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The Impact of Multimedia on Motivating Learning Enthusiasm in Class X Akidah Akhlak Subjects at State Aliyah Madrasah

Muh. Rafli[1], Mawardi [2], and Tasdin Tahrim[3]
[1-3]Fakutas Tarbiyah dan Ilmu Keguruan, Institut Agama Islam Negeri (IAIN) Palopo
Agatis Street, Balandai sub-district, Bara sub-district, Palopo City. Indonesia
muhr5654@gmail.com

Abstract. This study evaluated the use of multimedia in MAN Palopo, focusing on Akidah Akhlak class XA Tahfiz. Using Classroom Action Research for two months, this study involved 36 students. Cycle I with lectures, Cycle II fix with multimedia PowerPoint. The findings of Cycle I recorded shortcomings, while Cycle II brought significant positive impacts, including improved learning, student comfort, and learning activities. Simple statistical formulas analyze quantitative data, while qualitative data are obtained from interviews and observations. The recommendation is to continue using multimedia to maintain a positive impact. This research contributes to the enrichment of learning and the improvement of teaching quality at MAN Palopo.

Keywords: Multimedia, Learning Motivation, Akidah Akhlak

1. Introduction

Education is critical to improving, building, and advancing society and the world (Owens, 2017). In Indonesia, the learning process is still predominantly carried out conventionally with the use of instant methods that are still common (Aurora & Effendi, 2019). This phenomenon can be seen in teaching patterns where most teachers still place students as objects in every learning process (Rahim et al., 2019). It also applies to religious teachers who tend to use monotonous methods such as lectures, which results in students' disinterest in participating in spiritual learning.

Advances in Science and Technology, especially in the information sector, have significantly facilitated the development of educational technology (Clark & Mayer, 2023). In recent years, developed and developing countries, including Indonesia, have tried to improve the quality of education (Kim et al., 2019; Madani, 2019; Pedro et al., 2019). Improving the quality of education is always looking for relevant values to increase the meaning of learning (Abidin, 2021). Learning is considered a window to the world, where one can gain a broad understanding (Janiesch et al., 2021). In the context of Islam, learning is considered very important (Hasbullah et al., 2019).

The Prophet Muhammad (peace be upon him) encouraged his people to study through practical, oral, or deed examples (Zuhri, 2019). A person considered noble before God has knowledge gained correctly (Azhari & Mustapa, 2021). The role of science in Islam is significant because, without science, a person who professes to be a believer cannot be perfect or true in his faith (Wardatusshopa et al., 2024). A Muslim must know various aspects of knowledge, and the knowledge gained will bring closer human relations with the Khalik (Hikmah & Maryono, 2022; Jamal, 2022).

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The rapid development of science and technology has also impacted the education system in Indonesia, leading to a shift from traditional learning to technology-based multimedia learning. (Subandowo, 2022). Media use in learning is considered one of the components that can help achieve learning objectives (Hasriadi, 2022b). Learning media technology is used by teachers to deliver material, with multimedia as the use of computers to present text, sound, images, animations, and videos through tools and connections so that users can navigate, interact, create, and communicate.

Visual stimuli have been shown to provide better learning outcomes, especially in tasks that involve remembering, recognizing, and relating facts and concepts (Murnaka, 2023). This opinion is supported by Altay, who states that comparing learning outcomes through the sense of sight and the sense of hearing shows a significant difference. About 90% of learning outcomes are obtained through the sense of sight, 5% through the sense of hearing, and 5% from other senses (Altay, 2017).

Using learning media can provide a learning experience tailored to the needs of students (Hasriadi, 2023). Teachers generally use tools as intermediaries to deliver educational content, increasing students' understanding. The use of learning media, especially in pedagogical contexts, can increase interest, create new aspirations, and motivate learners (Maylitha et al., 2023).

By referring to this statement, learning through media can provide better and more effective development and change, especially through image (visual) media in remembering and understanding learning material teachers deliver to students. Currently, multimedia-based learning media is a superior alternative because the learning process becomes more attractive to students (Hasriadi & Nurul, 2023).

