

INTERACTIVE AND MEANINGFUL ISLAMIC RELIGIOUS EDUCATION LEARNING IN THE METAVERSE; POTENTIAL FOR INTEGRATION OF EDUCATIONAL CONTEXTS IN INDONESIA

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Abstract

Islamic religious education learning seeks to transform various basic potentials of students to form a perfect human being. This effort requires learning that must be meaningful. However, the problem of interactivity and meaningfulness of learning affects many students. On the other hand, the empirical paradigm in various countries speaks for futuristic Metaverse-based learning, while Islamic religious education learning in Indonesia is faced with challenges as well as opportunities in the Metaverse era. The demand for information, fulfillment of access, interactivity and meaningfulness of learning is increasingly needed, in fact, it is urgent to pay attention to innovation that must be adaptive. The metaverse carries the transformation of virtual reality-based, immersive and imaginary learning technology which is predicted to provide learning comfort. The various literature that preceded as the foundation for this study. The aim of this research is to examine and to propose a paradigm regarding the potential and integration of Islamic religious education learning in the Metaverse as an effort to realize interactive and meaningful learning, especially in the educational context in Indonesia. This research uses a qualitative literature review approach, Namely, credible and scientific data sources were collected and analyzed in-depth. After scientific data processing, a meaningful and informative paradigm is put forward which is proposed as a finding. Islamic religious education learning is relevantly integrated into the Metaverse, where learning can manifest interactively and meaningfully for learners by considering the affective essence. Its innovation requires a holistic, adaptive, and integrative approach without neglecting the fundamental, social, and cultural values of the Indonesian nation. Therefore, it can be a consideration in optimizing Islamic religious education learning broadly.

Keywords: *The Metaverse; Interactive and Meaningful Islamic Religious Education Learning; Education in Indonesia.*

INTRODUCTION

The technological transformation in the era of industrial revolution 4.0 has recently become more intense in line with human needs. A new imaginative era has emerged in human life, further complemented by various platforms and social media such as Instagram, Facebook, WhatsApp, and TikTok. Alongside the popularity of other technologies such as Unity and Unreal Engine, Virtual Reality (VR), Augmented Reality (AR), 5G MEC, Blockchain, Digital Currencies, and Artificial Intelligence (AI) (Ning et al., 2021). Even though it is considered not directly connected to the world of reality, it has brought the concept of interactive media and the future digital transformation such as the birth of the Metaverse which will have a big impact on the education and learning system. The potential of Metaverse media in learning is a development of information technology science that actually started from Islamic civilization until now (Umar, 2016).

Therefore, it emphasizes that the learning system must adapt to more futuristic changes in educational technology. Contemporary learning demands a vast amount of information, and access to learning must be relevant. This suggests that as technology advances, there is a parallel need for adapting teaching methods to technology to better meet the needs of learners. The significant changes should go hand in hand with the use of instructional media. The modern learning is characterized by real-time digital-based interaction patterns, the internet, and the virtual world, which are increasingly attractive and essential for educators and learners.

Empirically, digital and online-based Islamic Religious Education (PAI) learning has been adapted, especially in Indonesia, during the Covid-19 pandemic (Koeswanti, 2021) (Novia & Wasehudin, 2021), at the same time, the use of hybrid learning systems has created a different learning environment, signaling a significant change in the education system adapted to digital methods (Wahid et al., 2020), (Kim et al., 2022). The study results indicate ineffectiveness, with 77.8% of Islamic Religious Education (PAI) teachers expressing dissatisfaction with online learning outcomes (Rahayu & Kejora, 2022). When observed, the consistency and practice of Islamic teachings in daily life are decreasing, such as congregational prayers, collective prayers in classrooms, and other routine worship activities, due to social restrictions (social distancing).

This is different from the essence of Islamic Religious Education (PAI) learning, which prioritizes meaningful learning principles. In this context, learning is not just about transforming knowledge but rather an effort to understand and to actualize the

values of Islamic teachings in a concrete and consistent manner in daily life, making it truly meaningful. According to (Hude, M. D. (2018) the meaningfulness of Islamic Religious Education (PAI) learning lies in its consistency and application, not merely in the extent of knowledge.

