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Utilization of Digital Puzzle Media in Frog Metamorphosis Material for Third Grade Elementary School Students

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A B S T R A C T

Technological developments in education demand innovation in learning media, especially in elementary schools. This research is motivated by students' suboptimal understanding of frog metamorphosis, lack of interest in learning, and suboptimal use of learning media. The purpose of this study is to describe the use of digital puzzle media in frog metamorphosis material for teachers and third-grade students at SDN 1 Wonokerto to help improve material understanding. This study applies a qualitative approach with descriptive methods. Data collection was carried out using observation, interviews, and documentation techniques. The results show that the use of digital puzzles has a positive impact on both teachers and students. Teachers are more assisted in presenting material contextually and are able to create a more active learning atmosphere. Meanwhile, students become more interested, actively participate, and more quickly understand the stages of frog metamorphosis. This media also enhances the fun learning atmosphere through the activity of assembling digital puzzles that are challenging and not boring. Thus, digital puzzles can be used as an alternative effective learning media, while encouraging collaboration between teachers and students in creating a more meaningful learning process.

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1. INTRODUCTION

Natural and Social Sciences (IPAS) learning in elementary schools plays a crucial role as the primary means for developing students' knowledge about living things and their environment, particularly in studying frog metamorphosis. Learning is an activity designed to support students' learning process, enabling them to gain meaningful learning experiences through interactions between teachers, students, and the learning environment. Ideally, IPAS learning is expected to help students understand scientific concepts in a concrete, active, and enjoyable manner, thus optimally achieving learning objectives. Students are expected to not only memorize material but also understand the processes and relationships between concepts learned in everyday life. However, conditions encountered in the field indicate a gap between expectations and reality. In the IPAS learning process, students often face difficulties in understanding the concepts of frog metamorphosis. Some students are unable to accurately explain the sequence of metamorphosis stages, are less active in learning activities, and demonstrate relatively low learning interest. This condition is caused by learning that still tends to be conventional and does not utilize interesting and interactive learning media. As a result, abstract material that includes the stages of change in the form of living things becomes difficult for students to understand. Therefore, the use of appropriate learning media is essential to help students understand the stages of metamorphosis more concretely, increase their engagement in learning, and encourage improved learning outcomes. This statement aligns with research findings that show that the use of learning media for metamorphosis material can improve conceptual understanding and student learning engagement in elementary schools (Fauziah et al., 2025). The role of teachers in learning activities is no longer seen as the primary source of learning, but rather as facilitators and guides who help students understand the material and develop their potential. Teachers are responsible for creating a conducive learning environment and providing various learning resources that can support the success of the learning process. In implementing learning, the use of learning media is crucial because it functions as a means to facilitate the delivery of material while enhancing interaction between teachers and students. Without appropriate learning media, the communication process in learning will not take place effectively and can hinder the achievement of learning objectives (Fauzi & Mustika, 2022).

Learning media is a crucial aspect of the teaching and learning process, serving as a tool for teachers in explaining material to students. Learning media can take various forms, such as print, audio, visual, and audiovisual media, designed to facilitate and increase student interest in understanding the material. The use of learning media in elementary schools must be tailored to student characteristics and needs to create a more effective and meaningful learning process. By utilizing appropriate learning media, students can more easily grasp the concepts being studied while simultaneously increasing their interest and motivation to learn (Tafonao, 2018). According to Hamalik's opinion in (Nurrita, 2018), the role of learning media as a tool for learning activities includes: 1) the material explained by the teacher becomes more interesting so that it can increase students' enthusiasm for learning, 2) learning methods become more varied and not only centered on lectures, 3) supporting students in understanding the learning material more practically so that learning objectives can be achieved optimally, and 4) motivating students to play a more active role in the learning process such as observing, trying, and demonstrating the material being studied. Learning media can be interpreted as all forms of means used to convey learning messages from learning sources to message recipients so that they can stimulate students' thoughts, feelings,

attention, and interest in the learning process.

Furthermore, digital media can also help students understand difficult material by displaying illustrations, animations, videos, and interactive simulations that can illustrate learning concepts in a more realistic and engaging way. The use of digital media is very suitable for the characteristics of elementary school students who are still at the concrete operational cognitive development stage, so students need visual support and direct learning experiences to help them understand the material. Digital media allows students to learn more actively, increases their attention span, and facilitates their understanding of the concepts being studied (Farida, 2019). According to the opinion of (Hermansah & Jakaria, 2025), learning activities require the use of appropriate and relevant digital media to support the learning process so that learning objectives can be optimally achieved. Digital media such as learning videos, interactive applications, and digital quizzes can help teachers present material in a fun way that is easy for students to understand. With digital media, the learning process becomes more effective because it can increase student attention, motivation, and engagement during learning activities. Therefore, improving student learning outcomes requires support in the form of digital learning aids or media that align with technological developments and the needs of elementary school students.