Generating learning motivation is an important part that can affect the level of mastery of students over a material (Hasriadi, 2022a). As an educator, a teacher must understand the learning method in depth and implement the factors that affect the implementation of the technique (Pitri et al., 2021). Boosting motivation for learning is greatly influenced by multimedia learning, which encourages curiosity, the aspiration for comprehension and achievement and heightens students' enthusiasm for learning when multimedia is utilized to present educational materials. (Elsola et al., 2023).

The motivation to learn students in the Akidah Akhlak learning process is still relatively low. It is based on the results of initial observations made at Madrasah Aliyah Negeri Palopo by interviewing one of the Akidah Akhlak teachers said;

> "The level of learning motivation of students in the XA Tahfiz class varies; some have high, medium, and low levels of motivation, but overall, it is still said to tend to be low for the subject of Akidah Akhlak, where during the learning process students tend to be less active and less able to express opinions, less creative with the material taught, not infrequently some students feel indifferent, It's cool to play with deskmates, make noise, and chat and show an attitude of lack of motivation to learn others."

Based on the interview results, it can be seen that the level of motivation to teach students the subject of Akidah Akhlak is still low. If this works, it can result in low levels of student learning motivation that makes students unable to improve their achievement and development.

Combining learning elements from teachers, learners, learning methods, creativity, means, and others is very important to increase learning motivation in the learning process (Unik Hanifah et al., 2020). The most important aspect is how teachers can package Akidah Akhlak's learning as attractively as possible so students do not feel bored and easily understand (Safinah et al., 2022). One important key in this case is the ability of a teacher to develop Akidah Akhlak learning materials by utilizing media such as PowerPoint (Tanjung & Namora, 2022).

Therefore, an Akidah Akhlak teacher is expected to be able to manage the learning media as well as possible, with a high level of creativity. It will make students as objects or subjects actively involved in learning. Thus, the learning process will become more exciting and compelling, helping students better understand and live the values of Akidah Akhlak optimally (Karnia et al., 2023). Based on this background, this study aims to evaluate the use of multimedia in the learning process at Madrasah Aliyah Negeri (MAN) Palopo and identify the effectiveness of the use of multimedia in increasing student motivation in the Akidah Akhlak class XA Tahfiz at MAN Palopo.

2. Method

This study used the Classroom Action Research method conducted by teachers in the XA Tahfiz class at Madrasah Aliyah Negeri (MAN) Palopo. Classroom Action Research has a vital role in improving the quality of learning through planning, implementing, and reflecting on actions objectively and participatively to enhance teacher performance (Susilowati et al., 2022, p. 36). The study subjects comprised 36 students of class XA Tahfiz (14 boys and 22 girls) at MAN Palopo. The research object focuses on using multimedia in the learning process of Akidah Akhlak and increasing learning motivation using PowerPoint learning media.

The research was conducted for two months, from October to November 2023, at MAN Palopo, Jl. Dr. Ratulangi, Balandai Village, Bara District, Palopo City. The location selection was carried out because of the low level of student motivation due to the conventional learning methods used. Classroom action research involves several stages, such as planning, execution of actions, observation, and reflection.

In Cycle I, implementation involves initial, core, and closing activities (Saputra, 2021, p. 83). Observations are made to monitor the implementation of PowerPoint learning media. Next, a reflection stage is carried out to correct the identified weaknesses. In the description of Cycle II, the implementation of Cycle II is carried out based on the reflection results of Cycle I. The target of the study is to discuss the use of multimedia in the learning process and efforts to increase motivation to learn Akidah Akhlak using PowerPoint learning media.

The research instrument consists of student learning observation sheets, question tests in the form of essays, and interviews. The data is analyzed quantitatively with a simple statistical formula for the results of observing student learning activities. Meanwhile, qualitative data is obtained from interviews and observations during learning. The qualifications of learners' learning motivation outcomes are described according to Table 1.

Table 1. Qualification Results Percentage of Student Learning Motivation

Percentage (%)	Category
81 – 100	Very High
61 – 80	Tall
41 - 60	Keep
21 – 40	Low
0 - 20	Very Low

3. Result

The Use of Multimedia in the Learning Process at Madrasah Aliyah Negeri (MAN) Palopo

The implementation of actions in the first Cycle was carried out twice. The first meeting was held on July 30, 2023, with an allocation of one meeting for 60 minutes. The implementation of this

meeting used the lecture method commonly used by teachers of Akidah Akhlak subjects. Action planning involves several steps, including:

a. Compile learning modules with the material "Avoiding Disgraceful Morals."
b. Prepare teaching materials related to the material taught in the learning process.
c. Compile a motivation assessment sheet to measure the level of motivation to learn learners.