Realizing more meaningful Islamic Religious Education (PAI) learning can pay attention to the optimal utilization of instructional media, especially the media that embraces the concept of the new imaginary realm “Metaverse,” which is based on virtual reality and augmented reality. Virtual-based learning is believed to provide a different learning atmosphere compared to other media. However, how can Islamic Religious Education (PAI) learning be linked with the concept of the Metaverse to make it more meaningful? And how can this learning occur, ensuring that learners can truly practice it meaningfully? This undoubtedly requires a profound analysis.

If we refer empirically, although countless Islamic Religious Education (PAI) learning applications have been predominantly designed to meet learning needs, such as web platforms, smartphones, YouTube, and real-time connected videos, the evidence shows that these applications have significantly increased the interest of learners (Mujianto, 2019), (Balbay & Kilis, 2017), and assisting learners in enhancing conceptual and factual understanding (Rabiman et al., 2021). In line with the findings of Areepong et al., (2022) the learning within an interdisciplinary framework can involve elements of the Metaverse such as software, hardware, and content.

The use of various and conventional PAI learning media is in fact not yet satisfactory, now it is faced with new challenges and is even immediately remembered and slowly abandoned after the presence of the Metaverse concept in human life. It is predicted that the Metaverse concept, which is slowly emerging as a learning medium in Indonesia, will be more enjoyable for students in the future. Experts predict that the Metaverse concept will become an impressive learning trend and provide comfort for students (learners) because they have the opportunity to be present and witness phenomena, experience values, explore life and build on past existences, someone who learns in this dimension will find it easy transcends time and space but remains in the present life.

The Metaverse has depicted characteristics as a medium that presents diverse information, interactive concepts that will be connected to the human physical world, an imaginative world that goes beyond mere social reality, interconnected computing devices with new information presentations. Its combination comprises both hardware and software as a system, convincingly making its users believe they are in a different place (Antin, 2020). The visualization of technology and the vibrant scenes provides a

meaningful atmosphere for users to experience the context of reality. (Zhao et al., 2022).

The future prediction is that the Metaverse will become more integrated with human physical life, including in Islamic Religious Education (PAI) learning activities. The Metaverse innovations enable the fulfillment of access and learning services in a more futuristic manner. The research findings confirm that this digital future will be more interactive, more realized, and integrated with the physical world but will require a holistic approach (Lee et al., 2021). Therefore, the progress of online education programs and their quality will be more enjoyable for millennial students (Saxena et al., 2020). The hypothesis illustrates that the concept of the Metaverse in future Islamic Religious Education (PAI) learning will pose a challenge and an inevitability for the education community to adapt to the Metaverse technology concept, alongside the availability of adequate infrastructure, the sufficiency of user skills, and the financial support underpinning digital learning systems.

The above perspective suggests that if the Metaverse can introduce the concept of Islamic Religious Education (PAI) learning to be more interactive and meaningful by integrating it into the virtual reality system, it is highly possible that PAI learning can become more challenging without neglecting the principles inherent in education. In addition, to the shift in learning paradigms in the 21st century accompanying a new, more meaningful learning system, the existing learning system has increasingly constructed literacy and digital-based learning (Umar & Ismail, 2021).

The focus of this article aims to further explain; The Metaverse in education, the interactive and the meaningful Islamic Religious Education (PAI) learning in the context of meeting the learning needs of learners, and the integration of Metaverse in PAI learning as an alternative interactive and the meaningful media in Indonesia. Thus, this discussion attempts to propose another paradigm in the midst of the void regarding Islamic Religious Education (PAI) learning in the context of Indonesia, taking into consideration the challenges and the opportunities that can be maximized in PAI learning.

METHODS

This study is conducted in line with the growing issue of the Metaverse, which has sparked the attention of educational technology developers, academics, and business players in various countries, especially in Indonesia, following the rebranding of “Facebook” to “Meta” in October 2021. This research employs a qualitative literature review method, conducted through the steps of identification, examination, evaluation, and interpretation of all related themes, namely the potential integration of the

Metaverse in more interactive and meaningful Islamic Religious Education (PAI) learning in the context of education in Indonesia. The author gathered relevant literature in the form of books and journal articles in a structured manner. In addition, the researcher also utilized online data such as opinions, descriptive reviews, and narratives, as they strengthen the data acquisition found from other sources (Creswell, 2012). Subsequently, the researcher classified articles related to the keywords potential integration of the Metaverse, interactive and meaningful Islamic Religious Education (PAI) learning, in the context of education in Indonesia. In the next process, all selected articles were read, identified, compared, synthesized, interpreted, and clarified to obtain a comprehensive understanding and meaningful insights to be communicated. After the scientific and systematic data processing, a constructive paradigm is then presented, which is informative and proposed as the research findings.

