

Implementation of Digital-Based PAI Learning Media at MAN 1 Kebumen

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Abstract: The purpose of this study is to analyze the implementation of digital-based PAL learning media at MAN 1 Kebumen. This research method uses a qualitative approach with a case study type. Data collection techniques use observation, interviews, and documentation. The data analysis technique uses the Miles, Huberman, & Saldana (2014) model which consists of three stages, namely: data condensation, data presentation, and data verification. The results of the study show that cellphones, laptops, and Smart TVs are used as reference media for communication and learning. The use of digital media learning methods is more often done than conventional learning in the context of Islamic Religious Education. The effectiveness of the application of digital media in Islamic Religious Education learning is followed by students in grades 10 to 12. The application of digital media in Islamic Religious Education learning has proven effective in increasing student awareness of the use of cellphones, as well as fostering interest and sincerity in deepening religious insight so that learning is not monotonous. Obstacles faced in the implementation of digital learning media include power supply disruptions, inadequate wireless network quality, limited availability of supporting devices (Smart TV and remote), and lost remotes. To overcome this problem, a UPS/scheduled power outage, infrastructure upgrades/offline access for weak networks, a loan/projector system (for Smart TV limitations), and a lost remote tracking system are required.

Keywords: Digital media, Implementation, Instructional media, Islamic education.

Introduction

In Law Number 20 of 2003 article 3 concerning the National Education System, the purpose of education is the development of the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. National education in Indonesia, as mandated in Article 3 of Law Number 20 of 2003 concerning the National Education System, has a comprehensive goal in developing the potential of students. This goal is not only limited to the cognitive aspect, but also includes the formation of a character that believes

in and fears God Almighty, has noble character, is physically and spiritually healthy, has broad knowledge, is capable of various skills, is creative and innovative, and is independent in thinking and acting. Furthermore, national education also aims to produce democratic and responsible citizens, ready to contribute positively to the progress of the nation and state, (Ahmad Taufik and Nurwastuti Setyowati, 2021).

Islamic Religious Education According to Abdul Majid and Dian Andayani, Islamic Religious Education is a conscious effort made by educators in order to prepare students to believe, understand and practice Islamic teachings through predetermined teaching or training guidance activities to achieve predetermined goals.¹⁰ So,

Islamic religious education is a conscious effort to educate students to believe, understanding, living, and practicing the religion of Islam through activities such as guidance, teaching, and training while paying attention to the guidance to respect other religions. Islamic religious education is an integral part of the education system that aims to shape students' character and belief in Islamic teachings. Through various activities such as guidance, teaching, and training, students are invited to understand and internalize Islamic religious values in daily life. The main purpose is not only to teach religious theories or rituals, but rather to form a deep awareness and understanding of the principles contained in Islamic teachings, (Abdul Majid and Dian Andayani, 2005).

Learning media is one of the important components in the educational process, including in the context of Islamic Religious Education (PAI) learning. In general, learning media can be understood as any form of materials, tools, or resources used to convey messages, information, or learning materials to students. The use of this media aims to facilitate the communication process and have an impact on innovative learning between teachers and students, so that the message conveyed can be received better, clearer and more interesting. According to Arsyad (2011), learning media is any form of materials, tools, or resources that are used to convey messages and facilitate the teaching and learning process to be more effective and efficient. This definition emphasizes that media is not only limited to physical devices such as books, whiteboards, or projectors, but also includes digital, audio, visual, and a combination of these various forms. Furthermore, according to Heinich, Molenda and Russell (2002), learning media is any form of material used to convey messages and support the teaching and learning process. They emphasized that the media must be able to increase the effectiveness and efficiency of the learning process, as well as be able to attract the attention of students so that they are more active and involved in the learning process.

In this all-digital 21st century, the introduction of digital media to students is no longer an option, but a must. The information age demands students to not only become consumers of information, but also

creative and innovative content producers. In this context, digital media can be defined as a harmonious blend of various file formats, ranging from informative text, stunning images (both vector and bitmap), representative graphics, evocative sound, entertaining animations, immersive videos, to interactive elements that trigger active participation. Digital media is a combination of various media (file formats) in the form of text, images (vectors or bitmaps), graphics, sounds, animations, videos, interactions and others that have been packaged into digital (computerized) files, used to convey or deliver messages to the public. Digital media is a combination of data or media to convey information so that the information is presented more interestingly. In other words, digital media is a combination of data and media designed to present information in a more interesting, interactive, and relevant way to the needs of the times. (Munir, 2013).

