Utilizing Educational Technology and Its Application on PAI Learning

[1] Bayu Bambang Nurfauji, [2] Fikri Audah NSY, [3] Aan Hasanah, [4] Bambang Samsul Arifin

[23] State Islamic University (UIN) Sunan Gunung Djati Bandung, Indonesia

[1] bayubambangnurfauzi@uinsgd.ac.id, [2] Fikriaudahnsy@gmail.com, [3] aan.hasanah@uinsgd.ac.id
[4] bambangsamsularifin@uinsgd.ac.id

Abstract

This research focuses on the use of educational technology in learning Islamic Religious Education (PAI) and the challenges it faces. Educational technology, which involves the application of scientific and technical principles and theories to the teaching-learning process, has shown significant potential to enrich learning methods and facilitate access to diverse learning resources. Some examples of its application in PAI include the use of Al-Qur'an applications, videos and animations, online discussion forums, and Islamic educational games. However, this research also found various challenges, including limited infrastructure, lack of digital literacy, and the need to adapt learning methods from conventional to digital. To overcome this challenge, this research suggests the need for developing technological infrastructure, increasing digital literacy, and further research on the adaptation of digital learning methods in the context of PAI. This research shows that, despite the challenges, educational technology has great potential to enrich Islamic education learning and provide better and more flexible learning opportunities for students.

Keywords : Educational Technology , PAI , Madrasah

Introduction

In this digital era, technology has become an inseparable part of everyday life, including in the field of education. Educational technology, which refers to the use of technology to support teaching and learning processes, has developed rapidly and provides various benefits, such as enriching learning methods, facilitating access to diverse learning resources, and providing opportunities for independent and flexible learning.

Islamic Religious Education (PAI) as one of the subjects in the education curriculum in Indonesia is not immune from the influence of this technological development. The use of technology in PAI learning can help teachers and students understand material better and more interestingly, as well as open up opportunities to study contemporary issues in the Islamic context. However, despite its great potential, the use of educational technology in PAI learning still faces various challenges, such as limited infrastructure, lack of digital literacy, and the need for adaptation from conventional to digital learning methods. Therefore, this study aims to explain how educational technology is used in PAI learning and what challenges it faces.

Urgency problem This lies in importance understand utilization technology in context education , in particular in eye PAE lesson . Understand matter This important Because can give outlook about How technology can used For

support the PAI learning process , as well identify and address challenge faced . _ With thus , research This expected can give contribution in development practice and policy more PAI learning effective and relevant with the context of the digital age.

Based on background behind the above , the problem to be researched in paper This is : " How utilization technology education in PAI learning and what just challenges faced _ in implementation ?" Purpose study This is For understand How technology education can used in PAI learning and for know challenge What only faced by teachers and students in utilization technology this .

Methods

The author of this research utilized literature as the method and qualitative approach as the reference to explore and understand the meanings attributed by individuals or groups to social or humanitarian issues, as explained by Creswell (2015:4).

According to Zed (as cited in Fadli, 2021), there are four necessary processes in the literature method, which are reviewing, reading, and taking notes on the study sources used as research materials. Therefore, the analysis used in this study is content analysis. The analysis involves preparing articles, reviewing, reading, and taking notes in accordance with the study sources.

Results and Discussion

Education is inner integral element development and progress something nation , form base for civilization and produce knowledgeable and competent individual _ For build and develop the country (UNESCO, 2017). In the context of an independent country , education is tool main For reach objective national and individual. Through effective education , society _ can experience change positive and improving quality life they (World Bank, 2018). However , one challenge main problem faced by the system Indonesian education is problem even distribution education . Although education is right basic every individual , reality Still There is part from Indonesian population that has not get access adequate education _ (BPS, 2020). this _ become challenge important thing to do overcome For reach inclusive and quality education . _

Situation This aggravated with appearance the Covid pandemic in 2019-2022 , which required government adopt policy learning distance away (PJJ) to prevent spread of viruses. In context this , government along with education stake holders forced ' suddenly ' _ For adopt application technology education , especially virtual classes and virtual meetings , the former so foreign to the ear most teachers, students , even party manager school . Although the Covid pandemic has ended , actually trend utilization technology education in fact No stop , increasingly many people are used to with use technology during *physical distancing* make companies _ technology the more intense produce digital applications are included in the realm education .

