The Role of Digital-Based Civic Education Teaching Media in Increasing Students' Readiness to Face the Era of Society 5.0

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ABSTRACT

The rapid development of technology has significantly increased its influence on all aspects of life. One area that cannot escape this influence is education. We are now entering a new era known as Society 5.0. To adapt to developments in the era of Society 5.0, students must develop digital literacy skills and an interest in technology. The most important factor influencing students' interest in technology is the learning media used. Efforts to strengthen digital literacy can be implemented through civic education in schools. This research aims to describe digital-based civic education learning media designed to prepare students for the era of Society 5.0. The method used in this study is a literature review. The results show that digital-based civic education teaching media, particularly in the form of the metaverse, is more effective in preparing students and has proven to increase their readiness for Society 5.0 compared to visual audio media. This conclusion is based on several studies that highlight the advantages of metaverse teaching media. These advantages include increasing students' interest in technology, making the learning process more interactive, improving learning outcomes, eliminating spatial and temporal limitations, and creating virtual environments and objects that support learning.

Keywords:
Civic education learning, Digital-based civic education teaching media, Society 5.0 era

INTRODUCTION

Education is a fundamental human need today. It plays a crucial role in determining the progress of a nation. Therefore, the current education system is designed to produce a quality generation in line with advancements in technology and information. (Arifin et al., 2023). This is useful in welcoming *the era of society 5.0* . This era is also referred to as a super-smart society due to the rapid advancements in technology and innovation. (Mytra et al., 2021).

The implementation of the Society 5.0 era presents unique challenges in civic education. (Junaidi & Hodriani, 2023). Civic education learning must follow the direction of changing times. Often, civic education learning media lacks variety, making it difficult for students to understand. (Setiyowati et al., 2021). Many teachers teach only using PowerPoint. Likewise, learning evaluation is still carried out manually using answer sheets. This results in students becoming lazy, bored, and ultimately less motivated to learn civic education. (Alfansyur & Mariyani, 2019).

One of the roles in the civic education learning process is the use of teaching media. The combination of teaching media with technological advances encourages students' interest in learning. Therefore, teaching media is very important for students' readiness to embrace the era of Society 5.0. (Rahmawan & Effendi, 2022). The learning media that is currently developing tends to utilize technology in every aspect. The use of print-based learning media is being reduced and shifting to digital-based learning media. Various research is being carried out to create effective learning media for students in Indonesia and throughout the world. Every development of learning media must be understandable by educators so that in the learning process, students can comprehend and be guided by educators to achieve the desired learning goals. (Nastiti & 'Abdu, 2020). Educators are a very important element in education in Indonesia. Therefore, educators must be equipped with strategies that can make better use of technology. (Alamsyah et al., 2022).

This research will study the impact of digital-based civic education learning media on students' readiness to embrace the era of Society 5.0. Indicators of student readiness will be measured by increased grades and interest in digitized civic education learning media. It is hoped

that this research will provide references for the most suitable digital-based learning media for embracing the era of Society 5.0.

METHOD

This research studies the role of digital-based civic education teaching media in increasing students' readiness to face the era of Society 5.0. The research method involves reviewing literature published by scientific journals within the last ten years. Data collection techniques involve analyzing topics relevant to contemporary teaching media, the impact of teaching media on student learning outcomes, the impact of teaching media on interest in technology, and the era of Society 5.0. The data analysis technique employs the content analysis method, comparing several journals to obtain valid and detailed data.

RESULTS AND DISCUSSION

1. Audio visual learning media

Audiovisual media is a form of learning media that contains elements of images and sounds, helping to deliver material and achieve learning objectives. Thus, the senses of hearing and sight are emphasized in this media. Forms of audiovisual media include sound slides, films, video recordings, and more. (Setiyawan, 2020). The use of audiovisual-based learning media can increase student interest and learning outcomes. Gabriela's (2021) research shows an increase in learning outcomes for elementary school students after using audiovisual media in learning. (Gabriela, 2021). This is shown by the highest difference of 23.2 and the lowest difference of 1.76 in the pretest and posttest results. The use of audiovisual media in the form of PowerPoint can improve learning outcomes in Civic Education subjects for class II students at MIS Nurul Jadid Sui Pandan. This is evidenced by the increase in the number of students who achieve learning completeness scores and the rise in the average class score in each learning cycle. (Febriana, 2022). Next, the application of *PowerPoint* media in Civics learning in (Ta'Dung, 2021) Furthermore, the use of audiovisual media in the form of videos in Civic Education subjects for class III at BRK Foundation Elementary School is considered to facilitate understanding of the material and improve learning outcomes to a good level. (Ambarwati et al., 2022).