One type of learning media that is appropriate for elementary school students is digital puzzle media on frog metamorphosis material that can be applied throughout the learning process, from understanding basic concepts to evaluation activities. Digital puzzle media is an interactive learning medium that presents pieces of images of the stages of frog metamorphosis that must be rearranged by students in the correct order. Puzzle media is designed to encourage student engagement and help them understand the concept of metamorphosis through fun and interactive learning, and has been proven to significantly improve student learning outcomes (Apriani et al., 2025). Digital puzzle media can increase student active engagement in learning through various activities, such as games, quizzes, and exercises to arrange pictures according to the stages of frog metamorphosis. Puzzle-based learning media is considered to increase student enthusiasm and interest in learning because it makes learning more interesting and encourages students to be directly involved in learning activities. The results of the study show that puzzle media for metamorphosis material has a very high level of feasibility and can be used practically as an innovative learning medium in elementary schools (Sari & Mustika, 2025). If teachers utilize learning media that are appropriate to the age and characteristics of their students, the delivery process will be more effective and efficient. Furthermore, learning media can also encourage students to understand the material more simply because it is presented in a concrete, visual format. The use of puzzles has been shown to positively contribute to students' understanding of the life cycle of living things and optimize student learning outcomes in elementary school science. The use of digital puzzles is strongly linked to the development of creative thinking skills and understanding of elementary school science concepts (Nurfathiyyah et al., 2025).

Based on the results of observations at SD Negeri 1 Wonokerto, Sale District, Rembang Regency, it shows that 13 third-grade students face several obstacles in learning science, including: most students have not understood the material optimally because teachers tend to rely on explanations from books. In addition, the learning method used is still dominated by the lecture method, so that students easily feel bored and interact more with peers, which has an impact on class conditions becoming less conducive. The limitations of learning media also contribute to the low interest of students in participating in learning. Research conducted by (Putri et al., 2023) which states that the use of puzzle media in metamorphosis material

can improve elementary school students' learning outcomes while encouraging student engagement in the learning process. Based on the problems described, the researcher will conduct a study through research entitled "Utilization of Digital Puzzle Media in Frog Metamorphosis Material for Grade III Elementary School Students".

2. RESEARCH METHODOLOGY

This study employed a descriptive qualitative approach. This approach was used to describe in detail and in depth the use of digital puzzle media by teachers and students in grade III in science learning on frog metamorphosis. This study was conducted to determine how the use of digital puzzle media can influence students' understanding of the stages of frog metamorphosis during the learning process. With a descriptive qualitative approach, researchers were able to obtain direct data on student activities, student responses, and the effectiveness of using digital puzzle media to increase student interest and understanding during the learning process.

Through systematic observation, interviews, and documentation, researchers are expected to obtain a comprehensive picture of the application of digital puzzle media in science learning on frog metamorphosis. Observations were conducted during one meeting on Saturday, January 24, 2026, during the learning process in grade III. In addition to observations, data were also obtained through interviews with teachers and students and documentation of learning activities. The use of educational game-based learning media such as digital puzzles is an appropriate strategy to create a more active, interesting learning atmosphere, and in accordance with the characteristics of elementary school-aged students. Interactive and visual media can help students understand the concept of changes in the form of living things more concretely and gradually. During the learning process, students will gain various learning experiences, thinking skills, and positive attitudes towards learning activities as a result of the learning treatment provided by the teacher. Therefore, teachers need to develop a learning plan that considers the needs, initial abilities, and characteristics of students to create an effective learning process and make it easier for students to understand the stages of frog metamorphosis as a whole. This is in line with the view that qualitative research aims to understand learning phenomena in depth through observations of student behavior, perceptions, and activities in natural situations (Muhtadi, 2025).