At the implementation stage of Cycle I, meeting 1 of the research is carried out by researchers or teachers. The learning activity consists of three parts:

a. Early Class: Begins with greetings, prayer together, and student attendance. Next, the teacher explains the material "Avoiding Reprehensible Morals" and conveys the learning objectives.
b. Core Class: Because there are student no textbooks or student worksheets (LKS) owned by students, the teacher reads "Avoiding Disgraceful Morals" and explains it periodically, inviting students to take notes. The teacher also invites students to interact by providing questions or opinions about the material.
c. Final Class: The learner and teacher conclude the day's learning together, and the teacher provides information about the material to be taught at the next meeting. After that, the activity was closed by reading Hamdalah together.

In implementing the first Cycle of action meeting II, the executor of the action is the researcher or teacher. The learning activity consists of four parts:

a. Early Class: Begins with greetings, prayer together, and student attendance. Furthermore, the teacher prepares classroom conditions and absent students who are present in the learning process. The teacher then informs the students about the material to be taught that day, "Knowing the Attributes of Allah Swt," and the learning objectives.
b. Core Class: Because students own no textbooks or LKS, the teacher reads material on "Knowing the Attributes of Allah Swt" and explains it periodically, inviting students to take notes. The teacher also invites students to interact by providing questions or opinions about the material.
c. Evaluation I: After the learning material has been presented and recorded, the teacher conducts evaluation I for the last 15 minutes. This evaluation uses questions from the summary of meeting materials I and II, which are then evaluated to see students' motivation from the values obtained in learning with the lecture method.
d. Final Class: The learner and teacher conclude the day's learning together, and the teacher provides information about the material to be taught at the next meeting. After that, the activity was closed by reading Hamdalah together.

In implementing learning in the first Cycle of meeting II, several shortcomings were identified that needed to be corrected. The shortcomings include:

a. The conditioning of students is not optimal, and it is necessary to improve it so that the learning atmosphere becomes more conducive.
b. The learning method uses lectures and discussions, but students still lack attention and focus on learning material. More effective strategies are needed to increase learner participation and concentration.
c. Some students are less active in following the learning process, so further efforts must be made to arouse their interest and involvement.

By taking into account these findings, the results of the first Cycle of the second meeting are used as the basis for improvements in the second Cycle to improve the quality of learning.

In implementing the second Cycle of meeting I, which will be held on November 13, 2023, with an allocation of 60 minutes, PowerPoint-based multimedia learning methods will be used. Action

planning includes the preparation of learning modules with the material "Bertaulbat," the preparation of teaching materials by the material to be taught, and the preparation of motivational assessment sheets to measure the level of student learning motivation.

The implementation of actions in the second Cycle of meeting I is carried out by researchers as teachers. The activity began with a welcome and prayer together, followed by class preparation and acceptance of students. Researchers then prepared multimedia-based learning tools such as LCDs, sound systems, and PowerPoint. After all devices are ready, researchers inform students about the material "Bertaubat" and learning objectives. The learning process occurs with an explanation of the material supported by a PowerPoint slide show.

At the end of the lesson, students and researchers together summarize the material that has been learned. Furthermore, the researcher provides information about the material to be studied at the next meeting. After that, the learning implementation was closed with the reading of Hamdalah together.

Furthermore, PowerPoint-based multimedia learning methods are also used in implementing the second Cycle of meeting II scheduled for November 20, 2023, with an allocation of 60 minutes. Action planning includes preparing learning modules with the material "Living Noble with Respect for Others and Teachers," preparing appropriate teaching materials, motivational assessments, and evaluation sheets to measure learning results.

The implementation of actions in the second Cycle of meeting II is carried out by researchers as action actors or teachers. The activity began with a welcome, prayer together, and preparation of class conditions. Furthermore, researchers prepare multimedia-based learning tools such as LCDs, sound systems, and PowerPoint. After all the devices are ready, researchers provide information to students regarding the material "Noble Living With Respect for Others and Teachers" and learning objectives. The learning process is carried out with an explanation of the material and a PowerPoint slide show.