Based on an in-depth interview conducted at MAN 1 Kebumen, it was revealed that students felt significant benefits from the integration of digital media in PAI learning. They consistently state that the use of digital media, such as interactive learning videos and online discussion platforms, makes learning more engaging and relevant to everyday life. This has a direct impact on increasing students' seriousness in learning, which is reflected in active participation in class discussions and increased assignment scores. In addition, students also highlighted that the subject matter becomes easier to understand thanks to interesting visualizations and more contextual explanations, so that learning becomes more effective. Wider access to information through the internet also helps students enrich their religious insights, allowing them to explore a variety of perspectives and sources of information that were previously difficult to reach.

Many studies on the use of digital-based learning media have been conducted. Through this study, Alfi and colleagues identified key factors that affect the success of the implementation of digital media in PAI learning in MA, based on direct input from teachers and students through in-depth interviews. These findings provide an empirical basis for the development of more effective implementation strategies.

The use of digital media in learning has been explored at various levels of education, including by Alfi et al. a case study "The Use of Digital Media in Increasing the Effectiveness of Learning in PAI Subjects" at SD Alkaffah Batam. However, its implementation in Madrasah Aliyah (MA) is still poorly researched. Initial interviews at MAN 1 Kebumen indicated the positive potential of digital media in PAI learning. This study aims to analyze the implementation of digital-based PAI learning at MAN 1 Kebumen, in order to fill the research gap.

The results of the study show that the importance of digital PAI learning media cannot be denied, because it plays a crucial role in improving the quality and effectiveness of religious education in the modern era. By leveraging technology, digital media allows for more flexible, interactive, and engaging learning, as well as providing students with access to learn anytime and anywhere. Various examples such as mobile applications, educational videos, e-learning platforms, and educational games make the learning process more fun and effective. Despite the challenges in implementation, infrastructure support, teacher training, and parent involvement can help optimize the use of digital media.

This study aims to analyze in depth the implementation of digital media in the learning of Islamic Religious Education (PAI) at MAN 1 Kebumen. Specifically, this study seeks to: (1) identify the types of digital media used in PAI learning in MAN 1 Kebumen; (2) describe the strategies applied by PAI teachers in integrating digital media into the learning process; (3) analyze the factors that support and hinder the implementation of digital media in PAI learning; and (4) evaluate the impact of digital media implementation on learning motivation, material understanding, and student learning outcomes in PAI subjects.

Problem formulation:

1. How is the implementation of digital media in PAI learning at MAN 1 Kebumen implemented, including the types of media used and their integration strategies in the learning process?
2. What are the factors that support and inhibit the implementation of digital media in PAI learning at MAN 1 Kebumen?

3. What are the solutions related to the implementation of digital media in PAI learning at MAN 1 Kebumen to increase learning motivation, material understanding, and student learning outcomes?

Materials and Methods

This type of research uses a qualitative approach. The type of research used is a case study, a case study is a type of qualitative approach that examines a certain "case" in a contemporary real-life context or setting. The location of this research was carried out at MAN 1 Kebumen, the informants in this study were PAI teachers and grade 12 students, the data collection techniques used were observation, interviews, and documentation.

The data validity technique uses the triangulation technique, the triangulation technique is to compare and check the degree of confidence of information obtained through different time and tools from qualitative research (Patton 1987:331). The data analysis technique used using the Miles, Huberman & Saldana model, namely data analysis in qualitatively carried out and takes place continuously until complete, so that the data is saturated, 1) Data collection: this involves the process of collecting data from interviews, observations, and data collected relevant to the title of the research as a systematic to support further analysis. 2) Data condensation: the data obtained is simplified, focused and sorted to find the core of the relevant information. 3) Data presentation: data that has been condensed is presented in the form of a narrative to make it more structured and easy to understand. 4) Drawing conclusions and verification: at this stage interpreting the meaning of the data that has been presented identifies with important findings.

Results and Discussion

A. Result

1. Types of digital media in PAI learning at MAN 1 Kebumen
PAI learning at MAN 1 Kebumen has optimized

various digital media in PAI learning. This makes PAI learning more fun, creative, and innovative. Based on the results of an interview with one of the PAI teachers at MAN 1 Kebumen, it was stated that:

"PAI learning at MAN 1 Kebumen has used various digital media such as smart TV, laptop, and mobile phones with various applications such as you tube, power point, quizizz, and canva."



Figure 1. PAI learning at MAN 1 Kebumen using a digital method, namely smart TV.