Technology and Educational Technology

The concept of technology has been widely interpreted by various experts and figures. According to Dusek, technology is the application of knowledge and skills to achieve practical goals and solve problems (Dusek, 2006) . Furthermore, Rogers defines technology as a process by which humans design and create new tools and systems to meet their needs and wants (Rogers, 2003). Florman (Florman, 1996)added that technology is a means to change the world, including the knowledge of how to do it and the ability to do it.

Meanwhile, according to Muhson (2010) Technology is a soft or hard object that is able to change the human situation from difficult to easy, apart from that, technology is also able to change human thinking to be broader. Meanwhile, educational technology , as a subcategory of technology, has a more specific and

contextual definition. Ely defines educational technology as the application of science, mathematics, and engineering to activities that can produce goods and services of value to humans (Ely, 1999) . Gagne (1987), a well-known educational psychologist, provides a definition that focuses more on educational aspects, by describing educational technology as instructional design and learning processes, as well as the tools and media used. Seels & Richey (1994), through the International Educational Technology Association (AECT), defines educational technology as the study and ethical practice of facilitating learning and enhancing performance by creating, using, and managing appropriate processes and resources. Furthermore, Januszewski and Molenda (2008) provide a definition that emphasizes the discipline, namely educational technology is a discipline that involves the application of knowledge (principles and theory) to create, use, manage, and evaluate instructional processes and resources.

These three definitions show that educational technology is rooted in the use of science and engineering in education, but also includes aspects such as instructional design, learning processes, and management of educational resources. Educational technology is not only about tools and media, but also about how these tools and media are used to support learning and teaching.

In evaluating this definition, it is important to remember that educational technology is a constantly evolving field and the evolution of its definition is in line with advances in technology and educational approaches. For example, aspects such as online and digital learning, which are now important elements of educational technology, may not have been fully reflected in older definitions.

The Contribution of Educational Technology in PAI Learning

Along with the development of technology, technology has become a tool that helps humans in various fields, as well as the world of education, the flow of technological developments makes it easier for educational actors in the process of achieving these educational goals. According to (Hasibuan, 2016) that in its development useful technology in the field of education includes the following: a) Development of knowledge and basic skills that are efficient from conventional methods, b) Train concepts and thinking skills at a high level that are difficult to develop without the help of technology, c) Develop an understanding of technology and information and its functions for community groups and the world of work, d) Facilitate educators in managing the learning environment, in which the learning agenda is to fulfill the needs and abilities of students and to achieve the expected abilities, and e) Develop skills in the use of computers and technology.

According to (Na'im, 2021) that in an Islamic view the use of technology in education is a form of endeavor to achieve the true goals of Islamic education. In addition, in the PAI learning process the role of technology is useful for maximizing the teaching and learning process efficiently and increasing students' understanding of the material delivered by educators. The contribution of technology in PAI learning is the application of renewable technology in the learning process such as the use of the internet in the process of communication between students and teachers using room meeting-based applications to create online-based classrooms and the use of audio and visual media which makes it easier for students to understand the material presented by the staff. educator

Application Educational Technology in PAI learning

The application of educational technology in Islamic Religious Education (PAI) has attracted the attention of researchers and educational practitioners. One of the main reasons is the potential of

technology to enrich teaching and learning, and the challenges that arise in its application.

According to Yusuf, educational technology can help enrich teaching and learning by providing access to diverse and interactive learning resources, as well as supporting individualized and student-centered learning. For example, online learning applications and platforms can assist teachers in presenting material in a more interesting and interactive manner, as well as facilitating discussion and collaboration between students (Yusuf, 2005). However, Yusuf also noted that the use of technology in education faces various challenges, including issues around access and equality, content quality, and the social and emotional impact of using technology in education. For example, not all students and teachers have the same access to technology, and there are differences in their ability to use technology effectively for learning.