At the end of learning, students and researchers together summarize the material that has been learned. The researcher then provides information about the material to be studied at the next meeting. After that, the learning implementation is closed by reading Hamdalah together. In implementing the evaluation, researchers provide evaluation sheets II to measure students' understanding after attending two learning meetings in Cycle II.

Reflection activities aim to get input and also justification for actions that have been carried out in Cycle II. The results of this reflection can be described as follows:

a. There is an increase in learning because many students dare to express their arguments in their language. It reflects success in learning by encouraging the active participation of learners.
b. Students feel more comfortable with multimedia-based learning methods because the learning process becomes more exciting and not dull. Using multimedia such as PowerPoint presentations has helped increase students' interest in learning materials.
c. There has been an increase in student learning activities, one of which can be seen from their active participation in observing and listening to the teacher's explanation. More intensive learning activities positively impact students' understanding and involvement in the learning process.

Thus, the reflection results show that changes in multimedia-based learning methods in Cycle II have contributed positively to student participation and interest in learning while improving the overall quality of learning.

Each meeting is observed to determine the motivation of learning students. The learning motivation of students in each meeting can be seen in Table 2 to Table 5 below:

Table 2. Learning motivation of students meeting 1

No	Learning Motivation Indicators	Number of Students	Percentage
1	Persevere in facing the task	32	88.9%
2	Tenacious in the face of adversity	25	69.4%
3	Show interest	11	30.6%
4	Prefer to work alone	15	41.5%
5	Get bored quickly on routine tasks	20	55.6%
6	He can defend his opinion	15	47.0%
7	It is not easy to let go of the thing that is believed	10	27.8%
8	Happy to find and solve problems	6	16.7%

Table 3. Learning motivation of learners meeting 2

No	Learning Motivation Indicators	Number of Students	Percentage
1	Persevere in facing the task	33	91.7%
2	Tenacious in the face of adversity	27	75.0%
3	Show interest	19	52.8%
4	Prefer to work alone	13	36.1%
5	Get bored quickly on routine tasks	13	36.1%
6	He can defend his opinion	20	55.6%
7	It is not easy to let go of the thing that is believed	17	47.2%
8	Happy to find and solve problems	11	30.6%

Table 4. Learning motivation of learners meeting 3

No	Learning Motivation Indicators	Number of Students	Percentage
1	Persevere in facing the task	36	100%
2	Tenacious in the face of adversity	30	83.33%
3	Show interest	33	91.67%
4	Prefer to work alone	25	69.44%
5	Get bored quickly on routine tasks	9	25%
6	He can defend his opinion	33	91.67%
7	It is not easy to let go of the thing that is believed	32	88.89%
8	Happy to find and solve problems	18	50%

Table 5. Learning motivation of learners meeting 4

No	Learning Motivation Indicators	Number of Students	Percentage
1	Persevere in facing the task	35	97.22%
2	Tenacious in the face of adversity	32	88.89%
3	Show interest	35	97.22%
4	Prefer to work alone	30	83.33%
5	Get bored quickly on routine tasks	25	69.44%
6	He can defend his opinion	33	91.67%

7	It is not easy to let go of the thing that is believed	34	94.44%
8	Happy to find and solve problems	33	91.67%

The comparison of student learning motivation from the first meeting to the fourth meeting can be seen in the following diagram:

