and play in supporting children's cognitive development. In this context, bowling can be a learning tool that not only involves motoric aspects, but also facilitates understanding of subtraction logic in a concrete way. Several previous studies, such as those conducted by Fitriani (2015) and Mulyani (2016), also show that game-based learning can improve children's learning outcomes in cognitive aspects, including understanding basic mathematical concepts.

Although there have been many studies that highlight the effectiveness of learning through games, there is still little research that specifically examines the use of bowling to improve understanding of the concept of subtraction in early childhood. This study aims to fill this gap while contributing to the development of creative learning strategies in PAUD institutions. Thus, this paper is expected to contribute to the practical and theoretical understanding of the use of games in early childhood mathematics learning, especially the concept of subtraction.

The hypothesis put forward in this study is that the use of bowling games can significantly improve children's ability to recognize the concept of subtraction compared to conventional learning methods. This hypothesis is quite controversial for some traditional educators who still believe that mathematics teaching must be carried out systematically and structured through practice questions. However, a game-based approach offers an alternative learning method that is both fun and meaningful for children.

The structure of this paper consists of several main parts. After the introduction, the second part will explain the research method used, including the design, subjects, and data collection techniques. The third part presents the results and discussion, followed by conclusions and suggestions at the end. The main conclusion of this study shows that bowling games can be an effective learning medium to introduce the concept of subtraction to group B children at RA Athohiriyah Limo.

With an applicable and fun approach, it is hoped that the results of this study can provide alternative solutions for PAUD educators in designing effective and fun learning activities and encouraging optimal cognitive development of children.

Methods

This study uses a classroom action research (CAR) approach, which is a form of reflective research by educational practitioners to improve the learning process in the classroom on an ongoing basis. CAR is considered most appropriate for studying contextual learning problems, such as children's difficulties in understanding the concept of subtraction. With this design, researchers can directly observe, record, and reflect on the process and results of implementing learning actions through bowling games.

This study was conducted in two cycles, where each cycle consisted of four main stages: planning, implementing actions, observation, and reflection. Each cycle aims to improve children's learning outcomes in understanding the concept of subtraction, based on the evaluation results from the previous cycle. This cycle approach makes it easier for researchers to adjust learning strategies based on real needs in the classroom.

The subjects of this study were children in group B at RA Athohiriyah, Limo, Depok, in the 2017–2018 academic year. The children in this group were between 5–6 years old. The number of children who were the subjects of the study was 20 people, consisting of 10 boys and 10 girls. These children were chosen because they were at the right age to begin to understand simple mathematical operations, such as subtraction.

The population of this study was all children in group B at RA Athohiriyah. Because the number of students in one group was quite representative and manageable, this study used a population approach, not sampling. All children in the group were actively involved in the research activities.

As the main research instruments, the researcher used observation sheets, interview guidelines, field notes, and learning outcome assessment sheets. These instruments were designed to document the learning process, children's responses during activities, and the development of their cognitive abilities towards the concept of subtraction. The instruments were compiled based on early childhood development indicators in accordance with Permendikbud No. 137 of 2014.

Observation sheets were used to record children's behavior and participation during the learning activities. Observations were carried out by the researcher together with the class teacher as a collaborator. This collaboration is important to maintain the objectivity of observations and facilitate data validation.

Interviews were conducted with the class teacher and several children indirectly (through open questions during the activities) to obtain additional information about the understanding of the concept of subtraction from their perspective. Interviews with teachers were also used to explore opinions and reflections on the effectiveness of bowling in learning.

Field notes were used to record classroom situations, children's spontaneous reactions, technical obstacles, and interesting or unexpected things that happened during the learning process. These notes are important data in the reflection stage.

Meanwhile, the learning outcome assessment sheet contains indicators of the ability to recognize the concept of subtraction, such as the ability to subtract with concrete objects, state the results of subtraction verbally, and show the results of subtraction with the media used. The assessment was carried out individually for each child.

For the purposes of the activity, the main tool used was a children's bowling game, consisting of 10 colored plastic pins and 1 lightweight plastic ball. The game specifications are adjusted to the safety and size of the hands of early childhood children. The pins are about 20 cm high and are lightweight so they are safe to use. The balls used are made of plastic with a diameter of about 15 cm, large enough to be held and thrown by children.

Supplementary materials in the form of assignment sheets, number cards, and small boards are used as aids to strengthen understanding of the concept of subtraction. All materials are prepared with an attractive and colorful appearance to stimulate children's interest.