According to BECTA, one of the main benefits of using technology in education is increased student motivation and engagement in learning. Technology can make learning more interesting and relevant to students, and can support active and independent learning. However, BECTA also notes that the effectiveness of technology in education depends on how technology is used, and on the specific context and conditions of each learning situation (BECTA, 2008).

In the context of PAI, Al-Fahad argues that technology can be used to support the teaching and learning of religious values and principles. For example, technology can be used to facilitate discussion and reflection on religious and moral issues, and to support the development of religious skills and attitudes (Al-Fahad, 2009). However, Al-Fahad also reminded that the use of technology in religious education must be done carefully, to ensure that technology does not reduce the essence and values of religion.

Furthermore, one of the great potentials offered by educational technology is the ability to reach more students in different locations. Technology education like LMS (Learning Management System) and MOOC (Massive Open Online Course) make it possible religious education to be more easy accessed by students in remote locations , even around the world (Hew & Cheung, 2014). _ This show How technology education can facilitate expansion religious education and achieve more many people. But utilization technology in PAI must notice context local and cultural . Digital content must customized with needs and context Specific students , incl background behind their culture and religion (Warschauer & Matuchniak, 2010). Religious education has dimensions strong cultural , and digital content must consider This For become effective and relevant for student .

Likewise , the role of the teacher in application technology education No can ignored . According to Ertmer & Ottenbreit-Leftwich (2010), the teacher plays role important in integration technology in education . They is the most responsible answer For choose and use tools and resources the most suitable digital power For learning student them . because _ that 's important For engage teachers in development and implementation technology education in PAIs.

Although There is Lots potential and benefits from technology education in PAI, also exists concern and criticism . One of them is the risk of the "digital divide", where students have access limited to technology can left behind in education (Kucirkova, 2017). because _ that 's important For take an inclusive and equitable approach in application technology education in PAI, for ensure that all student own same access _ to opportunity learn .

Besides that , there are also concerns about use technology in possible religious education cause decline interaction social and communication stare advance between

students and teachers, which is important For learning religious and moral values (Chen & Bryer , 2012). because _ that 's important For look for balance between use technology and interaction stare advance in religious education . kindly whole , technology education own potency For help enrich and expand Islamic religious education . However , it's also important to consider possible challenges and concerns _ appears , and for take balanced and inclusive approach _ in its application .

Example Implementation Educational Technology in PAI learning

Case implementation technology education in PAI teaching can found in many institution education , both formal and informal. As for example , Syarif State Islamic University Hidayatullah in Jakarta has utilise technology in PAI teaching . They developed an e-learning platform called iLearning , which is used by lecturers and students For interaction online learning (Dirgantoro , 2019).

iLearning platforms possible lecturer For upload material course in various formats, incl document text , presentation , video, and audio. Student can access material This When anywhere and from anywhere , as long as they own internet access . Students can too participate in online discussion forums , working on assignment , and accept bait come back from lecturer through this platform . iLearning also provides feature For online test , which can be used by lecturers For evaluate understanding student about material courses (Dirgantoro , 2019).

At the same time , the platform is also facing a number of challenge . For example , no all students and lecturers own ability adequate technology _ For use this platform in a manner effective . There are also problems with infrastructure technology , like no internet connection stable and devices that are not adequate (Dirgantoro , 2019). This show that , though technology education own potency For enrich PAI teaching , still There is Lots necessary obstacles _ overcome .