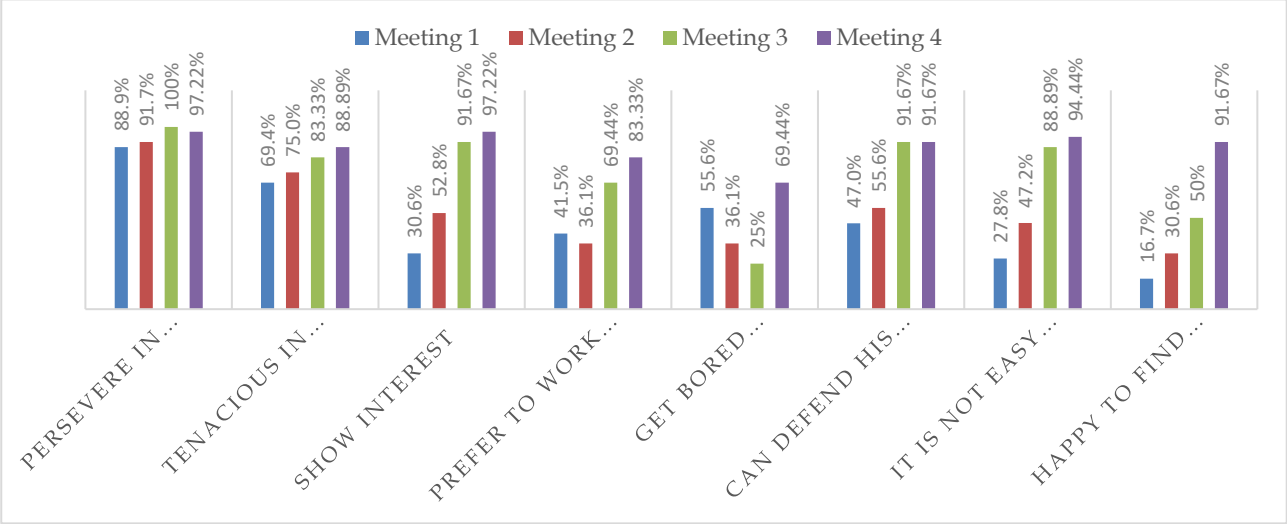


Figure 1. Comparison diagram of student motivation for each meeting

4. Discussion

The Use of Multimedia in the Learning Process at Madrasah Aliyah Negeri (MAN) Palopo

This study discusses the use of multimedia in the learning process at Madrasah Aliyah Negeri (MAN) Palopo. Cycle I meetings will be held on July 30, 2023, using the lecture method, while Cycle II meetings I and II will be held on November 13 and 20, 2023, using PowerPoint-based multimedia learning methods. The action process in Cycle I involves the preparation of learning modules, preparation of teaching materials, and assessment of motivation. The findings of the first Cycle of meeting II identified several shortcomings, such as a lack of optimization of student conditioning, limited attention and focus of learners, and inactivity of some learners.

In Cycle II, research is carried out with improvements based on the findings of Cycle I meeting II. Cycle II meetings I and II involve multimedia in learning methods, with the preparation of learning modules, teaching materials, motivation assessment, and learning outcomes evaluation. The results of reflection show an increase in learning, student comfort towards multimedia learning methods, and an increase in student learning activities.

Research (Serrano et al., 2019) shows multimedia can increase learner engagement. Research (Adawiyah, 2021) Finds that various learning methods can motivate learners. Research (Saifudin et al., 2020) highlights multimedia's success in improving the material's understanding.

Increasing student participation in Cycle II confirms the effectiveness of multimedia-based learning methods. These results align with the findings of (Idrus, 2023), which indicate that multimedia can motivate students to be more involved in learning.

The comfort of learners towards the use of multimedia can also be confirmed by the results of the study (Carstens et al., 2021). An enjoyable and not dull learning process, as evidenced by the effectiveness of multimedia, is an essential factor in increasing learners' interest in learning materials.

The positive impact on cycle II student learning activities supports research findings (Abdulrahaman et al., 2020). The use of multimedia strategies has proven successful in increasing the focus and intensity of student participation, positively impacting the quality of learning.

The Effectiveness of Using Multimedia in Increasing Student Learning Motivation in Class XA Tahfiz Akidah Akhlak Subjects at MAN Palopo

This study evaluates several indicators that reflect learners' characteristics in facing their tasks, difficulties, and behaviour in the learning environment. The results of this study show positive developments in most indicators from meeting to meeting.

At Meeting 1, the level of perseverance in facing the task was 88.9% and tended to increase to 97.22% at Meeting 4. It illustrates the increased perseverance of students in facing functions from time to time.

Furthermore, there was an increase in perseverance in the face of adversity from 69.4% at Meeting 1 to 88.89% at Meeting 4. It reflects the ability of learners to remain persistent in overcoming obstacles or difficulties that may arise during the learning process.

A significant increase was also seen in indicators showing interest. From 30.6% at Meeting 1, this figure jumped to 97.22% at Meeting 4. It can mean that students increasingly show a high interest in learning materials.

Based on these findings, there is a link with several previous studies. For example, (Tang et al., 2019) research shows that learners' interest can affect their perseverance in facing tasks. Similarly, research by (Kutscher & Tuckwiller, 2019; Su, 2020) Highlights the importance of perseverance in adversity as a critical learning success factor.