The role of the researcher in this study is not only as an observer, but also as a planner, action implementer, and data collector. Therefore, the presence of the researcher in the classroom is an integral part of the learning process. The researcher collaborates with the class teacher in all stages of implementation.

The location of the study was in the group B classroom of RA Athohiriyah, which has been equipped with educational game tools and a fairly large space for children's motor activities. The study was conducted for two months, namely from January to February 2018, with a total active observation time of 6 weeks.

To maintain the validity of the data, triangulation techniques were used, both source triangulation (teachers, children, and observers), and technique triangulation (observation, interviews, and documentation). The results of the three techniques were compared and analyzed together to ensure data consistency and validity.

The data were analyzed descriptively qualitatively with a thematic analysis approach. Each observation result, interview, and field note were categorized based on themes, such as conceptual understanding, children's responses, and game effectiveness. In addition, quantitative data from the assessment results were used to support qualitative findings.

Analysis per cycle was conducted to see the extent to which children's understanding of the concept of subtraction had increased after being given learning actions through bowling games. The results of the analysis were then used to formulate actions in the next cycle to be more targeted.

Reflection was conducted with collaborating teachers at the end of each cycle. From the results of this reflection, learning strategies were improved and adjusted to the needs of the children. This step is important to ensure that the learning provided is truly effective and in accordance with the characteristics of early childhood development.

This research is not only oriented towards the final result in the form of increasing children's understanding of the concept of subtraction, but also on a meaningful learning process. Therefore, observation of social interactions, learning motivation, and child involvement are important parts of the analysis.

Through a reflective and sustainable classroom action research approach, it is hoped that this research will be able to provide a real contribution to learning practices in RA, especially in the development of game-based learning strategies. In addition, this research is also expected to enrich the scientific knowledge in the field of early childhood education.

Result

This classroom action research was conducted in two cycles. Each cycle consisted of four stages, namely planning, implementation of actions, observation, and reflection. The results of the study were analyzed based on observations of children's activities, interviews with teachers, children's learning outcomes, and field notes.

In cycle I, learning activities through bowling games were carried out in three meetings. The activity began with the teacher giving an example of how to play bowling and explaining that each pin that fell represented a number subtracted from the original number. The children seemed enthusiastic, although some were still confused about the concept of subtraction.

From the results of observations in cycle I, it was found that most children still needed help in stating the results of the subtraction. They were able to knock down pins, but were still confused about counting the remaining pins or stating the results of the subtraction correctly. This shows that they are just beginning to understand the concept of subtraction concretely.

The results of the formative evaluation showed that only 7 out of 20 children (35%) showed sufficient understanding of the concept of subtraction with scores that reached the completion indicator. The other children were still in the understanding stage, with common mistakes such as stating the number of pins that fell as the result of subtraction.

Interviews with teachers revealed that children were very interested in bowling, but still needed to get used to it so that they could connect the playing activity with the concept of subtraction. The teacher suggested that in the next cycle, more practice be given with variations in how to connect the number of pins and numbers.

In the reflection stage of cycle I, it was concluded that improvements were needed in the approach. Researchers and teachers agreed to strengthen visual explanations, such as using number cards and small whiteboards that show the subtraction process gradually and clearly.

Cycle II was carried out by improving the learning strategy. Bowling game activities were combined with the use of number cards and visual subtraction props. For example, children were asked to choose the initial number from the card, then knock down the pins, then count the remaining pins to determine the result of the subtraction.

In cycle II, children's enthusiasm remained high and their ability to understand the concept of subtraction increased significantly. They began to be able to connect the initial number of pins, the number of pins that fell, and the results of the subtraction more precisely.

The results of observations showed that more children were able to state the results of the subtraction without the help of the teacher. Some children even began to explain the subtraction process verbally to their friends, such as saying "10 minus 4, the remainder is 6."

Formative evaluation at the end of cycle II showed that 17 out of 20 children (85%) had achieved the learning completion indicator. They were able to perform simple subtraction operations concretely using game media and visual aids.

This significant change was also reflected in the increase in the average class score. In cycle I, the average score only reached 62, while in cycle II it increased to 84. This shows the effectiveness of bowling games as a learning medium.

Follow-up interviews with class teachers showed that teachers felt this method was very helpful in learning mathematics. Teachers appreciated the concrete approach used, because it made children learn actively and enjoyably.

Field notes showed that the learning atmosphere in the classroom became more lively and interactive. Children looked more confident when answering subtraction questions orally, and a healthy competitive atmosphere began to form through the game.

In terms of participation, almost all children were actively involved in the activities. Even children who were usually quiet began to show courage to try and answer the teacher's questions. This shows that the game also has a positive impact on children's social and emotional aspects.

