

Metaverse Platform Design for Strengthening Gender Sensitivity of MZ Generation

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Abstract

Due to a series of online sex crimes cases and online class conversions caused by the spread of the coronavirus, alternatives to sex education in schools are urgently required. As a result of this study, the metaverse sex education platform was designed. Using this platform, learners are expected to cultivate correct adult awareness and digital citizenship. Within the metaverse platform, learners can participate more actively in learning. Instead of exposing one's name and face in a place dealing with sensitive gender issues, one can participate in education through his or her decorated avatar and participate in education much more actively than face-to-face education and express one's opinion through chat. In addition, education by level can be received regardless of time and place, which can have the effect of bridging the educational gap between urban and rural areas. In this paper, we propose a new sex education platform without time and space constraints by utilizing metaverse.

Keywords: Metaverse Platform, MZ Generation, Comprehensive Sexuality Education, Big Data, AI

1. Introduction

Recently, the Ministry of Education has continued to strengthen gender sensitivity education by removing distorted adult awareness from the 2015 Sex Education Standard and providing preventive education to fundamentally prevent digital sex crimes such as the Nth Room incident. [1] With the spread of the coronavirus, the need for sex education at home is also expected to increase, and parents' demands for revising the gender equality education curriculum and implementing non-face-to-face sex education are also gradually increasing.

The Ministry of Education of Korea announced it will design a teaching method using metaverse, including artificial intelligence, and accordingly, it is necessary to provide an easy-to-access and lively non-face-to-face sex education method using metaverse's mirror world and augmented reality. [2] It is also necessary to present a new sex education curriculum by referring to comprehensive sex education that follows the UNESCO International Sex Education Guidelines instead of the existing curriculum that deals only with the principle of sex.

Comprehensive sex education refers to a curriculum-based curriculum that learns about cognitive, emotional, physical, and social aspects of sex beyond simply spreading biological knowledge. [3][6] Considering the

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characteristics of multifaceted inclusive sex education, the most effective implementation is Metaverse' Mirror World and Augmented Reality, and learners can experience a world close to reality and accumulate multifaceted knowledge of sex by using the platform applying this technology.

Avatar, the subject of metaverse, has a similar meaning to digital twin and digital beauty in the virtual world. Digital twins are virtual models for predicting behavior. Digital twins are used to create agents like real objects in the virtual world and predict results in advance through simulation of situations that can occur in real life.

This paper aims to present a way to enhance learners' proper adult awareness and contribute to the creation of a gender-equality society by incorporating a new sex education curriculum into the metaverse platform. In this study, learners access the virtual world of metaverse as an individual and communicate with each other, build basic knowledge of sex culture through expansion, and increase their understanding of sex by presenting a customized education curriculum for their age.

2. Research Background

2.1 Reasons for using Metaverse

Metaverse is a combination of the English word Meta, which means "virtual" and "transcendence," and "Universe," which means space, and refers to a three-dimensional virtual world in which social, economic, and cultural activities such as the real world take place. Metaverse is a concept that is one step more advanced than virtual reality (VR, a state-of-the-art technology that allows people to experience real life in a computer-generated virtual world), and it is characterized by using avatars to engage in social and cultural activities similar to real world. [4]

The reason for using this concept of metaverse is that after the spread of the covid-19, education through the media has become active, and the accessibility of metaverse has improved for the MZ generation. In fact, the Ministry of Education in Korea created and operated virtual classes after the spread of the coronavirus. In addition, the range of use of metaverse has been expanded enough to be used in conjunction with other digital technologies and can be accessed and educated at any time without time and space constraints. Furthermore, practical digital communication can be performed. In addition, learning opportunities can expand and create new business opportunities. In addition, since it operates on a browser-based basis, it can be used without installing a separate program, and information such as my location and used history is stored on all logged-in devices, so it is easy to use the device by changing it.

Learners can study through interacting with others by forming avatars while using a three-dimensional virtual world formed in metaverse services such as Roblox and Geppetto using a mobile phone or PC.[5] Through these activities, learners can go beyond simply receiving information, participate directly and work, and obtain educational effects like real reality.

2.2 A problem of current sex education

Sex education has a profound effect on the formation of correct sex values. However, sex education, which was conducted within the existing school, did not provide practical help to students in the form of simple information delivery. In 2018, Aha! As a result of the center's questioning of teenagers aged 13 to 18, 49.3% of female students said they were not satisfied with school sex education. The reason was that there was a lack of explanation for the boring method of education and the preparation and results of sexual behavior such as contraception. [6]

In addition to sex education in schools, sex education at home is treated as a part of personality education and the basis for forming the most basic gender values, and its importance has increased since the spread of the coronavirus. For this reason, some families provide sex education according to their children's eye level, but

the reality is that very few families using this method. Most families do not know how to implement their children's sex education or do not provide sex education at all due to the wrong perception of sex.

As such, a useful way to compensate for the inadequacies of existing sex education is to provide sex education using metaverse to learners of the MZ generation. By participating in the virtual world, they can cultivate digital citizenship and access high-quality sex education without feeling boundaries with reality. In addition, while following the newly formed education curriculum by age group, they are provided with an opportunity to receive education tailored to their respective levels. Paving the foundation for proper adult awareness through metaverse will increase the possibility of expanding understanding of sex.

2.3 An Approach to Sex Education through Metaverse-Men's Targets

At this point, the implementation of sex education for men is more urgent than that for women. In fact, when looking at the statistics on the gender and age of criminals from 2012 to 2020, it was confirmed that the male perpetration rate was about 29 times higher than that of women in the sex crimes section. Among them, the male abuse rate between the ages of 21 and 30 was the highest.[7]

Based on these data, correct sex education for men belonging to the MZ generation can be a way to reduce and prevent the incidence of sex crimes. In addition, as the number of cases of sexual crime damage by men is gradually increasing, a new educational curriculum is proposed to prevent damage.