RESULTS AND DISCUSSION

The Metaverse in Education

The term of Metaverse is a combination of “meta” and “universe,” which has been utilized as a new medium for learning since the Covid-19 pandemic (Yohan, 2022). Historically, the term of Metaverse has been present for approximately three decades, referring to the fictional concept of a virtual realm initiated by Neal Stephenson in his novel “Snow Crash” as an imaginative shared space. This paradigm may differ from the concept of the future Metaverse, where people can interact and engage using Augmented and Virtual Reality technologies.

Recently, the facebook has put forth its vision for the concept of the Metaverse, which represents a highly intriguing future internet technology concept (Narin, 2021). The meta's CEO emphasizes that the Metaverse will cater to needs such as socializing with friends, working, educationing, gaming, and shopping, offering various options for Metaverse users. As the future of Metaverse unfolds, developers can construct virtual archaeological sites that are more advanced than the real world.

The above paradigm asserts that the concept of the Metaverse is a blend of real-world and virtual reality, depicting visual representations of life from the past, present, and future. The concept of the virtual Metaverse refers to patterns of artificial intelligence (AI), Virtual Reality (VR), Augmented Reality (AR), Bigdata, Cloud, Blockchain, Digital currencies. Hence, it illustrates the transfer of avatars (self-

representations) and real-world elements into the virtual spaces of the Metaverse, creating a distinct world. It means, users will be represented by an avatar that matches their character, movements, and voice. Therefore, interactions occur between avatars and other avatars, as well as between avatars and the environment within the Metaverse.

In broad terms, a virtual reality-based the Metaverse signifies the realization of a persistent virtual existence that remains active even when users are not actively engaged in the Metaverse. The support of Augmented Reality, with the integration of physical and digital existence, presents a universal virtual space that is virtually boundless. This includes the integration of the internet and the Metaverse, which will depict a fusion of the physical and digital worlds (Nevelsteen, 2018).

The key components in realizing the future Metaverse include hardware, software, and content, facilitated through the interaction between users, implementation, and applications (Kye et al., 2021) (Park & Kim, 2022). The Metaverse has relied on immersive realism, accessibility, and identity, as well as interoperability and scalability. Therefore, supporting factors for the realization of a viable Metaverse include the interest of institutions, sustainable utilization, and hardware performance (Dionisio et al., 2013). According to ASF (2007) Metaverse roadmap overview, the characteristics of the Metaverse include Augmented Reality (AR), which presents information in the external environment that appears real; lifelogging, which integrates real-life information between individuals and groups; mirrorworlds, combining information from the external environment into the virtual world; and virtual worlds, providing activities for individuals and entities in the virtual world, (Jung, 2021). Although the use of the Metaverse is enjoyable as a new medium for distance learning, it can significantly influence the cognition, emotions, and behavior of its users (Suh, 2023). However, scientists suspect various potentials that may impact the health and safety of users.

Interactive and Meaningful Islamic Education (PAI) Learning

Learning is the effort to educate an individual or student (Degeng, 2013), it means that an individual or learner is involved in the learning process, and the involvement of the learner indicates the occurrence of learning. The fundamental understanding also indicates that learning aims to facilitate individuals in the learning process, which does not only occur in a rigid condition but can take place in various conditions (time and place). Specifically, in Islamic Religious Education (PAI), learning

can take place anytime and anywhere because a learner can find lessons from anyone in any form around them, including in virtual digital spaces that suit their needs.

In essence, Islamic Religious Education (PAI) learning is an effort to fulfill the learning needs of students, where educators transform knowledge and internalize values to foster motivation and cultivate interest in comprehensively studying the teachings of Islam. The goal is for students to embody the concept of “*insan kamil*,” characterized by noble character. As its main goal, it aims to strengthen beliefs, realize understanding, internalize, and practice teachings in accordance with Islamic principles (Muhaimin, 2002). Hence, Islamic Religious Education (PAI) learning encompasses content that transforms knowledge, skills, spirituality, and positive character values comprehensively.