Researchers found that the success of increasing understanding of the concept of subtraction did not only come from the game itself, but also from visual support that helped children process information concretely and gradually.

Bowling games have proven effective because they provide meaningful learning experiences, where children not only memorize numbers but truly understand the subtraction process through real actions such as knocking down and counting pins.

From the results of this study, it can be concluded that learning with bowling game media can significantly improve the ability to recognize the concept of subtraction in group B children at RA Athohiriyah. This strategy is effective especially if supported by relevant visual aids.

This success also shows that the play-while-learning approach is in accordance with the developmental stages of early childhood, who tend to learn better through physical and concrete activities rather than abstract and formal approaches.

Overall, the results of this study contribute to learning practices in early childhood education, especially in developing fun and effective methods for basic mathematics learning.

With the right approach, early childhood can understand simple mathematical concepts such as subtraction, without pressure and with active involvement in a fun learning process. This also reinforces the importance of innovation in early childhood learning methods.

Discussion

The results of the study showed that bowling games can significantly improve the ability of group B children to recognize the concept of subtraction. This increase can be seen from the increase in the number of children who achieved learning completion, as well as from the results of observations that show children's concrete understanding of the subtraction process. These findings support the initial hypothesis that learning through games can provide meaningful learning experiences for early childhood.

Bowling games, as a form of concrete and fun activity, have been shown to be able to bridge abstract mathematical concepts into something that can be understood in real terms by children. When children knock down pins and count the remainder, they are not only making physical movements, but are also doing cognitive processing of the concept of subtraction.

The significant increase from cycle I to cycle II also shows the importance of improving visual strategies, such as the use of number cards and small boards. This shows that the combination of games and visual aids provides maximum effect in improving understanding of mathematical concepts in early childhood.

This study supports Piaget's theory of the preoperational stage, where early childhood learns through concrete actions and representations. When children experience the subtraction process directly, they build a new, stronger thinking scheme than just receiving information verbally.

In addition, this finding is also in line with Vygotsky's idea of the zone of proximal development (ZPD), where children learn more effectively when guided through social interaction. In this activity, interaction between teachers and children, as well as between children, facilitates a deeper learning process.

Several previous studies such as those conducted by Fitriani (2015) and Mulyani (2016) also show that game-based learning can improve children's numeracy skills. This study strengthens these findings and expands them with a specific approach to subtraction through bowling games.

The results of this study also emphasize the importance of the learning by doing approach in early childhood education. Children who learn by doing and experiencing directly are proven to understand concepts faster than lecture methods or worksheets alone.

Interestingly, bowling games also create a healthy competitive learning atmosphere, where children feel motivated to try and complete subtraction tasks correctly. This shows that the affective aspect of learning is also strengthened through play.

From a social-emotional perspective, increased self-confidence in children is evident when they begin to explain the subtraction process to their friends. This is an indicator that learning through games not only improves cognitive abilities, but also social and communication skills.

From the results of this study, it can be implied that PAUD teachers need to be encouraged to be more creative in choosing learning methods, by utilizing

games that are relevant to learning objectives. Learning media does not have to be expensive, but must be functional, contextual, and interesting for children.

This study also shows that simple games such as bowling, if packaged pedagogically, can have a big impact on learning. Therefore, teacher training needs to include game-based learning strategies that are directed and measurable.

In terms of curriculum, the results of this study support the integration of play activities as a core part of mathematics learning in PAUD. Basic concepts such as subtraction should be introduced through direct experience, not with overly formal methods.

The hypothesis that bowling games can improve understanding of the concept of subtraction has been confirmed through qualitative and quantitative data. This challenges the traditional view that relies on conventional instructional approaches in mathematics learning.

However, several limitations were also found, such as the time required to implement the game and the need for sufficient space. In this context, schools need to organize schedules and classrooms so that this kind of learning activity can be carried out optimally.

The involvement of teachers as facilitators is also very important. Without proper guidance, games can turn into mere physical activities without clear learning meaning. Therefore, teacher training is key to the successful implementation of this method.

For further research, it is recommended that replications be carried out in other schools with a larger number of subjects or in different age groups, such as children aged 4–5 years, to see if the same approach produces similar results.

In addition, further research can also explore the use of other games that contain elements of subtraction, such as dice games, math cards, or role-playing games with a shopping context that involves reducing the number of objects.

Another aspect that can be studied more deeply is how differences in children's learning styles (visual, kinesthetic, auditory) affect the effectiveness of this game. This research can be developed by including further analysis of the individual characteristics of children.

