

Understanding Metaverse in Education: Connecting Metaverse to the existing Cultural Education in Indonesia

Entendendo o Metaverso na Educação: Conectando o Metaverso à Educação Cultural existente na Indonésia

Entendiendo el Metaverso en la Educación: Conectando el Metaverso con la Educación Cultural existente en Indonesia

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Abstract

Communication technology develops so rapidly that it changes the forms of interaction between people. Digital interaction that brings humans together in a virtual world seems to replace face-to-face interaction that has been a human habit since ancient times. However, digital interaction through media turns out to have many shortcomings and reduce the values that characterize a society. Even so, innovation in communication technology cannot be stopped, and now there is a metaverse. A digital platform that allows man to interact in the virtual world three-dimensional. Although this technology cannot be accessed and enjoyed by all levels of society, it is possible that in the next few decades social interactions in the metaverse will dominate interactions among people. Before that happens, in-depth analysis of all sectors is needed so that humans are not immersed in a virtual world that can actually threaten their existence. This research is a phenomenological research using a philosophical perspective that focuses on the possible use of the metaverse in education. In this study, it was concluded that the use of the metaverse is currently considered unnecessary because there is no urgent reason for the use of this technology, while face-to-face learning is still the best learning method, at least until today.

Keywords: Metaverse; Education; Cultural values.

Abstrair

A tecnologia da comunicação se desenvolve tão rapidamente que muda as formas de interação entre as pessoas. A interação digital que reúne os seres humanos em um mundo virtual parece substituir a interação face a face que tem sido um hábito humano desde os tempos antigos. No entanto, a interação digital através dos meios acaba por ter muitas deficiências e reduzir os valores que caracterizam uma sociedade. Mesmo assim, a inovação em tecnologia de comunicação não pode ser interrompida, e agora há um metaverso. Uma plataforma digital que permite ao homem interagir no mundo virtual tridimensional. Embora essa tecnologia não possa ser acessada e desfrutada por todos os níveis da sociedade, é possível que nas próximas décadas as interações sociais no metaverso dominem as interações entre as pessoas. Antes que isso aconteça, é necessária uma análise aprofundada de todos os setores para que os seres humanos não estejam imersos em um mundo virtual que possa realmente ameaçar sua existência. Esta pesquisa é uma pesquisa fenomenológica utilizando uma perspectiva filosófica que enfoca o possível uso do metaverso na educação. Neste estudo, concluiu-se que o uso do metaverso é atualmente considerado desnecessário, pois não há razão urgente para o uso dessa tecnologia, enquanto a aprendizagem presencial ainda é o melhor método de aprendizagem, pelo menos até os dias de hoje.

Palavras-chave: Metaverso; Educação; Valores culturais.

Abstracta

La tecnología de la comunicación se desarrolla tan rápidamente que cambia las formas de interacción entre las personas. La interacción digital que reúne a los humanos en un mundo virtual parece reemplazar la interacción cara a cara que ha sido un hábito humano desde la antigüedad. Sin embargo, la interacción digital a través de los medios resulta tener muchas

deficiencias y reducir los valores que caracterizan a una sociedad. Aun así, la innovación en la tecnología de la comunicación no se puede detener, y ahora hay un metaverso. Una plataforma digital que permite al hombre interactuar en el mundo virtual tridimensional. Aunque esta tecnología no puede ser accedida y disfrutada por todos los niveles de la sociedad, es posible que en las próximas décadas las interacciones sociales en el metaverso dominen las interacciones entre las personas. Antes de que eso suceda, se necesita un análisis en profundidad de todos los sectores para que los humanos no estén inmersos en un mundo virtual que realmente pueda amenazar su existencia. Esta investigación es una investigación fenomenológica utilizando una perspectiva filosófica que se centra en el posible uso del metaverso en la educación. En este estudio, se concluyó que el uso del metaverso se considera actualmente innecesario porque no hay una razón urgente para el uso de esta tecnología, mientras que el aprendizaje cara a cara sigue siendo el mejor método de aprendizaje, al menos hasta hoy.

Palabras clave: Metaverso; Educación; Valores culturales.

1. Introduction

Life changed when covid-19 hit. Human beings as social beings, who only exist through the existence of others, are forced to change the form of their relationships. Direct, face-to-face relations, which have been a form of human relations since the first time in this world must be replaced with mediated relations.