The application of audiovisual media in learning has both advantages and disadvantages. The advantages of using audiovisual media in learning are that the meaning of the teaching material is easy to deduce, making it easier for students to understand, learning goals are more easily achieved, teachers can employ more varied teaching methods, and teachers are more energy efficient in presenting learning material. Meanwhile, the shortcomings of audiovisual media include: under certain conditions, it can only be understood by students who have a good mastery of understanding what is seen and heard in the learning material; it is suitable for use in the learning style characteristics of visual-auditory students; it creates a more closed learning environment; and it requires supporting infrastructure or tools and materials. (Faujiah et al., 2022). Other research indicates that there are shortcomings in the application of audiovisual media. Some students are less active in participating in the learning process, and some students have not yet completed their grades. (Fitrah, 2023). Thus, there is a need for further development of appropriate learning media to achieve the desired learning objectives.

2. Metaverse learning media

a. Metaverse as a teaching media

The learning technology that is currently developing is metaverse technology. The metaverse allows educators to explore, gain experience, and interact with others. (Hwang & Chien, 2022). Many academics incorporate metaverse technology into their teaching methods. (Tlili et al., 2022). Therefore, the metaverse is being adopted and increasingly used in educational environments at all levels. Learners can engage more interestingly, entertainingly, and participatively in virtual worlds that combine game components while developing imagination, individual and collective intelligence, and short-term memory. (López-Belmonte et al., 2023).

Metaverse technology, a new innovation applied in the world of education, requires the education system to undergo a revolution to maintain accessibility and expand its existence. Metaverse educational opportunities include immersive interactive experiences, visualization, more

economical risks and costs, unlimited time and space, prevention of academic misconduct, personalization, and improved communication. (Lin et al., 2022). There are four benefits to using metaverse education. First, it allows for the training and practice of dangerous actions, such as piloting an airplane or carrying out procedures that have a high probability of failure and severe consequences. Second, it enables the reliving of unpleasant or counterproductive scenarios, such as dealing with difficult students or demanding corporate clients. Third, it allows for the impossible, such as examining the internal organs of the human body, traveling through time and space, studying history online, and gaining additional real-world experience. Fourth, immersive VR is recommended for rare or very expensive experiences, such as group field trips to tropical forests or underwater shipwrecks. (Pangestu & Rahmi, 2022).

Even though there are many advantages to the metaverse, there are several weaknesses to this learning media. A common problem with the use of metaverse technology is the lack of boundaries for people engaging in idle and other neutral forms of interaction. Therefore, various challenges arise from the implementation of the metaverse, especially in the education sector. Like offline lectures, education in the metaverse era faces challenges to students' moral education. The use of metaverse-based technology will reduce interaction between teachers and students, making it difficult to achieve this learning ethos. To realize metaverse-based education, including managing students' time to mitigate the negative impacts of metaverse technology, parents must perform their supervisory roles optimally. The development of Indonesian education as it enters the metaverse era presents a challenge that the government must prepare for. Human resources (HR), technology, and infrastructure must be prepared to support the implementation of digital education. In responding to technological developments in the metaverse era, universities must take positive steps to regulate the use of technology. The metaverse, which offers unlimited space, creates a higher level of engagement that needs to be achieved. As education enters the metaverse, we must prepare for broader international engagement. Another challenge is the socio-economic status of the community. In the metaverse era, only a few have access to this technology. (Hapidz et al., 2022).

b. Metaverse in the field of Civic Education

Some literature shows that civic education learning also follows technological advances, one of which is the metaverse. The use of the metaverse in Civics learning is useful for increasing students' interest during the learning process. One form of metaverse technology is Augmented Reality (AR); this technology allows the integration of 2D or 3D virtual objects into real-world environments. (Sari et al., 2020).The application of AR in teaching the history of the proclamation at STT Indonesia Tanjung Pinang by Kautsar et al. (2020) shows a student response percentage of 87.6%. This demonstrates the suitability of AR as a teaching media for classroom instruction. (Kautsar, 2020). The use of AR as a poster in Citizenship Education learning shows a significant difference in the average test scores between the test class and the control class based on the t-test with a p-value < 0.001. These results indicate a significant increase in students' grades after using poster-based AR teaching media. (Abdilah et al., 2023). The use of AR has also been proven to improve students' digital citizenship and metacognitive skills. Enhanced digital citizenship reflects students' awareness and interest in technology. Metacognition relates to the depth of students' thinking and their ability to connect with other concepts. (Rababah & Al-Maqosi, 2021).

Apart from Augmented Reality (AR), Virtual Reality (VR) is another type of metaverse technology. Technically, VR is a computer-generated 3D environment that is presented to the user interactively. It refers to a computer simulation that displays an environment in which a person can walk and interact with computer-generated objects and simulated people. VR attempts to manipulate the real world into 3D environmental phenomena and displays. (Kamińska et al., 2019). According to Abror (2017), the essence of VR technology is that it helps humans feel as if they are in a place with real sensations, with a comprehensive appearance. It makes it easier to identify various objects clearly and realistically. And The sharing of information through VR displays will be significantly greater and more interactive for users, such as students, compared to other technologies. The flexibility of virtual world design in VR content is a superior advantage for applications in education. Various forms, such as buildings, classrooms, laboratories, offices, and

others, can be realized in VR. This aims to attract students' interest and create an atmosphere similar to in-class offline learning. (Abror et al., 2018).