Overall, this study provides a real contribution to a more active, fun, and effective PAUD learning approach. This is evidence that innovation in teaching methods can have a significant impact on learning outcomes, especially if it is in accordance with the characteristics of early childhood development.

Conclusion

This study aims to improve the ability to recognize the concept of subtraction in group B children through bowling games at RA Athohiriyah Limo, Depok, in the 2017–2018 Academic Year. Based on the results of classroom action research conducted in two cycles, it was found that the application of bowling games systematically and in a

directed manner can significantly improve the understanding of the concept of subtraction.

The main finding of this study is that early childhood children find it easier to understand mathematical concepts, especially subtraction, through concrete and enjoyable experiences. Bowling games are an effective learning medium because they present real situations that involve physical activity, number visualization, and social interaction that support children's learning processes.

The main argument put forward in this study, that the play approach can bridge abstract concepts into concrete ones, has proven to be true. Children are not only involved cognitively, but also affectively and socially in learning activities. This reflects the principle of holistic learning that is in accordance with the characteristics of early childhood education.

The improvement in learning outcomes from cycle I to cycle II, both quantitatively (percentage of learning completion and average value) and qualitatively (observation and interview), shows that the use of bowling games contributes significantly to the mastery of the concept of subtraction. Children become more active, confident, and skilled in solving simple subtraction problems.

Bowling games have also been shown to create a fun and meaningful learning atmosphere. Children do not feel burdened, but are enthusiastic about participating in learning activities. This is very important in early childhood education, because a positive emotional atmosphere will strengthen the process of internalizing concepts.

In practice, these findings can be applied by PAUD teachers as an alternative method of learning mathematics. Simple games that are packaged pedagogically can be used to build basic concepts of counting, especially in introducing basic mathematical operations such as subtraction.

This study also provides a strong basis for the development of a more contextual and child-centered PAUD curriculum. The curriculum should provide ample space for the use of concrete learning media and games that are appropriate to the child's developmental stage, not only emphasizing formal academic achievement.

As a recommendation, PAUD teachers need to be encouraged to be more creative in designing learning activities that combine elements of play and learning. Teacher training also needs to include skills in designing, managing, and evaluating game-based learning so that learning outcomes are more optimal.

Implications for further research are the need for broader exploration of other types of games that can improve other mathematical concepts, such as addition, comparison, and grouping. In addition, research can be expanded by considering individual factors of children, such as learning styles and levels of cognitive readiness.

Overall, this study shows that a learning approach that integrates games is not only relevant but also very effective in developing basic mathematical skills in early childhood. With proper implementation, this approach can provide a strong foundation for mathematics learning at the next level of education, while fostering a sense of enjoyment of learning from an early age.

References

Arikunto, S. (2002). Prosedur Penelitian. Bandung: Rineka Cipta.

Dasopang, M. D., Lubis, A. H., & Dasopang, H. R. (2022). How do Millennial Parents Internalize Islamic Values in Their Early Childhood in the Digital Era? AL-ISHLAH: Jurnal Pendidikan, 14(1), 697–708.

Dasopang, M. D., Nasution, I. F. A., & Lubis, A. H. (2023). The Role of Religious and Cultural Education as A Resolution of Radicalism Conflict in Sibolga Community. HTS Theological Studies, 79(1), 1–7.

Erawadi, E., Hamka, H., & Juliana, F. (2017). The Analysis of Student's Stressed Syllables Mastery at Sixth Semester of TBI in IAIN Padangsidimpuan. English Education: English Journal for Teaching and Learning, 5(1), 44–57.

Fatimah, A., & Maryani, K. (2018). Visual Literasi Media Pembelajaran Buku Cerita Anak. Jurnal Inovasi Teknologi Pendidikan, 5(1), 61–69. https://doi.org/10.21831/jitp.v5i1.16212

Gogahu, D. G. S., & Prasetyo, T. (2020). Pengembangan Media Pembelajaran Berbasis E-Bookstory untuk Meningkatkan Literasi Membaca Siswa Sekolah Dasar. Jurnal Basicedu, 4(4), 1004–1015.

Hamka, H. (2023). The Role of Principals on Teacher Performance Improvement in a Suburban School. QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama, 15(1), 371–380.

Hamka, H., Suen, M.-W., Anganthi, N. R. N., Haq, A. H. B., & Prasetyo, B. (2023). The Effectiveness of Gratitude Intervention in Reducing Negative Emotions in Sexual Abuse Victims. Psikohumaniora: Jurnal Penelitian Psikologi, 8(2), 227–240.