At the same time, communication technology has arrived at achievements that decades earlier were still considered science fiction. The digital world has become a world that is no longer inhabited by a few people, but has been abandoned by almost everyone. Human interaction is no longer limited by space, territorial, jurisdictional, cultural, religious, racial and national anymore. All are connected through the latest communication technology.

The combination of the achievement of communication technology and the pandemic seems to create a form of mediated relationship that also characterizes contemporary society. Digital interaction seems to be inevitable. The shift from an industrial society 4.0 to an industrial society 5.0 is just a matter of time. However, when the pandemic subsided, all estimates of acceleration towards an industrial society 5.0 were missed. People are back to living their lives "normally" again. Although some social relations are already comfortable to be carried out online, in general, face-to-face interaction is a form of interaction carried out by contemporary society. Socially, this is not a setback or denial of advances in communication technology. But people are given the right to choose the form of interaction that suits their wants and needs.

Education is one aspect of contemporary society that has felt a considerable impact from the pandemic. Schools were forced to close and learning was forced to be carried out online. Every educational institution tries to create an online-based education system as a form of learning type. This was welcomed with joy by application developers and computer hardware manufacturers. Various forms of learning management systems have sprung up as a substitute for face-to-face learning.

Learning via smartphone becomes a natural thing, of course with its disadvantages and advantages. Among the advantages of learning via smartphones is preventing contracting covid-19, which is indeed the main reason online learning is carried out. In addition, learning via smartphones is also considered economically cheaper, because it eliminates spending on transportation. However, learning via smartphones also raises many problems, such as not delivering learning material perfectly, no interaction between students and students with teachers. And there are many other shortcomings.

To move forward in communication technology, several digital world platform developers have designed a form of digital-based social interaction system but no longer by just using a smartphone, but using tools that allow humans to interact digitally no longer limited to two dimensions, but three dimensions. A digital world called the metaverse. Through the metaverse, humans are planned to be able to interact with other humans in the actual world or in the virtual world in full body, even they can touch each other digitally, but their biological bodies will feel the touch. This is the virtual world that the developers dream of.

One aspect of human life as a social creature that will apply metaverse technology is the world of education. However, before we actually implement education through the metaverse, there must first be an in-depth study of this so that future generations can be saved from destructive technology, and can take advantage of technology that can actually realize a better life.

2. Methodology

This research is a philosophical research on actual phenomena. The data source was obtained through a literature review that discussed the theme that became the main study of this research, namely the metaverse. In addition, literacy that discusses education and ethics in general and specifically about Indonesia is also the main study material.

In philosophical research, there are three main branches that are used as references, namely ontology, epistemology and axiology. Researchers will give more portion to the study of axiology. In this study, more in-depth study of the values that exist in the defense process. This is done because the metaverse will be in direct contact with these values, whether strengthening them or weakening them. The data analyzed is library data, both in the form of books and journals, print and online, which discusses the metaverse and educational values in Indonesia. The data is analyzed philosophically to seek a true understanding of the metaverse and its influence in education.

In-depth analysis is carried out comprehensively, holistically, and heuristically so that the conclusions obtained have elements of novelty and are comprehensive, which can be applied not only in Indonesia, but also in every country that has similar cultural values with Indonesia.

3. Introducing Metaverse

Metaverse is a digital world that allows people who live in it to interact virtually face-to-face in the form of a whole person. This is an advanced level of digital communication via smartphones. Smartphones are undeniably the greatest achievement of modern man in the world of communication. Humans can be anything and anyone when interacting in the digital world through smartphones. However, technological genetics always demands an improvement from previous technology, no matter how great it is.

The history of communication technology can be explored from around the first world war, namely when the invention of telegraph technology by the Chappe brothers (Standage, 1998), of course in this case we must ignore other primitive long-distance communications that use pigeons, smoke, trumpets and media because we are here talking about a man-made technology, not the use of natural objects as a medium of communication. This telegraph technology is able to speed up communication between two parties without having to present both parties in the same space. Then technology developed very rapidly after the invention of chip technology, which reduced the size, mechanism and of course the price of technological artifacts.

In the beginning, communication technology was created with the aim of winning wars, especially the first and second world wars, wars for territory, sovereignty, independence, invasion, occupation and the struggle for natural resources. However, in this modern era, communication technology is no longer developed with the aim of war, but economic. Communication technologies are not developed by the state, but by companies, owned by people from different countries. And technology, whatever it is, is not always developed in the country where the owner of the company is located. Technology is currently developed in countries that can ensure the smooth production process of the technology, including the availability of materials needed and especially the production costs that must be incurred by the company.