The process of Islamic Religious Education (PAI) learning undoubtedly requires high interactivity, as the principles of PAI learning emphasize an active interaction between educators and learners. Educators can serve as a medium, a role model figure where an emotional and a humanistic relationship is formed through the process of dialogue, exemplary behavior, and practical application, fostering the development of self-consistency.

According to Wahab, (2016) the interactive learning is a teaching process that involves the interactive engagement between teachers and students, as well as among students with their environment. Through the use of teaching material presentation strategies, the teacher, as a facilitator, creates an interactive environment, often supported by interactive media. Therefore, the interactive learning emphasizes the use of both conventional in-person teaching tools such as classroom settings and chalkboards, as well as technology-based digital media like e-learning platforms, video conferencing tools like Zoom and Google Meet, chatting media, and even virtual reality Metaverse.

Furthermore, a meaningful learning in David Ausubel’s theory emphasizes the strengthening of cognitive structures. If learning is seen as acquiring new knowledge or constructing meaning about the world (discovery and acceptance), then meaningful learning occurs. According to Jonassen & Strobel, (2006) a meaningful learning requires meaningful tasks that arise from simulating various activities, manipulating ideas and artifacts. The process involves humans interacting with the environment, observing, constructing understanding of phenomena, and sharing interpretations with others. Learning resources relate to various materials, content, or objects that can be used logically and appropriately (Vallori, 2014).

There are three main principles of meaningful learning: 1) The cognitive structure grows when learners have learning experiences. 2) The knowledge is created and shaped by individual minds, with objects serving as mere mediums. 3) Through social interaction and relationships, children will learn more effectively. David Ausubel emphasizes the steps of meaningful learning, which include learning through the surrounding environment, creating concept maps, presenting problems to be solved in small groups, discussing to make collective decisions based on individual experiences, inquiry, and conducting exercises (Noor, 2013).

In the context of Islamic Religious Education (PAI) learning, a meaningful learning not only prioritizes the ongoing learning process but also demands that learners consistently practice intrinsic values as a result of the learning. In line with (Suyuti et al., 2021) The product of Islamic Religious Education (PAI) learning is the growth of intrinsic motivation and awareness to practice without external pressure or coercion. Hence, there are two fundamental characteristics in Islamic Religious Education (PAI) learning: the content of knowledge and the content of intrinsic values. Through both fundamental characteristics, students will not only acquire knowledge from the learning process but also be able to practice it in their daily lives. In other words, in Islamic Religious Education (PAI) learning, there is a simultaneous transfer of knowledge along with the internalization of moral values. This is because the most emphasized aspect in PAI learning is to cultivate the character and morality of the learners.

The meaningful learning process in Islamic Religious Education (PAI) should ideally occur in a humanistic manner. The teacher imparts knowledge creatively and dynamically, creating enjoyable impressions, motivating learners to gain in-depth understanding, and guiding in the form of practical application. This condition indicates the professionalism inherent in the educator. According to Hude, (2018) Stating that to fulfill the meaningfulness of Islamic Religious Education (PAI) learning, it certainly involves the key roles and strategies of PAI teachers such as redefining concepts due to transformations, rationalizing the embodiment of wisdom, acting as actual examples, connecting various disciplines, and implementing combinative methods.

The meaningfulness of Islamic Religious Education (PAI) learning also considers various influencing factors. According to Reigheluth & Merrill, variables affecting learning include: (1) Conditions, which encompass goals, characteristics of the field of study, characteristics of learners, and learning constraints; (2) Methods, which are diverse approaches to achieving goals; and (3) Learning outcomes, the beneficial impact of learning in various conditions (Setyosari, 2001) (Degeng, 2013). Meaningful

Islamic Religious Education (PAI) learning can genuinely consider both instructional effect, which originates from the PAI subject in the curriculum, and nurturant effect or accompanying impact, which is the cumulative effect of various indirect learning experiences (Joyce et al., 2003). The impacts of learning can manifest in various learning spaces for learners, whether in the physical world or in digital virtual realities, such as the potential virtual Metaverse in the future.