The method of collecting data in this research refers to opinions (Fadli, 2021) which states that in qualitative research, data can be obtained through various techniques, namely observation, interviews, and documentation. Observations were carried out during the learning process to directly observe how digital puzzle media was used in the frog metamorphosis material, how the interaction between teachers and students was, and how students responded and engaged in participating in science learning activities in grade III. The next stage was to conduct interviews with the grade III teacher and several students as key informants to obtain more in-depth information about their experiences in using digital puzzle media. Interviews were conducted in a semi-structured manner so that the data obtained were more detailed but still in line with the focus of the research. In addition, documentation techniques were used to complement the data from observations and interviews. This documentation could include photos of learning activities, students' work on assembling digital puzzles, and learning tools implemented by the teacher during the learning activities. Data analysis in this study used the interactive analysis model proposed by (Qomaruddun & Sa'diyah, 2024), this study encompasses three core stages. The initial stage is data reduction, which is the process of selecting and focusing on appropriate data from observations, interviews, and

documentation. The second stage is data presentation, which is compiling data presented in a descriptive narrative to facilitate researchers in understanding and analyzing the information obtained. The final stage is drawing conclusions, which is the process of interpreting the analyzed data to identify patterns, themes, and trends that demonstrate the influence of the use of digital puzzle media on students' understanding of the stages of frog metamorphosis in science learning.

3. RESULT AND DISCUSSION

The research conducted at SDN 1 Wonokerto involved teachers and third-grade students as research subjects on frog metamorphosis. Data collection techniques used for this study included observation, interviews, and documentation. Observations were conducted during learning activities with the aim of directly observing the use of digital puzzle media in science learning on frog metamorphosis, so that the development of students' understanding of the stages of change in the form of living things could be known. Interviews were conducted with teachers and students to obtain information regarding difficulties that arose during the learning process and students' responses to the use of digital puzzle media. Meanwhile, documentation was used as supporting data for the research in the form of photos of learning activities and student learning outcomes during the teaching and learning activities. Furthermore, researchers were able to observe the level of motivation and involvement of students during the learning process in the use of digital puzzle media. Teachers carried out learning activities by preparing several images of the stages of frog metamorphosis used as learning media, which were arranged according to the order of changes in the form of living things. The process of creating digital puzzle media began by linking learning objectives to the material to be given to students, so that the designed media could help students understand the concept of metamorphosis more simply. The teacher then creates a number of digital image pieces that students need to assemble using the I'm a Puzzle platform as an interactive learning tool. Through this platform, teachers have the opportunity to be creative in designing various interesting and challenging puzzle shapes according to the students' cognitive development level. The use of digital learning media such as I'm a Puzzle is a positive step in optimizing technological advances in education to increase student motivation, engagement, and learning outcomes during learning activities.

In general, the I'm a Puzzle platform can be used to create various types of educational games, such as arranging pictures, matching pairs, and sequencing events, according to the learning material being taught to students. This platform provides features that enable teachers to design engaging and interactive learning media, thereby increasing student participation in learning activities. The use of digital game-based learning media can also increase student motivation and interest in learning because learning activities are packaged in a fun game format. This is in line with the opinion of (Wahyudi et al., 2018) which states that "game-based learning media can increase students' interest and active participation in the learning process." In addition, (Khotimah et al., 2019) also stated that "the use of digital learning media can provide a more enjoyable learning experience and make it easier for students to understand the material." Another opinion was expressed by (Nurrita, 2018) which explains that "learning media plays a role as a means to convey learning messages so that it can stimulate students' attention, interest, and motivation to learn." Thus, the use of digital learning media such as I'm a Puzzle is an effective effort to create learning that is appropriate, interesting, and provides meaningful learning experiences for students.

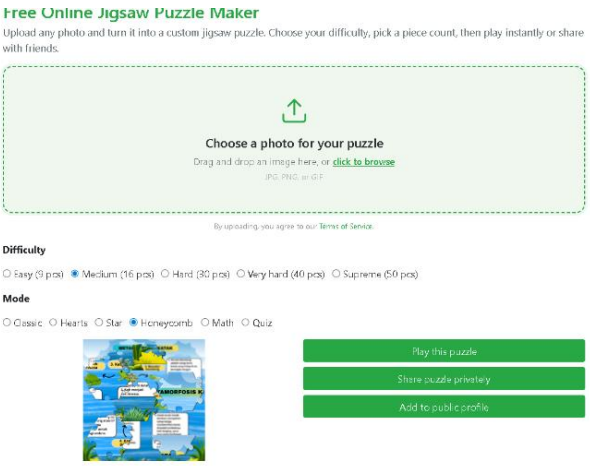

Figure 1. Use of the I'm a Puzzle platform

Next, students were divided into heterogeneous groups and given the opportunity to try out learning media in groups, namely using digital puzzles to arrange images according to the material being studied. Students collaborated in groups to complete the tasks presented through the media. This activity was carried out as an effort to train students in problem-solving and encourage the development of their critical thinking skills. Critical thinking is one of the essential skills students need in the learning process because it can help them analyze information, solve problems, and make appropriate decisions (Nuryanti et al., 2018).