In digital-based PAI learning at MAN 1 Kebumen, smart TV is a medium that really livens up the atmosphere of the classroom. When the big screen shows videos of the stories of the prophets, shows of moral values, or explanations of worship, the learning atmosphere feels more real and interesting. The students seemed enthusiastic, because they not only heard the teacher's explanation, but also saw and felt the meaning of each material presented. With a large and clear display, learning becomes more interactive, and it is easier for teachers to instill Islamic values visually and contextually.

For teachers, laptops are a very important work companion in supporting creativity and teaching effectiveness. From this device, all learning preparation is done—from designing materials, compiling presentations, to downloading videos or supporting applications. Laptops are also a link between ideas and practice, because from there teachers can display material to smart TVs or projectors. Through laptops, teachers have room to innovate, create PAI learning that is more lively, dynamic, and in accordance with the times

Meanwhile, mobile phones are a small bridge that connects students with the world of digital learning. Almost every student has a

smartphone, and these devices help them find additional information, unlock materials from teachers, or take interactive quizzes online. With mobile phones, learning is no longer limited by space and time; Students can learn wherever and whenever they want. Technology that was once considered just entertainment has now turned into an effective learning tool, making students more independent and active in exploring Islamic values.

In practice, YouTube is also a favorite medium that is widely used by teachers and students. This platform provides a variety of learning videos, short lectures, and Islamic educational films that make PAI material feel more lively and easy to understand. Through visual impressions, students not only hear theories, but also see the application of religious values in daily life. YouTube helps teachers instill moral messages in a way that is closer to the digital world of students, making learning feel more relevant and touching.

The PowerPoint application is present as a supporting medium that makes the delivery of material more interesting and structured. Teachers can turn long texts into beautiful visual displays with eye-pleasing images, colors, and animations. With the help of PowerPoint, PAI materials can be presented systematically and without being boring, helping students understand the content of the lesson more easily. Each slide is not only a visual aid, but also a way for the teacher to convey a spiritual message in a light yet meaningful style.

To create a fun learning atmosphere, teachers also often use Quizizz. Through this app, the evaluation process turns into an educational game full of passion and laughter. Students answer questions about religious materials interactively, and the results appear instantly on the screen. This healthy competitive atmosphere allows students to learn without feeling stressed, while honing their understanding of Islamic teachings in a fun way.

Meanwhile, Canva is a creative space for teachers and students to express Islamic ideas visually. Through this application, they can create da'wah posters, infographics on moral values, or attractive presentation designs. Canva

helps transform PAI learning into a more modern and artistic one, without losing its spiritual meaning. From this, students learn that da'wah and Islamic values can be conveyed not only through words, but also through visual works that are touching and beautiful to look at.

2. Obstacles

Obstacles in PAI learning using digital media, this is in accordance with the results of an interview with one of the PAI teachers who stated that:

"One of the obstacles in using digital media in PAI learning includes power supply disruptions, inadequate wireless network quality, limited availability of supporting devices (Smart TVs and remotes), and remote loss."

The results of this interview are also corroborated by the results of observations with one of the PAI teachers who stated that the lack of infrastructure facilities resulted in the lack of effective PAI learning using digital media. One of the obstacles that often arises is the disruption of electricity supply. When the power went out, the learning atmosphere that was once enthusiastic and interactive immediately stopped. Teachers who have prepared learning videos or material shows through smart TVs also have to wait for the electricity to turn back on. Moments like this make the learning process feel disrupted and less than optimal.

In addition, unstable school Wi-Fi networks are also often an obstacle. When the internet connection slows down, teachers have difficulty opening materials or displaying videos from digital platforms. Meanwhile, students who are used to learning with visual media lose focus and enthusiasm. This condition sometimes forces teachers to switch again to conventional methods so that learning activities continue to run, even though they are not in accordance with the digital concept that they want to implement.

Another obstacle that is quite often encountered is the limitation of supporting devices, such as smart TVs which are limited in number and are not available in all classrooms. Some teachers even have to take turns using the device, so not all classes can experience digital learning at the same time. Plus, trivial things like

the loss of the remote can also be a hindrance. Without a remote, teachers cannot operate smart TVs freely, for example when they want to change the display of the material or adjust the volume of the sound.

All of these obstacles show that the implementation of digital learning media at MAN 1 Kebumen is still in the process of developing. There is great enthusiasm from teachers and students to move forward, but the support of facilities is not fully in line. With the improvement of facilities such as a stable internet network, guaranteed electricity supply, and adequate digital devices, PAI learning in the future can certainly become more lively, fun, and relevant to the modern world of education.