Purposeful and Interactive Islamic Religious Education Learning in the Metaverse

Several studies confirm that learning in the Metaverse is quite promising in terms of interactivity and meaningfulness, such as the implementation of Problem-Based Learning (PBL) presented in the virtual world. Although this project is still in the process, indications suggest that problem-based learning efforts can support the realization of PBL in the Metaverse (Barry et al., 2009). Furthermore, the Vortex Metaverse platform can be utilized in collaborative learning, fostering experiences and addressing learning challenges in the virtual world (Kim et al., 2022).

According to Fromkin, (2022) studies have found that learning in the era of the Metaverse allows learners to connect widely, as the Metaverse empowers and ensures meaningful interactions, providing new accessibility experiences that make learning more interactive and immersive. According to hypothesis (Fromkin, 2022) Stating that the development of learning in the context of the Metaverse refers to a program from SAP and Jobs for the (JFF) Providing secondary school students with technology-facilitated immersive learning can have a positive impact on skill abilities. The immersion lab skill shows that 85% of students are confident in interacting with others, 85% are able to find the right words to convey ideas, and 90% acknowledge an improvement in tasks following the learning process. Thus, it can be concluded that immersive learning contexts are successful. The research findings illustrate that Metaverse media can address learning challenges by providing positive impacts and interactive experiences for students.

In Indonesia, virtual reality learning is increasingly inspiring various communities and educational institutions. The emergence of the Metaverse concept is disrupting the education landscape, as many communities and educational institutions are racing to offer Metaverse-based learning services with the support of Augmented and Virtual Reality. This is evident in the growth of schools that transform into Metaverse schools, such as Suluh Bangsa Mulia School, Santa Ursula School, and others.

Similarly, Islamic educational institutions in Indonesia can harbor hopes to create and adapt enjoyable, interactive, and meaningful Islamic Religious Education (PAI) learning experiences in the Metaverse. Considering that the characteristics of Islamic Religious Education (PAI) encompass aspects of Fiqih, Al-Qur'an and Hadith, Aqidah and Akhlak, and the History of Islamic Culture, the digital and virtual era makes it highly feasible to teach these four content aspects of PAI (Aryanti et al., 2022).

An interactive and a meaningful Islamic Religious Education (PAI) learning can present materials related to fiqh, for example, learners and educators can represent themselves as avatars, express themselves in new ways, interact with each other in practicing Islamic laws, engage in buying and selling land, practice ablution, and perform prayer rituals. Similarly, in learning Al-Qur'an and Hadith, materials can be presented about the history of the Quranic manuscript. Learners can attend international-level Quranic memorization competitions, witness and listen to beautiful recitations of the Quran from the best Qari and Qariah, explore the chain of narration (sanad), and even interact with narrators of hadith transformed into avatars.

As for the lessons on Aqidah and Akhlak's learner, they can study the signs of the greatness of Allah SWT through accessing virtual representations of the universe. Those who wish to learn about the solar system no longer need to passively look at pictures in books, complicated videos, or hardware-based planetary arrangements. Learners can directly enter the Metaverse environment and explore each of God's created planets. They can identify types and characteristics, experience the panorama, the atmosphere of outer space, and the sensations of natural disasters. They can feel the varying warmth from the sun at different distances between planets, observe Earth from outer space, and explore the universe—akin to astronauts and space explorers. Afterward, they can share their experiences about the magnificence of Allah SWT, thereby strengthening the learners' of Aqidah.

Similarly, in teaching morality, learners can study values of social interaction and humanity played out among avatars. They can interact to build camaraderie, show empathy and concern for others, engage in mutual cooperation, foster a spirit of hard work and performance, and fulfill entrusted responsibilities. Tasks involving social interactions in virtual spaces can be carried out in real-world situations by learners, and conversely, positive values of social relationships can be brought by learners from the real world into the virtual Metaverse.

Currently, learning in the context of the Metaverse opens new opportunities to present materials for the learning of Islamic Cultural History. For example, a reported study by (Hirsh-pasek et al., 2022), depicts how children can learn in the Metaverse,

visiting different time periods. The learning is designed to stimulate students' appetites, taking into account their varied backgrounds of interests, enthusiasm, and learning motivations. With this impressive learning environment, they then gain interesting experiences with various informative presentations about the past. In this learning context, learners will acquire information by witnessing the Arab culture during the spread of Islam, the construction of pyramids and ancient Greek sites, the history of Hajj and the construction of the Kaaba, dating back to the time of Prophet Ibrahim. They will explore the history and construction of temples in Indonesia, the history and practice of spreading Islam by the Wali Songo, and even the existence of Islamic Kingdoms in Indonesia. All of this is presented as if they are in the present time. In this scenario, the teacher simply changes positions and time, allowing students to suddenly witness projections of life from various periods with the remarkable characteristics and phenomena of the past.