Figure 2. Digital Puzzle Media

Students and their groups were given the freedom to try to put together digital puzzles while still maintaining the comfort and involvement of each group member. During this activity, students were seen very actively solving the problems presented through the use of digital puzzle media. Several times, students were seen discussing with each other, exchanging opinions, and working together with their respective groups to correctly complete the puzzles. Collaborative activities in groups can help students build social relationships, improve communication skills, and develop teamwork skills in achieving learning objectives. This is in line with the opinion of (Fathonah & Metroyadi, 2024) which reveals that collaborative learning through group work can improve social interaction between students while increasing the effectiveness of understanding learning materials. In addition, (Nuryanti et al., 2018) also explains that cooperative activities in groups can encourage active student participation and increase student activity in the learning process.

Figure 3. Students communicate ideas or information

At the end of the session, students communicated the ideas and information generated from the group discussion after attempting to piece together the completed digital puzzle. Each group presented their work to the class and explained the sequence or concept they had developed. This activity provided an opportunity for students to practice their courage in expressing their opinions and improve their oral and written communication skills. Furthermore, communicating discussion results also helped students develop critical thinking skills and the ability to convey information systematically. This aligns with the opinion (Ananda & Fadhilaturrahmi, 2018) explains that presentation and group discussion activities can train students to dare to express their opinions and increase self-confidence in the learning process.

In addition, through reflection activities, teachers can also identify obstacles experienced by students in the teaching and learning process and provide solutions or additional explanations for material that is not yet understood. Reflection and reinforcement activities carried out by teachers can make it easier for students to recall the material they have learned and correct any misunderstandings that arise during the teaching and learning process. By reflecting at the end of the lesson, students become more aware of the learning process they have gone through and are able to evaluate the learning outcomes obtained. This statement aligns with the opinion of (Pratiwi et al., 2024) explains that reflection activities can increase students' understanding of learning materials and help teachers plan the next learning activities to be more effective.

The next technique in data collection was interviews with teachers and students. The first interview was conducted with a third-grade teacher, who posed open-ended questions to gather their opinions after conducting learning activities using digital puzzle media. The following is a summary of the interview:

Researcher: "Can you explain how you know and use digital puzzle media in learning?"

Resource Person: "When I was teaching third grade, I noticed some students lacked focus and quickly became bored during learning activities, particularly with frog metamorphosis. In this material, students often had difficulty correctly understanding the sequence of metamorphosis stages. Then I tried using digital puzzles as a variation in the learning. It turned out that by arranging the images directly through this media, students became more interested and enthusiastic about learning."

Researcher: "After you know the influence of using digital puzzle media in learning, what are the next steps you take?"

Resource Person: "From there, I began to develop a more targeted use of digital puzzle

media, aligned with learning objectives. I created several arrangements of images of the stages of metamorphosis that students had to put together in groups. This aimed to foster collaboration and help students understand the material more easily. It turned out that my teaching had a positive impact on students and made them more active throughout the learning process."

Researcher: "How did the students respond to the use of digital puzzle media that you did?"

Resource Person: "The students were very enthusiastic about participating in the learning. Even students who are usually less active began to show activeness when trying to put together digital puzzles with their groups. The impact I felt was that students found it easier to remember the sequence of metamorphosis stages and were able to understand the material presented. Furthermore, the learning atmosphere became more enjoyable because students learned while playing."

The interviews above show that digital puzzle media has received a very positive response in learning activities. In particular, digital puzzle media can increase student enthusiasm for learning because the media used is interactive and able to attract students' attention. Furthermore, the use of digital puzzle media also makes it easier for teachers to deliver material, making learning more meaningful and enjoyable for students. Student participation and interaction in the learning process has increased, making it easier for teachers to create an active and interactive classroom atmosphere. Teachers are no longer the sole source of information, but rather act as facilitators in learning activities. This is in line with research findings (Faris et al., 2025) which states that the use of interactive digital learning media can increase student motivation and engagement in the learning process due to its visual and attention-grabbing nature. The findings of this study support these results, as seen in the increased enthusiasm of students during learning activities, including students who were previously less active. In addition, students' ability to remember and sequence the stages of frog metamorphosis indicates that digital puzzle media not only increases learning motivation but also helps strengthen conceptual understanding. Thus, digital puzzle media can be an effective learning tool to create an active, enjoyable, and student-centered learning experience.

