



An Exploratory Study on the Production of Metaverse Ethics Education Contents for Adolescents

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ABSTRACT

As Covid-19 hits the world, we are paying attention to the rapidly changing virtual reality. As interest in the metaverse rapidly increases, various social and ethical problems and cyber crimes are occurring, and the risk is growing as the majority of metaverse platform users are teenagers.

regulations and guidelines for the Metaverse have not yet been prepared, and the government has announced that it will establish the 'Metaverse Ethical Principles' as a self-regulatory norm for the establishment of the Metaverse ecosystem, but a concrete implementation plan has not yet been presented. For the sustainable development of Metaverse, ethical education content to identify ethical issues within Metaverse society and establish a sense of norms is essential.

Accordingly, this study confirms the necessity and direction of metaverse ethics education focusing on three areas, such as sexual offenses, personal information infringement, intellectual property rights and ownership infringement, and presents contents by analyzing previous studies to enhance the effectiveness of education. aim to do Based on this suggestion, it has implications in that it can help the structure of content development and the need for specific institutionalization of ethics education in the future so that a safe metaverse society can be realized.

INTRODUCTION

With the advent of the 4th industrial revolution, various technologies are in the spotlight in society, and Metaverse is one of them. Metaverse is a paradigm that will lead the next-generation Internet era, and is spreading around games, entertainment, and music. In particular, the global market is expected to grow from \$20 billion in 2017 to \$150 billion in 2022, and the domestic market is expected to grow from \$963.6 billion in 2015 to \$5.72 trillion in 2015. Metaverse was already exerting an influence in the lives of citizens rather than simply expanding its presence in the industrial and economic fields.

In addition, the alpha generation has been using smartphones and tablet PCs since birth, and is currently the generation most actively accessing the metaverse platform. Looking at the age ratio of Metaverse service users, the dominance is 7-18 years old 71%, and Roblox 7-18 years old 62.3%. This confirms that the majority of users of the Metaverse platform are minors. However, as social life through avatars in the metaverse increases and expands, violations of social evaluation, sexual

self-determination, and property of natural persons who control the other avatars through verbal and visual actions of avatars in the current metaverse are caused. i

Furthermore, in the future metaverse combined with various technologies such as XR, Tracking, and Haptic, it is corresponding contents. foreseen to cause infringement of more diverse and significant legal interests that can be infringed by physical actions. Therefore, in the face of the metaverse society, it is necessary to have a more in-depth discussion on countermeasures against infringements in the metaverse.

Although the government announced that it would establish the 'Metaverse Ethical Principles', no specific implementation plan has been presented yet. Therefore, even if an infringement problem occurs and reports it, it is not easy to proceed with the investigation. Considering that the main users of Metaverse are teenagers and that it is a platform for continuously expanding the use of Metaverse, we intend to understand the necessity of producing ethical education contents for the purpose of improving and preventing ethical awareness in Metaverse through case analysis. In addition, based on the case analysis, we would like to divide the types of infringement into three areas and present the main contents of the contents of the corresponding contents.

APPROACH

Currently, society and technology are rapidly changing, but related systems and laws cannot keep up, so crimes in the metaverse are in a blind spot.

In this study, crime damage cases that occurred within the metaverse through portal sites and prior literature were analyzed by dividing them into three areas: sexual crimes, personal information infringement, and intellectual property rights and property rights infringement.

1) Sexual Offenses

#1 An elementary school girl was sexually demanded by a male avatar within the metaverse. After the male avatar suggested to the female avatar to play a 'secret play', the female avatar took off all the items she was wearing, repeatedly took a position such as sitting or lying on the avatar, and demanded sexual activity between the avatars.

#2 A crime has occurred in which a man in his 30s pretended to be a college student in the metaverse and sexually exploited minors. A man in his 30s built a friendship by giving paid items to female students. After that, they tried to have a sexual conversation and asked for a video or photo of their body, and they used it to produce sexual exploitation.

Adolescents are at risk from digital sex crimes in the metaverse, and are exposed to the threat of

sex crimes. In the first case, there was no real-world contact, but it was sufficient for the victim to feel sexually humiliated. Although the metaverse is a virtual space, it is a reproduction of one's appearance as an avatar, so crimes committed against the avatar inevitably inflict psychological damage on the victim. In the second case, the existing method of digital sexual crimes is extended to the metaverse space. The method is similar to the 'Telegram room N and doctor's room case', which is a representative digital sex crime case. In the case of enticing victims in the virtual world to demand sexual photos and making and distributing them as sexual exploitation, it will lead to harm in the real world. In the current law, there is no clear provision for sexual offenses against avatars in the metaverse. This is a limitation of the current law based on analog space and needs to be supplemented.