3. Solution

In the results of the interview, he reminded that the solutions that have been carried out to one of the PAI teachers stated that:

"To overcome these problems, UPS/power outage schedules, infrastructure upgrades/offline access for weak networks, borrowing/projector systems (for Smart TV limitations) are needed, as well as a remote tracking system that is missing."

One of the main obstacles that often arise in digital-based PAI learning at MAN 1 Kebumen is the disruption of electricity supply. When the power suddenly goes out, learning activities involving smart TVs, projectors, or laptops automatically stop. To overcome this, schools can provide UPS (Uninterruptible Power Supply) in every room that actively uses digital devices so that learning can continue even if the power goes out temporarily. In addition, the school can also collaborate with PLN to obtain a more definite power outage schedule. That way, teachers can manage digital-based teaching time at a safe hour from the risk of power interruptions, so that the learning process remains effective and planned.

In addition to electricity, an unstable internet network is also a challenge. When the connection is weak, teachers have difficulty opening materials from YouTube or other applications, and the learning atmosphere becomes disrupted. To address this, schools need to improve their

network infrastructure by expanding Wi-Fi coverage in classroom areas. However, if the improvement cannot be fully made, teachers can set up offline access, such as downloading videos, materials, or quizzes in advance so that learning can continue to run smoothly without relying on internet signals. Small steps like this can maintain learning stability while training teachers to be better prepared to face technical conditions in the field.

The limitations of smart TVs are also a frequent obstacle, especially since not all classes have these facilities. To overcome this, schools can gradually add devices according to needs and budget capabilities. But while we wait, projectors can be used as an effective alternative. This device is able to display material from the laptop to the screen or wall clearly, so students still get a visual and engaging learning experience. In this way, teachers can still apply digital media even though the facilities are not fully complete.

In addition, there needs to be an orderly system of borrowing devices so that all teachers can take turns using digital learning media without difficulty. Schools can set a schedule for the use of projectors or other aids through simple records managed by officers. With this system, the use of devices becomes more efficient and fair, while fostering a sense of shared responsibility to maintain school facilities. Teachers will also find it easier to manage their lesson plans because the schedule for using the tools is well coordinated.

Another problem that looks trivial but is quite annoying is the loss of smart TV remotes. Although small, this object plays an important role in running digital devices. To avoid this, schools can create special tracking and storage systems for remotes, for example by labeling and storing permanent storage in each classroom. Each time it is used, the teacher or officer records the borrowing and return so that the tool remains under control. This simple step not only maintains the sustainability of digital learning media, but also fosters a culture of discipline and a sense of belonging to shared facilities in the school environment.

B. Discussion

1. Types of digital media in PAI learning at MAN 1 Kebumen

Various types of digital media carried out by teachers have several advantages such as the use of smart tv as a learning medium in the classroom, in the learning media book the advantages obtained are: a. Televisions can emit a wide variety of audio-visual materials including still images, movies, objects, specimens, and dramas. b. Television can present good models and examples for students. c. Television can bring the real world to the home and to the classroom, such as people, places, and events through live broadcasting or recording. d. Television can give students the opportunity to see and listen to themselves. e. Television can present programs that can be understood by students of different ages and levels of education, (Ahmad Faiz Hamka, 2022).

Nana Sudjana and Ahmad Rivai mentioned that the advantages of using laptop (computer) learning media are: The new way of working with computers will motivate students to learn. b. Colors, music and animated graphics can add a sense of realism and demand exercises, laboratory activities, simulations and so on. c. Quick personal response in student learning activities will result in high reinforcement. d. Memory ability allows students' past recorded performances to be used in planning the next steps in the future. e. Its recording ability allows individual teaching to be carried out, individual instruction can be prepared for all students and their learning progress can be continuously monitored.

Youtube is used by students as a means of finding information about PAI materials. In addition, Youtube is also used to share videos with each other. students are particularly interested in PAI learning using Youtube, as YouTube can offer hands-on explanations of PAI subject topics as most of them are presented with interesting presentations and illustrations. And students are highly motivated in PAI learning using Youtube. The use of Youtube as a teaching medium plays a significant role in students' interest in learning. There is no denying that when a student's motivation/interest increases, it

also improves their learning outcomes. The benefits of learning by utilizing YouTube content are believed to be able to increase learning outcomes and student learning motivation. The better learning outcomes are due to the effective and efficient use of YouTube content as a learning medium, Mujiyanto. (2019). PAI teachers use PowerPoint to present material visually and systematically in the classroom. In addition, Google Form and Quizizz are used periodically as a means of evaluation, both in the form of practice questions and daily assessments. Platforms like Canva are also utilized for creative tasks, such as designing infographics and typography from materials. On the other hand, learning videos from YouTube are used to explain practice-based material, such as the implementation of worship or marriage fiqh. Some teachers even use social media such as Instagram and WhatsApp to share assignments, information, and display students' work.