The second interview subject was a third grade student. Interviews were conducted randomly by asking several open questions to find out students' experiences and opinions after participating in learning using digital puzzle media. The following is one of the responses submitted by students:

Researcher: "How do you feel when the teacher uses digital puzzle media in learning?"

Student: "I prefer using digital puzzle media. Learning becomes more fun and we can put together pictures together with friends."

Researcher: "In your opinion, does the material become easier if you use digital puzzle media?"

Student: "Yes, that's right. The material becomes easier to understand because we learn while playing and trying to put the puzzle together."

Researcher: "If the teacher doesn't use digital puzzle media, how will the students learn?"

Student: "Sometimes we feel bored and sleepy, because the learning only consists of explanations from the teacher without any interesting activities."

Based on the results of the interview, it can be seen that learning using digital puzzle media is very interesting and makes students not feel bored while participating in learning activities. Apart from studying, students also experience experiences such as playing so that the learning atmosphere feels more enjoyable. The material presented through digital puzzle media becomes easier to understand because students can see and arrange images directly according to the concepts being studied. This condition also makes students more active during

the learning process and feel interested in trying to combine the puzzles provided. The use of interactive digital learning media can create a pleasant learning atmosphere and increase student participation in the learning process. This is in accordance with research (Syafitri et al., 2025) which states that digital learning media such as interactive applications and multimedia can increase student interest in learning and make students more involved and focused during learning activities. The findings in this study support the results of this study, as seen from students' statements that learning becomes more exciting, less boring, and easier to understand when using digital puzzle media. Furthermore, students showed higher engagement during learning because they could interact directly with the media and collaborate with friends in putting together the puzzles. This indicates that digital puzzle media not only functions as a means of delivering material, but also can increase students' motivation, attention, and understanding of the material on frog metamorphosis. Thus, the use of digital puzzle media can be an effective alternative learning media to support the creation of active, enjoyable, and meaningful learning for elementary school students.

4. CONCLUSION

From the research results, it can be concluded that the use of digital puzzle media for frog metamorphosis material in grade III of SDN 1 Wonokerto has a positive impact on both teachers and students. This media has been proven to increase student interest and motivation in learning, create an interactive classroom atmosphere, and help students understand the stages of frog metamorphosis in an easier and more enjoyable way. Through digital puzzle media designed in an attractive and interactive way using the I'm a Puzzle platform, teachers can deliver learning materials more creatively and in accordance with the characteristics of elementary school students. During learning activities, students appeared very enthusiastic and more active in working together in groups, and had a strong curiosity in trying to combine the digital puzzles provided. Learning makes it easy to get bored and provides a more meaningful learning experience for students. In addition, students' critical thinking skills, cooperation, and problem-solving abilities also develop through the activity of assembling digital puzzles in groups.

Therefore, digital puzzle media can be used as an effective alternative learning tool for science and science subjects, particularly frog metamorphosis in elementary schools. The use of this interactive, creative, and contextual media can encourage a fun, meaningful learning process that is tailored to the characteristics and needs of elementary school students. Furthermore, digital puzzle media can also help increase student engagement in learning activities, making it easier for students to understand the material through hands-on and active learning experiences.

5. REFERENCE

Alvionita Pratiwi, B., Sumiyadi, & Adi Nugroho, R. (2024). Pembelajaran Diferensiasi Berbasis Proyek untuk Pengembangan Keterampilan Menulis Cerita Pendek di SMP. *JOPBS*, *10*(3), 2998–3009.

Ananda, R., & Fadhilaturrahmi. (2018). Peningkatan Kemampuan Sosial Emosional Melalui Permainan Kolaboratif pada Anak KB. *JO*, *2*(1), 20–26.

Diah Putri, L., Dwijayati, I., & Ngatmini. (2023). Pengembangan Media Digitalmath Crossword Puzzle Untuk Meningkatkan Hasil Belajar Matematika Materi Pecahan Pada Siswa Kelas III

SD. *JIP*, *09*(September), 744–752.

Farida, E. (2019). Media Pembelajaran Teknologi Digital untuk Meningkatkan Efektivitas Belajar Siswa Pada Abad-21. *JDPD*, *3*(2), 457–476.