2) Infringement of personal information

#1 In May of last year, the famous metaverse platform 'Roblox' was attacked by hackers, and users' personal information and administrator accounts were hacked. Hackers exposed sensational images and racist messages, and made game characters engage in obscene acts

The importance of personal information security is inevitably growing as the scope of the current metaverse extends to social networking services and economic activities. Metaverse has the characteristic of exposing personal information and data by installing various sensor devices within the user's activity range. Even actions, voices, gazes, and conversations that were previously unthinkable are used as meaningful data within the metaverse.

Threats to hack such data will continue, and the possibility of misuse of personal information cannot be ruled out. Accordingly, the government needs to respond so that the metaverse system security and personal information protection measures can be prepared, but there is currently little concrete discussion. In the future, in order to utilize various services in the metaverse, it will be necessary to establish a security process and guidelines for the collected data.

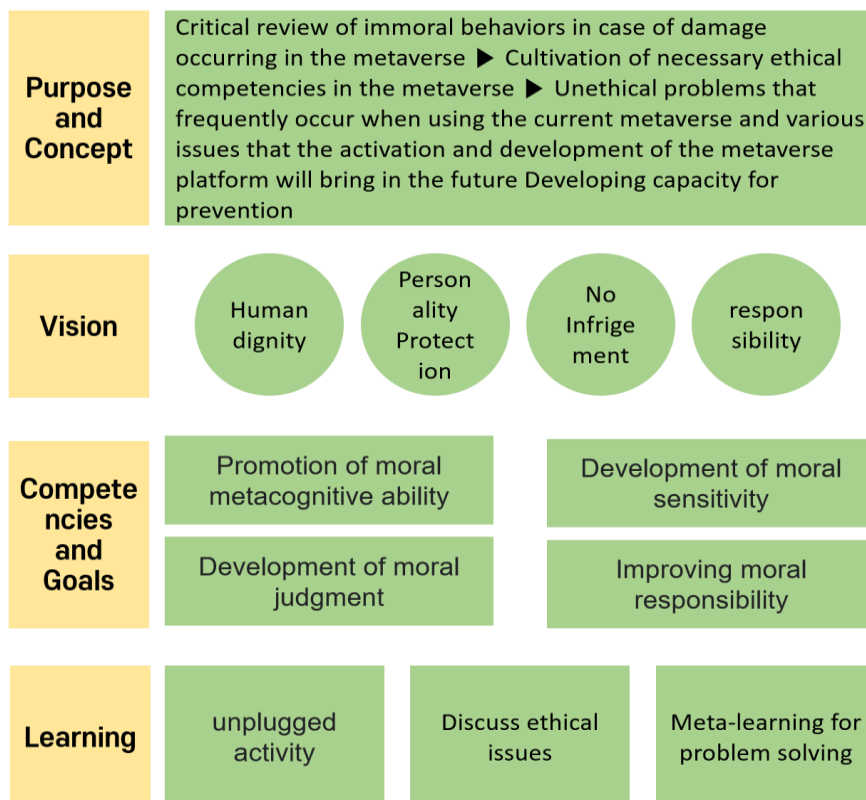
3) Infringement of intellectual property rights and ownership

#1 The American Music Copyright Association (NMPA) filed a copyright lawsuit worth 200 billion won against Roblox, which operates a game platform, on behalf of copyright holders in June 2021. This is because users neglected to upload sound sources to users' shared libraries without the permission of the copyright holder, and made profits by using the uploaded sound sources.
#2 In November 2021, an artist sold the 'MetaBirkins NFT' modeled after Hermes' Birkin bag on the non-fungible token (NFT) open market platform. In response, Hermes has officially issued a warning regarding the infringement of gift certificates and intellectual property rights of

counterfeit products in Metaverse. It was revealed that fake Hermes products made by third parties appeared on the metaverse, and none of them received permission or consent from Hermes.