On the other hand, children are then engaged in exploring various cultural realities by participating as archaeologists equipped with the necessary media and supporting tools. The findings from the students' explorations in that projection become interesting information that will be presented in class and serve as material for the learning outcomes report. Hirsh-pasek et al., (2022) Expressing that there is an opportunity for collaborative learning and joint innovation embedded in the virtual space built by the children.

The description above suggests that virtual Metaverse-based Islamic Religious Education (PAI) learning can provide positive hope for educators and learners in the future, making PAI learning more interactive and meaningful. It can bring interactive platforms and enjoyable experiences from the abstract world to virtual reality, freeing their learning environment. Therefore, the potential integration of Islamic Religious Education (PAI) into the Metaverse can be considered. Similarly, considering the characteristics of PAI learning, it is not significantly different from the characteristics of other general learning that requires similar media.

The Affective Essence and the Considerations for Islamic Education Learning in the Metaverse

The Metaverse media may be dominated by the transformation of knowledge and the skills alone, possibly overlooking the affective essence of Islamic education learning and the internalization of fundamental values. The values in Islamic education learning cannot truly be represented through the virtual reality space of the Metaverse,

such as the obligation of performing the pilgrimage to the holy land of Mecca, where the sequence of rituals must take place in the real physical space (Fernando & Larasati, 2022). Therefore, not all materials and practices of Islamic teachings in Islamic education learning can be done virtually. It remains important to be transformed in real life as it should be.

In the context of the character education, the transformation of life values such as exemplary behavior and emotional relationships with educators is also highly needed. The spirit or soul of educators becomes crucial for students (Umar et al., 2021). Such factors pose a challenge when the virtual space of the Metaverse becomes an option for use in the Islamic education learning process. Therefore, the quality of education, the spirit of learning, the transformation of life values, the humanity must be preserved, and the alternatives to Metaverse disruptions also need to be considered.

The Metaverse has the characteristic of a virtual world that not only presents the simultaneous transformation of knowledge, as in Islamic education learning. The learners certainly need more than mere knowledge, such as emotional engagement, sensory touch, and expression of feelings. However, is all of that easily attainable in the virtual world of the Metaverse? This can be a concern when developing Islamic education learning in the Metaverse. The values of affection, character, culture, and morality are the most important domains and need to be preserved from the real-world culture into the interactive culture in the Metaverse space. In line with what has been suggested (Joyce et al., 2003) If, besides paying attention to the direct impact (instructional effect), the curriculum also needs to focus on the crucial presence of indirect impact (nurturant effect), which involves the values transformed by educators.

The Metaverse has been considered as a new communication space and a gateway to a better future for Islamic religious education (PAI) learning. Therefore, the use of Metaverse in this learning context can take into consideration the suggestions proposed (Kye et al., 2021) The suggestions are: the importance of teachers first analyzing carefully so that students can understand the Metaverse properly, creatively designing classes for problem-solving, and ensuring data security when using the Metaverse. The implementation also needs to consider four phases, namely: (1) Design; setting goals, concepts, time, costs, risks, scenarios, implementation requirements, and feasibility, (2) Training models; data analysis, user modeling, methods, and learning, (3) Operation; system and simulation, learning scheduling, network environment, and prototype introduction, and (4) Evaluation; content material, learning interaction, and implementation feasibility. (Park & Kim, 2022).

The innovation, the strategies, and the learner adaptation are essential to be carried out, according to Hirsh-pasek et al., (2022) It suggests the importance of designing learning that supports learners' ways of learning should be developed based on the research framework. Learning involving online and distance-based platforms should prioritize the social and the emotional interactions that need to be built within the Metaverse. There are four principles of developing learning applications that support learners, namely; learning should occur actively, the attractiveness of learning applications is essential to be integrated into life, developing applications should be useful and meaningful for learners, and supporting social interactions both in the virtual application environment and in real life is important. Learning should be repetitive, and the learning experience should be enjoyable. (Hirsh-pasek et al., 2022).