These findings indicate that changes in learning methods or approaches during these meetings can positively impact students' characteristics. Increased interest, perseverance, and resilience in the face of tasks and difficulties can be considered an encouraging result, indicating that the learning approach has successfully increased learner participation and engagement in the learning process.

5. Conclusion

This study aims to evaluate the effectiveness of the use of multimedia in learning at Madrasah Aliyah Negeri (MAN) Palopo, focusing on increasing participation, student comfort, and learning activities. Cycle I uses the lecture method, while Cycle II improves the approach by applying PowerPoint-based multimedia methods. The findings identified deficiencies in Cycle I Meeting II, such as a lack of optimization and limited attention from students. In Cycle II, the change in the method towards multimedia has a significant positive impact, as seen from the improvement of learning, student comfort towards multimedia, and increased learning activities.

Overall, this study reveals that transforming learning methods into multimedia can effectively increase student participation, comfort, and learning activities. Recommendations for continuing the use of multimedia methods in learning are recommended to maintain the positive impact that has been seen. Thus, this study provides evidence that multimedia integration can enrich the learning process and improve the quality of teaching at MAN Palopo.

6. References

Abdulrahaman, M. D., Faruk, N., Oloyede, A. A., Surajudeen-Bakinde, N. T., Olawoyin, L. A., Mejabi, O. V., Imam-Fulani, Y. O., Fahm, A. O., & Azeez, A. L. (2020). Multimedia tools in the teaching and learning processes: A systematic review. *Heliyon*, *6*(11), e05312. https://doi.org/10.1016/j.heliyon.2020.e05312

Abidin, Z. (2021). Manajemen Peningkatan Mutu Pendidikan Karakter Berbasis Agama, Budaya, dan Sosiologi. *Al-Afkar, Journal For Islamic Studies*. https://doi.org/10.31943/afkarjournal.v4i1.167

Adawiyah, F. (2021). Variasi Metode Mengajar Guru dalam Mengatasi Kejenuhan Siswa di Sekolah Menengah Pertama. *Jurnal Paris Langkis*, *2*(1), Article 1. https://doi.org/10.37304/paris.v2i1.3316

Altay, B. (2017). Multisensory Inclusive Design Education: A 3D Experience. *The Design Journal*, *20*(6), 821–846. https://doi.org/10.1080/14606925.2017.1371949

Aurora, A., & Effendi, H. (2019). Pengaruh Penggunaan Media Pembelajaran E-learning terhadap Motivasi Belajar Mahasiswa di Universitas Negeri Padang. *JTEV (Jurnal Teknik Elektro dan Vokasional)*, *5*(2), Article 2. https://doi.org/10.24036/jtev.v5i2.105133

Azhari, D. S., & Mustapa, M. (2021). Konsep Pendidikan Islam Menurut Imam Al-Ghazali. *Jurnal Review Pendidikan Dan Pengajaran (JRPP)*, *4*(2), Article 2. https://doi.org/10.31004/jrpp.v4i2.2865

Carstens, K. J., Mallon, J. M., Bataineh, M., & Al-Bataineh, A. (2021). Effects of Technology on Student Learning. *Turkish Online Journal of Educational Technology - TOJET*, *20*(1), 105–113.

Clark, R. C., & Mayer, R. E. (2023). *e-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. John Wiley & Sons.

Elsola, D. A. N., Cahyani, B. H., Havifah, B., & Nisa, A. F. (2023). Penerapan Model Sole dan Pemanfaatan Scratch untuk Meningkatkan Motivasi Belajar Siswa SD Negeri Selo. *Pendas : Jurnal Ilmiah Pendidikan Dasar*, *8*(2), Article 2. https://doi.org/10.23969/jp.v8i2.9201

Hasbullah, H., Juhji, J., & Maksum, A. (2019). Strategi Belajar Mengajar Dalam Upaya Peningkatan Hasil Belajar Pendidikan Agama Islam. *EDURELIGIA: Jurnal Pendidikan Agama Islam*, *3*(1), Article 1. https://doi.org/10.33650/edureligia.v3i1.859