Faris, A., Suprapti, Inayati, N., Adwia, & Hasanah, N. (2025). PENGGUNAAN MEDIA PEMBELAJARAN DIGITAL DALAM MENINGKATKAN MOTIVASI BELAJAR SISWA. *JIPD*, *10*(04), 367–393.

Fathonah, S., & Metroyadi. (2024). Meningkatkan Keterampilan Berpikir Kritis Dan Keterampilan Kerja Sama Menggunakan Kombinasi Model Pembelajaran Pbl, Nht, Dan Tgt Di Sekolah Dasar. *JIPFUM*, *10*(04), 341–359.

Fauzi, S. A., & Mustika, D. (2022). Peran Guru Sebagai Fasilitator Dalam Pembelajaran Di Kelas V Sekolah Dasar. *JPK*, *4*(14), 2492–2500. https://jbasic.org/index.php/basicedu

Fauziah, A., Uswatun, D. A., & Sutisnawati, A. (2025). Penerapan Media Pembelajaran Pop Up Book untuk Meningkatkan Pemahaman Konsep IPA pada Materi Metamorfosis di Sekolah Dasar. *JBUP*, *9*(4), 1159–1166. https://jbasic.org/index.php/basicedu

Fitria Apriani, S., Joko Raharjo, T., Handoyo, E., Subali, B., & Widiarti, N. (2025). Pengembangan Media Puzzle pada Materi Metamorfosis untuk Meningkatkan Hasil Belajar Siswa Kelas 3. *JIIP*, *8*, 15–18.

Hermansah, & Jakaria. (2025). Efektifitas Media Pembelajaran Berbasis Digital Terhadap Motivasi dan Hasil Siswa di Sekolah Dasar. *JIPDAS*, *5*(3), 2670–2680.

Khotimah, H., Supena, A., & Hidayat, N. (2019). Meningkatkan attensi belajar siswa kelas awal melalui media visual. *JPA*, *8*(1), 17–28.

Muhtadi, F. (2025). Pendekatan Kualitatif Dalam Penelitian Pendidikan Konsep, Implementasi, Dan Tantangan. *JIPD*, *10*(4), 324–342.

Mustika Sari, E., & Mustika, D. (2025). Pengembangan Media Puzzle IPA Materi Metamorfosis Makhluk Hidup Kelas IV UPT SDN 023 Pandau Jaya. *JPMRP*, *4*(1), 5188–5195.

Nurfathiyyah, A., Zakaria Ansori, Y., & Rosidah, A. (2025). Tinjauan Literatur Tentang Pengaruh Media Puzzle Diital Terhadap Berpikir Kreatif Peserta Didik Dalam Pembelajaran IPAS. *JOES*, *4*(2), 767–775.

Nurrita, T. (2018). Pengembangan Media Pembelajaran Untuk Meningkatkan Hasil Belajar Siswa. *PMPMHBS*, *03*, 171–187.

Nuryanti, L., Zubaidah, S., & Diantoro, M. (2018). Analisis Kemampuan Berpikir Kritis Siswa SMP. *JP*, *3*(2), 155–158.

Qomaruddun, & Sa'diyah, H. (2024). Kajian Teoritis tentang Teknik Analisis Data dalam Penelitian Kualitatif: Perspektif Spradley, Miles dan Huberman. *JOMAAA*, *1*(2), 77–84. https://doi.org/10.52620/jomaa.v1i2.93%0AKajian

Rijal Fadli, M. (2021). Memahami Desain Metode Penelitian Kualitatif. *JKIMKU*, *21*(1), 33–54. https://doi.org/10.21831/hum.v21i1.

Syafitri, D., Khairunnisa, Nurva Reni, N., Septiyana, Z., & Ningsih, Y. (2025). Efektivitas Media Pembelajaran Digital Untuk Meningkatkan Minat Belajar Pada Siswa Sekolah Dasar. *JPT*, *9*(1), 5126–5134.

Tafonao, T. (2018). Peranan Media Pembelajaran Dalam Meningkatkan Minat Belajar

Mahasiswa. *JKP*, *2*(2).

Wahyudi, Anugraheni, I., & Winanto, A. (2018). Pengembangan Model Blended Learning Berbasis Proyek Untuk Menunjang Kreatifitas Mahasiswa Merancang Pembelajaran Matematika Sekolah Dasar. *JIPM*, *6*(2), 68–81.