Among the violations of property rights in Metaverse, the most representative is trademark and copyright infringement. In the case of the metaverse, it does not stop at simply copying reality as it is, but also supports users to engage in creative activities within the metaverse space. At this time, the controversy over who owns the intellectual property rights for the created work is bound to arise. In the future, it is necessary to be careful not to infringe on the intellectual property rights of others due to infringement of intellectual property rights and actions of users within the Metaverse platform. In order to prevent such disputes, the digital product-related laws in Metaverse are being revised.

RESULTS



This study intends to present 'a metaverse ethical education model that connects humans and avatars'. In the metaverse, they live by building a new self, an avatar that reflects their image.

When one's avatar receives psychological and physical injuries in the virtual space, the 'I' in the

real world also suffers psychological damage. It is necessary to convey that the damage of unethical and illegal actions committed in virtual space can extend to the real world. In order to systematically proceed with this, we intend to critically review unethical behaviors in the use of virtual space between humans and avatars for adolescents, who are the main users of Metaverse, by presenting specific details on competency, goals, content, and teaching/learning methods. . In addition, it is intended to provide education to prevent various ethical problems brought about by the expansion of the target audience and technological development in the future, and to cultivate the ability to make reasonable judgments on issues.

As the core values of education, human dignity, protection of human rights, non-infringement, and responsibility, moral metacognitive ability, moral sensitivity, moral judgment, and moral responsibility can be set as competency-level goals. Furthermore, it can be a direction for reorganizing the contents, teaching, and learning methods of metaverse ethics education.

First, metacognitive abilities for cultivating ethical citizenship at the level of science and technology are the ability to learn how to learn, the ability to recognize one's own knowledge, skills, values, and attitudes, the ability to recognize one's own learning and thought processes, and including the ability to control. In this context, moral metacognition regulates and controls moral learning, and has been emphasized as an important factor in ethical decision-making or moral judgment in particular.

Second, moral sensitivity is regarded as the ability to process cognitive and emotional information such as moral perception, moral imagination, and empathy. The sub-function of moral sensitivity is similar in context to the ability to form relationships with others, and the application of the sub-function is meaningful in that it equips the person with the ability to respond morally more quickly and accurately in any situation.

Third, moral judgment is about reasoning and judging actions. In other words, it is the ability to choose the most fair and considerate alternative in consideration of ethical ideals and universal

principles. Various ethical problems occur in the metaverse, and moral judgment is required as a solution to the potential increase in the future.

Finally, a common criterion found among the reasons for the occurrence of the preceding cases is a lack of responsibility or accountability. The moral responsibility within the metaverse means that all stakeholders connected to the metaverse respect the law, ethics and norms, clarify the distribution of responsibility for technology, and faithfully fulfill social obligations related to safety and the common good.

CONCLUSIONS&LIMITATIONS

As the rights and values that were taken for granted face a new paradigm, the time has come for re-establishment once again. As technology advances and the world increasingly emphasizes diversity, it can do serious harm. Because of this ambivalence, ethical considerations that can adapt to it and the educational system for it must also be able to keep pace.

In this poster, ethical education on moral metacognitive ability, moral sensitivity, moral judgment, and moral responsibility as the core values of education, including human dignity, protection of human rights, non-infringement, and responsibility, are presented to adolescents who are the main users of Metaverse.

However, this study has a limitation in that it did not conduct surveys or in-depth interviews with actual users. Nevertheless, the significance of this study is to recognize the importance of metaverse ethics through case studies, and to produce a metaverse ethics education model that is embodied in competency, goal, content, and teaching/learning methods.

REFERENCES

- Investigating the necessity and tasks of AI ethics education in Moral Education, The SNU Journal of Education Research, 2022
- An Artificial Intelligence Ethics Education Model for Practical Power Strength, Journal of Industrial Convergence, 2022
- A Study on Ways of AI Ethics Education Using AI Ethics Guidelines, Korean Elementary Moral Education Society, 2022
- Ethics and Administrative Regulations for the Safe Metaverse Society, Institute for North-East Asian Law, 2022
- Possibilities and Limitations of Substantive Criminal Law to Deter Harm Against Lawful Property Interests in Metaverse Age, Korean Association of Comparative Criminal Law, 2022
- A Study on the Types of Crime and Scalability in Metaverse, Journal of the Society of Disaster Information, 2022
- The Impact of Metaverse Development and Application in Industry and Society, The Journal of the Convergence on Culture Technology, 2022
- A Study on Online Sextortion and Cyber Rape, Chosun Law Journal, 2021