As example another , a a study by Nasrullah and Sari (2018) shows How social media technology can used in PAI teaching . They report case a high school in Indonesia where PAI lecturers use social media platforms like Facebook and WhatsApp for communicate with students and share material course . In studies this , them find that social media use in PAI teaching has a number of benefits , like facilitate communication between students and teachers and allows student For Study in a manner independent outside _ class . However , they also found a number of challenge , like students who are distracted by content that is not relevant on social media and issues related privacy _ with use of this platform (Nasrullah & Sari, 2018).

kindly whole , second case This show that technology education can used with innovative and effective way _ in PAI teaching . However , they also show that There is necessary challenge _ overcome , incl problem technology , infrastructure , and training . Besides iLearning and social media , apps cellular like Al-Quran Digital also has used as PAI learning media . Al-Quran Digital delivers access instant to Al-Quran text and its translation , and many from application it also provides other features such as commentary, audio recording of readings , and capabilities For note and highlight text (Wahid, 2020). this _ possible student For learn and understand contents of the Al-Quran in detail more profound , and also delivers flexible and easy access _ to them .

Besides it's a game digital education is also becoming popular in PAI teaching . For example , a study by Wijayanti (2019) shows How educative digital game "Hafiz Qur'an" can help student Study memorizing Al-Quran with fun and interesting way . _ Study results This show that use game this digital education can increase motivation and participation student in PAI learning (Wijayanti , 2019).

Implementation Challenges and Expectations Educational Technology in PAI Learning

However , like case with application technology other , use application mobile and games deep digital education PAI learning also faces various challenge . For example , there is problem in accessibility and availability adequate device _ For student . Besides that , some application Possible need knowledge and skills technology that doesn't all student or teachers have (Wijayanti , 2019).

Use technology in PAI learning has Great potential , but also need _ proper understanding and support . _ Education and training technology for students and teachers are very important , and support Adequate infrastructure is also required . Although thus , with the right approach , technology education can become powerful tool _ For enrich PAI teaching and support objective Islamic education . Challenge in application technology education in PAI learning is enough complex and diverse . For example , challenge in matter infrastructure technology , which includes no internet connection stability and availability adequate device . _ Developing country like Indonesia often struggles _ For provide stable and affordable internet access , especially in the regions rural and remote (Suhardi , 2021). This become serious obstacle _ in utilization technology education optimally .

Challenge other is question capacity and skills use technology . No all students and teachers have Skills adequate technology _ For using e-learning platforms, applications mobile , or social media in a manner effective in PAI learning (Nasrullah & Sari, 2018; Dirgantoro , 2019). this _ demand enhancement training and education technology for students and teachers. Besides it , there is other related challenges with content and pedagogy . No all material PAI learning can adapted and delivered in a manner effective through technology . For example , some aspect PAI learning involves experience direct and interactive stare advance , that is possible difficult For replicated through digital platforms (Al- Farabi & Amin, 2020).

Although There is various challenge in application technology education in PAI learning , the expectations and potential are also very large . Technology education can open opportunity new For more PAI teaching and learning _ creative , interactive , and flexible . With proper support , technology _ education can help in reach objective Islamic education and building more society _ knowledgeable and ethical .

Main hope from application technology education in PAI learning is create more learning processes _ inclusive , interactive , and engaging . Through use of e-learning platforms, social media , and applications mobile , PAI learning can become more easy accessible to students , regardless from location geographical them (Al- Farabi & Amin, 2020; Suhardi , 2021). This is especially important in Indonesia, a country with the population is spread over thousands island . Besides it , with technology education , students can study at the most convenient time for they allow _ flexibility and personalization in the learning process (Suhardi , 2021). This is very helpful for students who have need different learning and rhythm _ different study . _

Technology education too _ facilitate interaction and collaboration between students and teachers, and between student itself , through features such as discussion forums , groups study , and tools Work the same (Nasrullah & Sari, 2018). This can help build community strong and supportive learning _ learning social , which is aspect important in Islamic education . However , it is very important For emphasize that technology education No intended For replace the teacher or interaction stare advance in total, but For support and enrich the learning process (Dirgantoro , 2019). In matter this , the role of the teacher as facilitator and companion Study student still very important . Finally , hope biggest is that technology education can contribute to goals Islamic education , that is form knowledgeable , ethical , and responsible individuals answer , who can

contribute in a manner positive for society and people humans (Al- Farabi & Amin, 2020).