The use of various types of digital media explains that the use of digital media is not only aimed at conveying material, but also to create proven to be able to make students more enthusiastic in following lessons, because the material is presented in an attractive and easy-to-understand form. In addition, technology allows for the implementation of personalized learning, where teachers can tailor teaching methods and approaches according to each student's learning style and needs. making the learning atmosphere more interactive and enjoyable.

The use of Canva in student assignments is also in line with the findings (Kurniasih & Arhan, 2025) the application of Canva in learning also serves as a tool that makes it easier for teachers to organize materials creatively and effectively, as well as as a distribution medium that students can easily access through the internet. Therefore, Canva can have two roles: as a supplement that enriches learning media, and as a substitute that replaces traditional learning media with a more engaging and flexible digital form. This has to do with distance learning situations that require the use of adaptive technology.

This variety of digital media forms makes learning more flexible, interactive, and in line

with technological developments and the characteristics of today's students. This is also a form of positive response from schools in utilizing advances in digital technology to support the effectiveness and quality of Islamic religious education at the secondary level.

Conclusions

The implementation of digital-based PAI learning media at MAN 1 Kebumen showed positive results in improving the quality and effectiveness of learning. The use of various digital media such as Smart TVs, laptops, YouTube, PowerPoint, Quizizz, and Canva has been proven to be able to create a more interesting, interactive, and relevant learning atmosphere for students. However, this implementation also faces various obstacles, including power supply disruptions, inadequate wireless network quality, and limited availability of supporting devices. To overcome these obstacles, MAN 1 Kebumen implements various solutions such as the provision of UPS, network infrastructure improvement, projector lending systems, and remote tracking systems. These efforts reflect the high spirit of collaboration and adaptation from teachers, students, and schools in utilizing digital technology to support more modern and relevant Islamic religious education. The success of this implementation does not only depend on the availability of technology, but also on the creativity, innovation, and spirit of togetherness of all school residents in facing challenges and creating new opportunities in learning. This study recommends the follow-up title "Analysis of the effectiveness of digital learning media on improving PAI learning outcomes", in order to deepen the aspects of effalization and the impact of digital media use on student degree achievement.

References

- Gemiharto, I. & Priyadarshani, H. N. 2022. The Challenges of the Digital Divide in the Online Learning Process During the COVID-19 Pandemic in Indonesia. Ilomata International Journal of Management.

- Heriyanto & Handri Santoso 2025. Analysis of School Readiness in the Utilization of Technology. *Didactic: Journal of Education* Latif, Abdul. 2023. The Utilization of the Youtube Application as a Learning Media for Islamic Religious Education in the Digital Era. *Journal of Tahsinia* Vol.
- Lestari, M. (2023). Governance of Digital Facilities in the Learning Process in Senior High School. *Journal of Modern Education Administration*, 7(1), 89–102.
- Miracle. (2019). The Use of Youtube as a Teaching Media in Increasing Interest and Motivation for Learning. *Journal of Communication at the University of Garut: Results of Thought and Research*.
- Nuraini, S. (2022). The Effectiveness of the Blended Learning Model in Islamic Religious Education Learning in Public Schools. *Journal of Islamic Education Studies*, 8(3), 210–22.
- Putri, A. (2021). The Role of Teacher Adaptation to the Success of Digital Learning Implementation in Islamic Schools. *Journal of Islamic Education and Technology*, 9(4), 301–315.
- Rachmawati, N. (2021). Teacher Readiness in the Implementation of Digital Learning in PAI Subjects in Secondary School. *Journal of Islamic Educational Technology*, 5(2), 115–128.
- Simamora, M. (2024). Development of Smart TV Learning Media for PAI in Elementary Schools. *Edutech Jaya Journal*, Vol. 4 No. 1.
- Susilowati, D. (2020). The Utilization of Alternative Energy in Supporting Technology-Based Learning in Schools. *Journal of Education and Learning Innovation*, 4(1), 45–57.