This 'has a positive impact' on the development of communication technology which is no longer dominated by developed countries only, but citizens in third countries can enjoy these technological products, even they can produce in their own countries, although prices and distribution remain under the control of company owners.

In the book *Second Life Herald*, Peter Ludlow uses the name Urizenus Sklar as an avatar, a surrogate body living in a fictional world (Ludlow, 2007). This *Second Life Herald* book is a picture of the metaverse how a person can live in a world that is different from this world with an identity that he can choose himself.

The term metaverse was first used in a 1992 science novel called *Snow Crash*. Neal Stephenson was the first to use the word. In this novel it is called the term metaverse, which stands for meta and universe (Ball, 2022). Stephenson used the term to express his imagination of the virtual world that grew after the invention of the internet. The metaverse in Stephenson's imagination is a three-dimensional virtual world that exists as a metaphor of the real world (Grimshaw, 2014).

Metaverse is expected to be used to improve the quality of life and make virtual interactions between humans even better. In its continuation, the metaverse is expected to be useful for improving quality and productivity, improving the quality of education, e-commerce, mass interaction, in the health sector and others (Curtis, 2022, Wang, 2022).

Research on the metaverse is needed so that humans are not carried away by the benefits and conveniences offered that have the potential to arise greater risks or adverse effects. Technology can be very useful in human life as long as it is understood and used wisely, and conversely, technology can become demonic if humans do not understand its essence (Heidegger, 1977). This also applies to the latest communication technology. Since the invention of the internet and social media, privacy issues have become one of the things that Needleman has reduced, (Needleman, 2021, Rajan, 2018). Things that should be consumed privately can easily become public consumption, either intentionally or unintentionally. This also applies to the latest communication technology. But science and technology cannot be stopped despite criticism from many parties. The demands and desire to overcome the problems left by previous technologies encourage the invention of new technologies to overcome them.

Some view technology optimistically. As stated by Allan Newel "The aim of technology, when properly applied, is to build a land of Faerie" (Newell, 1990). Allen Newel is one of the figures involved in the discovery and development of artificial intelligence as well as the winner of the Turing Award (Gerraci, 2010), while Turing himself is still considered a pioneer of the emergence of artificial intelligence. The same thing was conveyed by Marshal McLuhan who stated technology as an extension of man (McLuhan, 1994). However, when technology manifests in the form of the metaverse, what happens goes beyond what those philosophers claim. Technology is no longer an extension of man, or what in Don Ihde's term is called technological embodiment (Ihde, 1978). Technology is no longer created to overcome and conquer the world, but technology has created a world where humans can live in it, live and interact like life in the real world. The difference is that in the metaverse, virtual worlds are created according to the wishes of the developer whose main goal may be to fulfill the desires of the market, namely us. Thus, the virtual world can change (change) according to market conditions.

Metaverse can only be realized when artificial intelligence technology has reached a stage at least like today, because to create an artificial world is definitely not an easy task. Involving many ideas, ideas, science, the most advanced technological hardware, computer super systems, and especially the power of capital to realize a world other than this actual world. Currently, the metaverse is already used in Games, which use gloves, augmented reality and Virtual Reality. The combination of these three tools allows the player to enter the virtual world in a worldwide view, as wide as the eye can see. The emotions felt by players are certainly different from games that are carried out with joysticks, keyboards, monitor screens and sound systems, especially those that use smartphones with 6-inch screens. In the metaverse, players feel like experiencing every experience they live themselves, not in the

third person. In addition to games, the metaverse has also begun to be used for economic activities, such as meetings, presentations and the like (Ritterbusch, 2023).

At the time of its emergence, artificial intelligence has received criticism, especially concerns about the weakening of human ability and humanity itself when artificial intelligence replaces the function and role of humans, a dehumanization (Nilson, 2010).

However, the development of science and technology cannot be stopped, because science and technology always develop along with human history and civilization. In his book entitled "Technological Bluff", Jacques Ellul in 1977 once stated that one day computer technology will reach the point of perfection so that it can no longer be developed. But eventually Ellul admitted his mistake and stated that technology is never perfect and will always evolve (Ellul, 1989).

Various science fiction films have given rise to ideas and images of this virtual world. But the most appropriate picture of the metaverse was presented in the 2011 film Ready Player One. This film depicts the lives of several teenagers who are vying to win a game against the game development company itself. In the game, they enter a virtual world using the avatar's body, interact, race and fight against other players in their respective avatar bodies. Each character is free to choose an avatar, without being limited to skin color, age, gender and various other identities. It could be that fellow players know each other in the real world, it could be that they have never met at all in the real world.