Conclusion

Based on the description above, it can be concluded that educational technology has enormous potential to enrich and expand the learning process of Islamic Religious Education (PAI). Through the use of e-learning platforms, social media and mobile applications, the PAI learning process can become more inclusive, interactive and flexible. This allows for better access to PAI education, regardless of geographical location and the different learning needs of students.

However, there are also significant challenges in the application of educational technology in PAI learning. This includes technological infrastructure challenges, such as unstable internet connections and the availability of adequate devices, especially in rural and remote areas of Indonesia. There are also challenges in terms of capacity and skill in using technology, as well as pedagogical challenges in adapting and delivering PAI materials through digital platforms.

To overcome this challenge and fully exploit the potential of educational technology in PAI learning, a comprehensive and integrated strategy is needed. This should involve improving technology infrastructure, improving technology education and training for students and teachers, and developing appropriate pedagogical approaches to technology-based Islamic Religious Education learning. Thus, despite the challenges, the hope is that educational technology can help achieve the goals of Islamic education, namely to form knowledgeable, ethical and responsible individuals who can contribute positively to society and humanity. This confirms the important role of educational technology in PAI learning and the importance of continuing to explore and exploit this potential.

Bibliography

Al-Fahad, F. N. (2009). STUDENTS' ATTITUDES AND PERCEPTIONS TOWARDS THE EFFECTIVENESS OF MOBILE LEARNING IN KING SAUD UNIVERSITY, SAUDI ARABIA. *The Turkish Online Journal of Educational Technology*, *8*(2). https://files.eric.ed.gov/fulltext/ED505940.pdf

BECTA. (2008). *Harnessing Technology: Next Generation Learning*.

BPS. (2020). *Statistik Indonesia 2020*.

Creswell, J. W. (2015). *Penelitian Qualitatif dan Desain Riset*. Pustaka Pelajar.

Dusek, V. (2006). *Philosophy of Technology: an Introduction*. Replika Press.

Ely, D. P. (1999). *The Field of Educational Technology: A Dozen Frequently Asked Questions: Vol. 26(3)* (8th ed.). Teacher Librarian.

Fadli, M. R. (2021). Memahami desain metode penelitian kualitatif. *Humanika*, *21*(1), 33–54. https://doi.org/10.21831/hum.v21i1.38075

Florman, S. C. (1996). *The Existential Pleasures of Engineering* (2nd ed.). St. Martin's Griffin.

Hew, K. F., & Cheung, W. S. (2014). Students' and instructors' use of massive open online courses (MOOCs): Motivations and challenges. *Educational Research Review*, *12*, 45–58. https://doi.org/10.1016/J.EDUREV.2014.05.001

Kucirkova, N. (2017). Is technology good for education? By Neil Selwyn. *Http://Dx.Doi.Org/10.1080/00071005.2017.1353301*, *65*(3), 406–408. https://doi.org/10.1080/00071005.2017.1353301

Rogers, E. M. (2003). *Diffusion of Innovations, 5th Edition* (5th ed.). Free Press.

UNESCO. (2017). *Education for Sustainable Development Goals: Learning Objectives*.

Warschauer, M., & Matuchniak, T. (2010). New technology and digital worlds: Analyzing evidence of equity in access, use, and outcomes. *Review of Research in Education*, *34*(1), 179–225. https://doi.org/10.3102/0091732X093 49791/ASSET/IMAGES/LARGE/10.3 102_0091732X09349791-FIG4.JPEG

World Bank. (2018). *World Development Report 2018: Learning to Realize Education's Promise*.

Yusuf, M. O. (2005). Information and communication technology and education: Analysing the Nigerian national policy for information technology. *International Education Journal*, *6*(3), 316–321. http://iej.cjb.net