Harahap, S. M., & Hamka, H. (2023). Investigating the Roles of Philosophy, Culture, Language and Islam in Angkola's Local Wisdom of 'Dalihan Na Tolu.' HTS Teologiese Studies/Theological Studies, 79(1), 8164.

Hendrawati, S., Rosidin, U., & Astiani, S. (2020). Perilaku hidup bersih dan sehat (PHBS) siswa/siswi di sekolah menengah pertama negeri (SMPN). Jurnal Perawat Indonesia, 4(1), 295–307. https://doi.org/https://doi.org/10.32584/jpi.v4i1.454

Lubis, A. H. (2019). Upaya Peningkatan Hasil Belajar Siswa Sekolah Dasar melalui Model Cooperative Learning Tipe Numered Heads Together. FORUM PAEDAGOGIK, 11(2), 127–143.

Lubis, A. H. (2023). The Interactive Multimedia Based on Theo-Centric Approach as Learning Media during the Covid-19 Pandemic. JPI (Jurnal Pendidikan Indonesia), 12(2), 210–222.

Lubis, A. H., & Dasopang, M. D. (2020). Pengembangan Buku Cerita Bergambar Berbasis Augmented Reality untuk Mengakomodasi Generasi Z. Jurnal Pendidikan: Teori, Penelitian, Dan Pengembangan, 5(6), 780–791.

Lubis, A. H., Dasopang, M. D., Ramadhini, F., & Dalimunthe, E. M. (2022). Augmented Reality Pictorial Storybook: How does It Influence on Elementary School Mathematics Anxiety? Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran, 12(1), 41–53.

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.

Manshur, U., & Ramdlani, M. (2019). Media audio visual dalam pembelajaran PAI. Al-Murabbi:Jurnal Pendidikan Agama Islam, 5(1), 1–8.

Mardhiyah, R. H., Aldriani, S. N. F., Chitta, F., & Zulfikar, M. R. (2021). Pentingnya Keterampilan Belajar di Abad 21 sebagai Tuntutan dalam Pengembangan Sumber Daya Manusia. Lectura: Jurnal Pendidikan, 12(1), 29–40.

Ningsih, Y. S., Mulia, M., & Lubis, A. H. (2023). Development of Picture Storybooks with TheoAnthropoEco Centric Approach for Elementary School Students. AL-ISHLAH: Jurnal Pendidikan, 15(2), 1888–1903.

Nurhidayah, I., Asifah, L., & Rosidin, U. (2021). Pengetahuan , Sikap dan Perilaku Hidup Bersih dan Sehat pada Siswa Sekolah Dasar. 13(1), 61–71. https://doi.org/10.32528/ijhs.v13i1.4864

Pebtiyanti, I., Ahmad, A., Dzaky, M., Fauziah, S. N., Rendi, & Puspitasari, P. (2023). Peran kurikulum merdeka dalam meningkatkan harmonisasi antara masyarakat dan sekolah. Jurnal Pacu Pendidikan Dasar, 3(1), 269–277. https://doi.org/https://doi.org/10.22021/pacu.v3i1.411

Rahmah, S., & Lubis, A. H. (2024). Problem Posing as a Learning Model to Improve Primary School Students' Mathematics Learning Outcomes in Gayo Lues. Journal of Indonesian Primary School, 1(4), 93–104.

Rahman, A., Munandar, S. A., Fitriani, A., Karlina, Y., & Yumriani. (2022). Pengertian Pendidikan, Ilmu Pendidikan dan Unsur-Unsur Pendidikan. Al Urwatul Wutsqa: Kajian Pendidikan Islam, 2(1), 1–8.

Ranisa, R., Erawadi, E., & Hamka, H. (2018). Students' Mastery in Identifying Adverbs at Grade VIII SMPN 2 Batang Toru Tapanuli Selatan. ENGLISH EDUCATION JOURNAL: English Journal for Teaching and Learning, 6(2), 241–252.

Ricardo, R., & Meilani, R. I. (2017). Impak Minat dan Motivasi Belajar terhadap Hasil Belajar Siswa. Jurnal Pendidikan Manajemen Perkantoran (JPManper), 2(2), 188–201.

Santi, Undang, & Kasja. (2023). Peran Guru PAI dalam Membentuk Karakter Peserta Didik di Sekolah. Jurnal Pendidikan Tambusai, 7(2), 16078–16084. https://doi.org/https://doi.org/10.31004/jptam.v7i2.8918

Sugiyono. (2018). Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: Alfabeta.