Hasriadi, H. (2022a). *Faktor yang Mempengaruhi Minat Mahasiswa Pendidikan Agama Islam terhadap Mata Kuliah Teknik Pembelajaran Berbasis IT | Jurnal Konsepsi*. https://p3i.my.id/index.php/konsepsi/article/view/139

Hasriadi, H. (2022b). *Model Pembelajaran Jarak Jauh Pendidikan Agama Islam Berbasis Teknologi Informasi dan Komunikasi*. https://www.p3i.my.id/index.php/konsepsi/article/view/174

Hasriadi, H. (2023). *Media Pembelajaran Inovatif Berbasis Lingkungan Pembelajaran Pendidikan Agama Islam di Pondok Pesantren Pengkendekan Luwu Utara*. https://madaniya.pustaka.my.id/journals/contents/article/view/426

Hasriadi, H., & Nurul, N. (2023). Analysis of Pedagogic Content Knowledge Technology (TPCK) Capabilities of Teachers in Senior High School. *Didaktika: Jurnal Kependidikan*, *12*(4), Article 4. https://doi.org/10.58230/27454312.270

Hikmah, I. M. N., & Maryono, M. (2022). Integrasi Iman Serta Ilmu Pengetahuan Dalam Pendidikan Islam (Kajian Al-Qur'an Surat Al-Isra' Ayat 36). *JASNA : Journal For Aswaja Studies*, *2*(1), Article 1. https://doi.org/10.34001/jasna.v2i1.3241

Idrus, I. (2023). Pembelajaran Berbasis Kognitif Multimedia pada Kalbu Perspektif al-Qur'an. *Al Ashriyyah*, *9*(2), Article 2. https://doi.org/10.53038/alashriyyah.v9i2.171

Jamal, J. (2022). Berbagi Pengetahuan dan Penggunaan Teknologi Informasi dalam prespektif Islam. *Lathaif: Literasi Tafsir, Hadis Dan Filologi*, *1*(2), Article 2. https://doi.org/10.31958/lathaif.v1i2.8233

Janiesch, C., Zschech, P., & Heinrich, K. (2021). Machine learning and deep learning. *Electronic Markets*, *31*(3), 685–695. https://doi.org/10.1007/s12525-021-00475-2

Karnia, N., Lestari, J. R. D., Agung, L., Riani, M. A., & Pratama, M. G. (2023). Strategi Pengelolaan Kelas Melalui Penerapan Metode Role Playing Dalam Meningkatkan Partisipasi Siswa Di Kelas 3 MI Nihayatul Amal 2 Purwasari. *Jurnal Penelitian, Pendidikan dan Pengajaran: JPPP*, *4*(2), Article 2. https://doi.org/10.30596/jppp.v4i2.15603

Kim, S., Raza, M., & Seidman, E. (2019). Improving 21st-century teaching skills: The key to effective 21st-century learners. *Research in Comparative and International Education*, *14*(1), 99–117. https://doi.org/10.1177/1745499919829214

Kutscher, E. L., & Tuckwiller, E. D. (2019). Persistence in higher education for students with disabilities: A mixed systematic review. *Journal of Diversity in Higher Education*, *12*(2), 136–155. https://doi.org/10.1037/dhe0000088

Madani, R. A. (2019). Analysis of Educational Quality, a Goal of Education for All Policy. *Higher Education Studies*, *9*(1), 100–109.

Maylitha, E., Parameswara, M. C., Iskandar, M. F., Nurdiansyah, M. F., Hikmah, S. N., & Prihantini, P. (2023). Peran Keterampilan Mengelola Kelas dalam Meningkatkan Minat Belajar Siswa. *Journal on Education*, *5*(2), Article 2. https://doi.org/10.31004/joe.v5i2.871

Murnaka, N. P. (2023). The Effect of Memory Models on Students' Learning Ability. *Journal of Education on Social Issues*, *2*(1), Article 1. https://doi.org/10.26623/jesi.v2i1.42

Owens, T. L. (2017). Higher education in the sustainable development goals framework. *European Journal of Education*, *52*(4), 414–420. https://doi.org/10.1111/ejed.12237

Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). Artificial intelligence in education: Challenges and opportunities for sustainable development. *MINISTERIO DE EDUCACIÓN*. https://repositorio.minedu.gob.pe/handle/20.500.12799/6533