That's the kind of life that the metaverse is trying to bring forth. A form of virtual life where humans can freely interact with fellow residents of the meta-world with an avatar body, a body that can be designed according to the player's wishes.

4. Education in Indonesia

Humans are homo sapiens, which means that humans use reason and logic to face the challenges of their lives (Saefullah, 1982). As an intelligent and thinking being, man has the habit of passing on what he knows to others, a natural process that became the forerunner of education. Parents teach knowledge to their children, and when they grow up they will teach the knowledge to their children (Pidarta, 2007). Education does not only occur in the classroom, but also occurs in everyday life. Every interaction among humans is education (Mudyahardjo: 2008). Because human nature is always seeking knowledge. This also makes humans different from animals or even with other primate species. Animals act using instinct, while humans use reason and ethical considerations (Tilaar, 2009).

Like other developing countries, the Indonesian nation is faced with various educational problems that have a direct impact on the quality of education, including in terms of equity. Various ways are used to improve the quality of education in Indonesia, including by adopting education systems in developed countries.

Education cannot be separated from the values held by a nation, because education is also the culture of the nation, and vice versa, the culture of a nation is determined through the education of its young generation. Education is cultural transformation (Tanyid, 2014), in the sense that the culture of a nation is conveyed and taught between generations through education, although of course each generation has different challenges and opportunities. However, through education, the wisdom values that characterize a nation can be passed on to the younger generation so that their national identity is not lost.

Before the pandemic, almost all forms of learning in Indonesia were carried out face-to-face. However, during the pandemic, all learning was carried out online. Although it initially seems promising because it offers convenience, the results achieved are far below the specified standard. The Indonesian nation is experiencing a situation that the Indonesian Minister of Education, Nadiem Makariem called the 'lost generation'.

Lost generation is a situation where students who should receive certain learning materials cannot master the material because learning is carried out online. Many factors can be the cause of not delivering material if learning is carried out online, one of which is the lack of focus of students when receiving material. With gadget media, students can carry out learning wherever they are and in any atmosphere. This makes the student's focus divided if during learning he also does other activities. In addition, the teacher's 'absence' directly makes students feel no need to devote attention to the lesson. Just like a motorist running a red light because there are no police there. Although he knew that running a red light was a violation of the law, because there were no officers on duty, the violation of the law was easily carried out without any feelings of guilt.

Indonesia, perhaps the same as other Asian countries, is a country that has a core culture of harmony, harmony, and balance (Suseno, 1984). This core culture is manifested in a culture of mutual respect, minimizing differences, avoiding conflict. Each of these cultures is actualized in language, word choice, pronunciation, attitude, body gestures, all of which are done in direct interaction. The same is true in Education.

In Indonesia, education is not just a knowledge transfer activity from teacher to student, but there is a bond between the two. This bond even remains after learning even to the end of their lives. A student is a student and a teacher is a teacher, even if the student is currently occupying a certain position or job. He is obliged to respect his teacher. And the student does this voluntarily, even if the teacher does not command the student to respect him. In the perspective of Indonesians according to the way of life they choose, being a person who has a superior character, good towards others, helpful, respecting elders is seen as more important than just mastering lessons.

This teacher-student bond not only occurs in the classroom during the learning process, but also remains strong outside the classroom. Teachers are obliged to nurture, guide, set an example and even protect students when they meet. Teachers cannot arbitrarily behave in front of their students. Education will succeed if teachers are able to be role models for students wherever they are (Tirtaraharja, 2005). And vice versa for the student, they must always obey and respect their teacher even if not on the school premises. And vice versa for the student, they must always obey and respect their teacher even if not on the school premises.

Harmonization between teachers and students is an important capital for successful learning in Indonesia, and this can only happen with face-to-face learning, while online learning cannot guarantee the existence of a harmonious relationship between teachers and students. Even online learning has not been proven to be more effective in learning and able to improve the quality of students.

5. Metaverse in Education; A Critical Study

Metaverse is predicted to be able to overcome online interaction problems that cannot be answered through smartphones. But is it true that the advantages provided by the metaverse can really be a solution to the problem of education in this country? Or will the metaverse lead to new problems like most other modern technologies?