VR is used to teach the ideology and politics chapters of civic education subjects (Jiang, 2023). This learning affected the cognitive and knowledge levels of both the experimental and control groups. Learning with VR showed an average increase of 4.55 compared to the control group. Additionally, learning with this model also triggered a high level of concentration in students. (Jiang, 2023). Increased enthusiasm and concentration of students also occur due to the combination of VR and online learning. This happens because the learning process becomes more effective. (Kustandi et al., 2020).

c.   Has the metaverse been proven to be used as an effective teaching media?

Several studies show that metaverse-based teaching media are proven to be more effective than conventional teaching media. Metaverse-based teaching media often used in civic education include Augmented Reality (AR) and Virtual Reality (VR). The advantages of metaverse teaching media, often mentioned in several studies, include increasing creativity and improving the teaching and learning process in education by making it more interactive. (Chen et al., 2022; Díaz, 2020; Kye et al., 2021; Liono et al., 2021; Maslin, 2021; Sun & Gheisari, 2021; Won et al., 2022). Meanwhile, conventional learning media does not significantly increase student interaction and tends to be one-way communication. (Hendriks, 2016; Nandawika et al., 2022). The conventional teaching media in question include books, worksheets, and similar materials. Audio-visual teaching media are also considered less effective because they do not involve two-way communication and are less interactive. (Febriana, 2022; Fitrah, 2023; Rohmawati et al., 2021; Ta'Dung, 2021). Therefore, students sometimes feel bored with this learning media model. Additionally, audio-visual media require students to understand both audio and visual material simultaneously. If students excel in only one learning style, their absorption of the material will be poor. (Faujiah et al., 2022).

Learning with the metaverse is not limited by time and space, allowing students to learn anywhere and anytime. (Kye et al., 2021; Maslin, 2021; Won et al., 2022). Meanwhile, audio-visual teaching media tend to require a specific learning environment and schedule. (Faujiah et al., 2022). Therefore, metaverse-based teaching media is more effective for students.

The metaverse uses virtual worlds, creating virtual environments and objects, which helps us visualize our learning materials in 3D. (Chen et al., 2022; Rashevska et al., 2020). Visualization of learning materials helps students learn more easily and increases their interest, making learning more enjoyable. (Jovanović & Milosavljević, 2022). One of the shortcomings of audio-visual teaching media is the inability to represent 3D objects to students. The visuals represented are only 2D. (Nomleni & Manu, 2018). The ability of metaverse-based teaching media to visualize 3D objects can be used to explain civic education material related to history. The metaverse has the potential to be used as a VR-based museum that enhances civic education learning. (Jiang, 2023). The use of VR and AR technology in the Museum for the Formulation of Proclamation Manuscripts significantly attracted students' attention to studying the historical heritage of the Proclamation. (Palagiang & Sofiani, 2021). Based on the description above, metaverse-based teaching media is considered more effective than conventional and audio-visual teaching media. However, metaverse-based teaching media still has weaknesses and limitations. As a new and advanced technology, the metaverse is not yet accessible to everyone because not everyone can adapt quickly to it. (Liono et al., 2021). Moreover, because the metaverse is still new, metaverse-compatible devices require large costs (Liono et al., 2021; Won et al., 2022). Learning in the metaverse allows us to carry out all learning activities in cyberspace. This can gradually degrade our writing skills and increase the likelihood of cheating. Additionally, cyberspace is full of distractions, making it difficult to focus solely on studying. (Jovanović & Milosavljević, 2022; Maslin, 2021). Using the metaverse as a learning platform means we don't need to be in the same room as our teacher in the real world, making it difficult to monitor all student activities. (Jovanović & Milosavljević, 2022).

CONCLUSION

Teaching media are used as tools in learning. The use of teaching media is adjusted to the characteristics of students, the learning environment, and the infrastructure that supports the learning process. The era of Society 5.0 encourages students and teachers to innovate in education. Various learning media have been used in different situations and conditions. Audio-visual learning media, in all its forms, has influenced the learning process. Additionally, new developments are starting to emerge, such as metaverse teaching media. Several studies state that the metaverse is used in Civic education teaching. Metaverse teaching media has many advantages over audio-visual media, including increasing students' interest in technology, making the learning process more interactive, improving learning outcomes, and allowing learning to occur without being limited by space and time. Additionally, it can create virtual environments and objects that support learning. Meanwhile, some literature also mentions the shortcomings of metaverse teaching media, such as long-term use causing moral degradation and weakening the social relations between teachers and students. Additionally, metaverse media can only be used in supportive situations and conditions. The era of Society 5.0 is a time when humans are deeply interested in and understand all aspects of technology. Metaverse teaching media, which encourages a thorough understanding of and increased interest in technology, is therefore highly suitable for students preparing for this era.

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CONFLICT OF INTEREST

No conflict of interest

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