Pitri, A., Ali, H., & Us, K. A. (2021). Faktor-Faktor yang Mempengaruhi Pendidikan Islam: Paradigma, Berpikir Kesisteman dan Kebijakan Pemerintah (Literature Review Manajemen Pendidikan). *Jurnal Ilmu Hukum, Humaniora Dan Politik*, *2*(1), 23–40. https://doi.org/10.38035/jihhp.v2i1.854

Rahim, F. R., Suherman, D. S., & Murtiani, M. (2019). Analisis Kompetensi Guru dalam Mempersiapkan Media Pembelajaran Berbasis Teknologi Informasi Era Revolusi Industri 4.0. *JURNAL EKSAKTA PENDIDIKAN (JEP)*, *3*(2), Article 2. https://doi.org/10.24036/jep/vol3-iss2/367

Safinah, S., Alanniah, U., & Ridho, M. R. (2022). Implementasi Model Pembelajaran Kontekstual pada Mata Pelajaran Akidah Akhlak Kelas VII di Madrasah Tsanawiyah. *Nahdlatain: Jurnal Kependidikan Dan Pemikiran Islam*, *1*(4), 692–707. https://doi.org/10.51806/nahdlatain.v1i4.230

Saifudin, M. F., Susilaningsih, S., & Wedi, A. (2020). Pengembangan Multimedia Interaktif Materi Sumber Energi untuk Memudahkan Belajar Siswa SD. *Jurnal Kajian Teknologi Pendidikan*, *3*(1), 68–77. https://doi.org/10.17977/um038v3i12019p068

Saputra, N. (2021). *Penelitian Tindakan Kelas*. Yayasan Penerbit Muhammad Zaini.

Serrano, D. R., Dea-Ayuela, M. A., Gonzalez-Burgos, E., Serrano-Gil, A., & Lalatsa, A. (2019). Technology-enhanced learning in higher education: How to enhance student engagement through blended learning. *European Journal of Education*, *54*(2), 273–286. https://doi.org/10.1111/ejed.12330

Su, R. (2020). The three faces of interests: An integrative review of interest research in vocational, organizational, and educational psychology. *Journal of Vocational Behavior*, *116*, 103240. https://doi.org/10.1016/j.jvb.2018.10.016

Subandowo, M. (2022). Teknologi Pendidikan di Era Society 5.0. *Jurnal Sagacious*, *9*(1), Article 1. https://rumahjurnal.net/sagacious/article/view/1139

Susilowati, H., Chotimah, H., & Sari, Y. D. (2022). *Penelitian Tindakan Kelas*. Media Nusa Creative (MNC Publishing).

Tang, X., Wang, M.-T., Guo, J., & Salmela-Aro, K. (2019). Building Grit: The Longitudinal Pathways between Mindset, Commitment, Grit, and Academic Outcomes. *Journal of Youth and Adolescence*, *48*(5), 850–863. https://doi.org/10.1007/s10964-019-00998-0

Tanjung, W. U., & Namora, D. (2022). Kreativitas Guru dalam Mengelola Kelas untuk Mengatasi Kejenuhan Belajar Siswa di Madrasah Aliyah Negeri. *Jurnal Pendidikan Agama Islam Al-Thariqah*, *7*(1), Article 1. https://doi.org/10.25299/al-thariqah.2022.vol7(1).9796

Unik Hanifah, S., maulida nurus, sofia, Hilda Putri, S., & Maulida Nurul, H. (2020). *Urgensi Penggunaan Media Audiovisual dalam Meningkatkan Motivasi Pembelajaran Daring di Sekolah Dasar*. https://ejournal.uinsaizu.ac.id/index.php/insania/article/view/4221

Wardatusshopa, F., Ummah, I., Karmilah, K., Sirozudin, S., Hidayat, W., & Djazimi, D. (2024). Keutamaan Ilmu dalam Perspektif Hadis. *Mimbar Kampus: Jurnal Pendidikan Dan Agama Islam*, *23*(1), Article 1. https://doi.org/10.47467/mk.v23i1.5647

Zuhri, S. (2019). Tarbiyah Ruhiyah (Pendidikan Ruhani) Bagi Anak Didik dalam Perspektif Pemikiran Pendidikan Islam. *As-Sibyan*, *2*(1), Article 1.