Relevant to that development, the study of Zulazizi & Nawati, (2020) states in the context of skills as learning outcomes, the transformation of technology-based multimedia learning must be significant and support 21st-century education, especially literacy skills, communication, technology, interpersonal, and intrapersonal skills, including providing opportunities in Islamic education. The digital literacy skills are indeed an essential requirement for meaningful Islamic education to take place in the Metaverse. Additionally, it requires a holistic and integrative approach, a constructivist learning paradigm, as students will actively engage in exploring and constructing meaningful learning experiences (Umar, 2017).

Although the virtual Metaverse is considered to support learning, there are concerns from various parties about potential threats that may harm students if the Metaverse becomes an alternative media for Islamic education. This implies the presence of negative impacts on online learning (Roller, 2010), Among the concerns are the potential to strain social relationships and personalities due to the use of essential aspects of virtual 3D, leading to a weakening of social warmth compared to real-life interactions (Gilbert et al., 2011). High levels of interactivity pose threats to the safety and security of data, including the security of adolescent users (Maloney, 2021). Has the potential to have a significant positive impact on mental health care (Usmani et al., 2022) and negative impacts on physical, energy, and workload if there is excessive interaction with Augmented Reality (AR) and Virtual Reality (VR) (Xi et al., 2022).

The interactive and the meaningful Islamic religious education in the Metaverse demands educators and learners to understand interactive learning methods, prioritize ethics and learning interactions, and establish a learning system that prioritizes personal security to ensure the effective implementation of Islamic religious education. Furthermore, educational communities and Islamic educational institutions must

constantly adapt to the developments in future media technologies such as the Metaverse, while ensuring that their existence remains rooted in the values of Islamic teachings, Indonesian culture, history, fundamental goals, and real human life.

Certainly, all the negative impacts need to be considered in line with the principles of Islamic teachings in Islamic religious education (PAI) because PAI aims to optimize the physical and the spiritual potential of learners positively. It implies the importance of caution for users (educators and learners), paying attention to the patterns and the benevolence of interactivity in PAI learning positively. This challenge needs to be taken into account by developers and practitioners of digital media, learning innovators, and educators to develop alternative media in different, more humane, and meaningful patterns.

This strengthens the findings of (Jung, 2021) (Ayiter, 2008) (Rhee, 2021) using the Metaverse platform does not only involve online learning but needs to encompass all aspects of education in a holistic manner, such as communication and empathy, so that learning becomes more meaningful and fosters motivation.

The Learning of PAI in the Metaverse can be a pioneer for Islamic education at large in developing more adaptive and relevant innovations without neglecting the principles and essence of Islamic education. This is important to be addressed through in-depth studies to unlock the potential challenges of the future and create Metaverse media alternatives, considering the future prospects of Metaverse becoming an uncontrollable reality. Because PAI learning gives hope that the Metaverse context will support the goals of PAI learning by utilizing the resources of reality, technological tools, and virtual power in an integrated manner with the lives of learners.

CONCLUSION

The Metaverse is not yet fully present in the current life and educational system of Islamic religious education. However, the Metaverse concepts that lean toward learning have proposed important indicators and outlined the potential and possibilities of integrating learning within the Metaverse system in Indonesia. This positive potential will manifest in the interactive and the meaningful learning experiences for educators and learners due to the availability of digital tools and systems such as Virtual Reality glasses, Augmented Reality, 3D Games, and so on. The characteristics of Islamic religious education materials in Indonesia are constructively relevant for learners through virtual reality experiences in the Metaverse, even aligning with the characteristics of other general learning approaches.

The interactivity and the meaningfulness of the Islamic religious education learning are the most important goals of the learning process. Therefore, learning must be truly meaningful for the learners. In addition to comprehending the context and values of Islamic religious education, efforts should be made to consistently practice and cultivate these values culturally.

The interactive and the meaningful Islamic religious education learning in the Metaverse inherently retains the urgency of social interaction in the real world. The presence of individuals remains a source of value and is crucial in transforming the learning experience and the life values imparted by educators. The virtual Metaverse technology should be used as a support for learning without neglecting the essence and nature of education. The challenges of value-free Metaverse technology, the spirit of Islamic religious education, and the cultural values of Indonesian society must be taken into account by the developers, the communities, and the Islamic educational institutions when developing meaningful learning in the Metaverse.

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