Education in Indonesia, and perhaps throughout the rest of the world, in general still uses the system used since hundreds of years ago, namely face-to-face learning in the classroom. Although there are some innovations in the implementation of learning, in general, the majority of learning is still carried out in the classroom. Although this method has been going on for hundreds of years and some parties are starting to consider the method of learning in the classroom face-to-face is outdated, however, other methods offered have not been able to give significantly better results. In fact, when compared to online learning during the pandemic, face-to-face learning is far superior when compared to online learning.

However, online learning during a pandemic is forced learning, so it is only natural that the results are lacking or unsatisfactory. If online learning is carried out with careful planning, including facilities, infrastructure, learning methods and materials, teacher and student readiness, it could be that online learning will improve the quality of education in a real way. This is the reason for the plan to use the metaverse in education.

Indeed, learning via smartphones and the metaverse will be considered as both online learning, but it certainly cannot be that simple. Although both use the media, the form of interaction between parties is not the same. Smartphones only rely on cameras and keypads so that interaction in learning is very minimal. Every student can do the learning process anywhere and in any atmosphere, the result is that everyone does not feel in the same space. This is certainly different from learning in the classroom where all students are 'forced' to focus on the subject matter. In addition, due to the limited view of the teacher due to the small screen of the cellphone, students can do other activities besides paying attention to the lesson. Especially if students do not turn on the camera during learning, it is likely that students do not pay attention to the material delivered by the teacher or their friends.

This is certainly different from the metaverse. If a person enters the metaverse, then that person's senses and body will be in the same room, just like in the real world. If through smartphones people can be anywhere at the same time, in the metaverse this cannot happen, or at least it is very difficult to do. There are two very different forms of interaction between the digital world via smartphones and via the metaverse. In a smartphone, a person can open several applications at once but he does not stay inside those applications. She can do social media, shop, while attending seminars for example. The smartphone runs the application, while the user is still in the real world. While in the metaverse, when a person enters the metaverse platform, then all his senses and body enter into it. All of his consciousness is in a virtual space, so it is impossible for him to exist in two virtual spaces at once.

So, in the metaverse, teachers and students can be in the same room together like face-to-face interaction. And, the metaverse has another advantage that the classroom atmosphere can be changed according to the wishes of its residents virtually. We can imagine the atmosphere of learning carried out on the beach, or under a waterfall, but without fear of getting wet, or in a library but not afraid to make noise. Of course, the chosen learning atmosphere must support the learning process, not just make students' attention distracted or disrupted. With all these facilities, the learning process can be done better and the interaction of teachers and students can take place harmoniously. Warmth, smiles, and cheerfulness can spur students to learn more vigorously.

With the metaverse, online learning will feel like face-to-face learning. But the problem is precisely here. If to present the metaverse requires various facilities, systems, techniques, expertise, planning and especially a large budget just 'just' to realize online learning like face-to-face, then why not maintain face-to-face learning that has been done so far? Why buy a tool just to replace an existing one so that it can act as it already exists?

The answer can be as easy as we imagine, but it cannot be that easy. Each generation lives in their realm, which is clearly different from the previous generation. Each generation faces different problems and is overcome in different ways. It could be that the metaverse is not needed at this time when face-to-face meetings and interactions are still easy to do. But it could be that the next few decades of the metaverse are a necessity that must be lived by the current generation. Whatever the method and media, face-to-face learning is the best learning method, because with face-to-face learning students not only get knowledge from teachers, but they also get human values that are only obtained through interaction with fellow humans. Student can also interact with other students, makes friends, and creates bonds, to become a complete person. All of that can be done with media or without media according to the times and needs of each.

6. Conclusion

Metaverse is a virtual world that humans can live in digitally. In the metaverse, humans can live like living in real life. They can interact, study, work, make friends, get enemies and so on just like in real life. The metaverse offers adventures that go beyond the actual world, but there is a price to pay.

Education in Indonesia prioritizes a harmonious relationship between teachers and students and fellow students. The learning carried out during the pandemic clearly did not show maximum results. Gadgets, although proven to bring convenience in various ways, cannot replace the atmosphere of learning in the classroom. There is no warmth felt in online learning. There is no emotional bond between teacher and student, and fellow students do not know each other, other than just names. This shows that online learning is not very effective.

The metaverse seeks to address that problem by offering a platform where teachers and students can interact with each other just like in real space. However, at present, when face-to-face learning is still easy to implement, the presence of the metaverse in education is not really needed. But it could be that in the next few decades, the metaverse is a necessity.

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