One of the most effective places for sex education for men is the Republic of Korea Armed Forces.

Recently, enlisted soldiers have grown up in an environment familiar with the Internet and smartphones, and personal cell phones are closely related to all daily lives, including interpersonal relationships. For soldiers living in unfamiliar environments disconnected from the outside after enlistment, the use of mobile phones after work is a tool for communication and self-development, increasing psychological stability and military life, and furthermore, it has a positive effect on overall mission performance. This change has done a considerable job in helping soldiers relieve their military service maladjustment, psychological sentiment, reason, and career problems, and reducing barracks absurdities such as casualties and military violence in the unit. Therefore, the creation of conditions for resolving the sense of disconnection and isolation of military personnel, such as the use of mobile phones after work, which is currently in effect, should be continuously promoted. The most recognized and widely used system as a window for complaining of hardships and receiving help in barracks where human rights are guaranteed is the "Defense Help Call Center." However, soldiers' satisfaction with this is at the bottom of all systems. This is due to the lack of effectiveness of follow-up measures that resolve grievances after reports or consultations are conducted (as a result of a survey on human rights status of the Ministry of National Defense, 2018). However, it is still used as a significant grievance reporting system for military personnel, with the number of grievance counseling increased by 14.5% in 2020 compared to 2019. (Internal data from the Ministry of National Defense, December 15, 2020). Therefore, to smoothly deal with grievances in the barracks, it is necessary to continuously supplement the conditions for filing infringement relief and grievance treatment away from various organizational pressures. [8][9]

Currently, the Ministry of National Defense conducts military mental strength education regularly. A recent survey of 120 men who lived in the military held jointly by company Planet Meta and Soongui Women's University pointed out that "sexual discrimination/sexual harassment/sexual violence prevention education" should be supplemented. In addition, there were many opinions that it was necessary to switch the method to participatory education using metaverse, diversification of content, and interactive education using multimedia rather than cramming lectures after watching the video.

Educators' efforts are needed to connect mental education to metaverse and apply what they have learned. If

digital technology can contribute to the "experience" of soldiers, the most central problem, it can greatly help achieve the purpose of mental power education.

As a result of examining the actual status of military mental education of 120 discharged soldiers as shown in Figure 1, 54 answered positively, 30 answered negatively, and 37 answered with no opinion in response to the question of increasing the effectiveness of weekly mental power education using metaverse.

Therefore, in this study, a sex education platform was designed to access the virtual world of metaverse and to enjoy and participate in multimedia content. Multimedia content will be provided as verified by the committee, which consists mainly of experts. In addition, this study designed to form avatars within the virtual world of metaverse to make education through virtual world experiences applicable to everyday life in the real world. It is designed so that learners can gain the advantage of education through direct experience within the virtual world. [4][10][11]

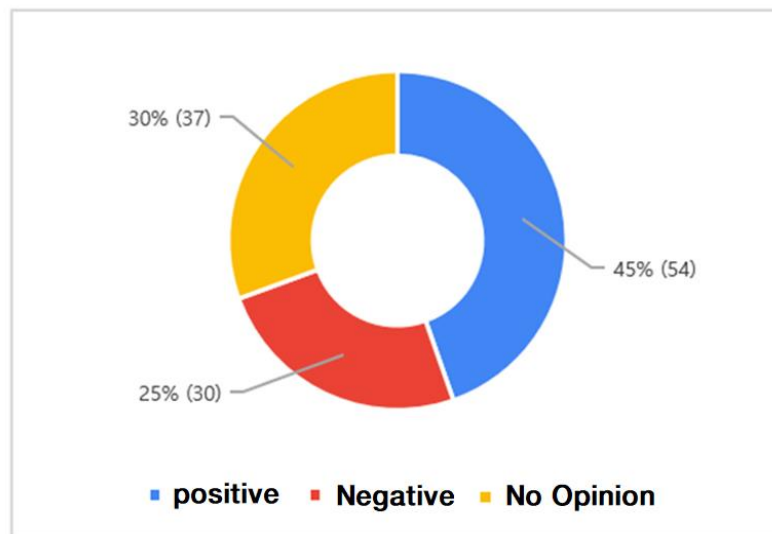


Figure 1. A Study on the Improvement of the Effectiveness of Mental Power Education Using Metaverse Education (Unit: %, Number of people in parentheses)

3. Program design

Experimental programs for sex education were designed, and sex education programs for more immersive education were designed through metaverse.

Figure 2 is a progress flow diagram designed in this system. The learner first selects his or her age group. After that, it briefly tests the knowledge already known about sex and introduces a customized comprehensive sex education curriculum suitable for learners through big data analysis. At this time, learners can choose between a customized curriculum created according to individual characteristics and a curriculum created according to age groups through analysis. Learners can accumulate knowledge about sex by reading provided videos, fairy tales, and columns.

In addition, learners can watch in-app advertisements equipped on the platform, enjoy games, and get game money "coin," and enjoy paid services through coins. In addition, you can communicate with other learners and share various information while decorating characters in the virtual world of metaverse.

Detailed program has three steps. First the learners browse topics what they are interested in or want to know

more. In this stage, the learners behavior or log is recorded, and the system suggest topics what might be interested. This is done in the metaverse world. After the learners chose the specific topic, an avatar meets the learners and start the education. This study can be done in various speed as the learners wish. They can even skip or repeat until learners satisfy the lesson. Cyber education makes this user specific education possible. Figure 2. Shows the detailed steps of the education.

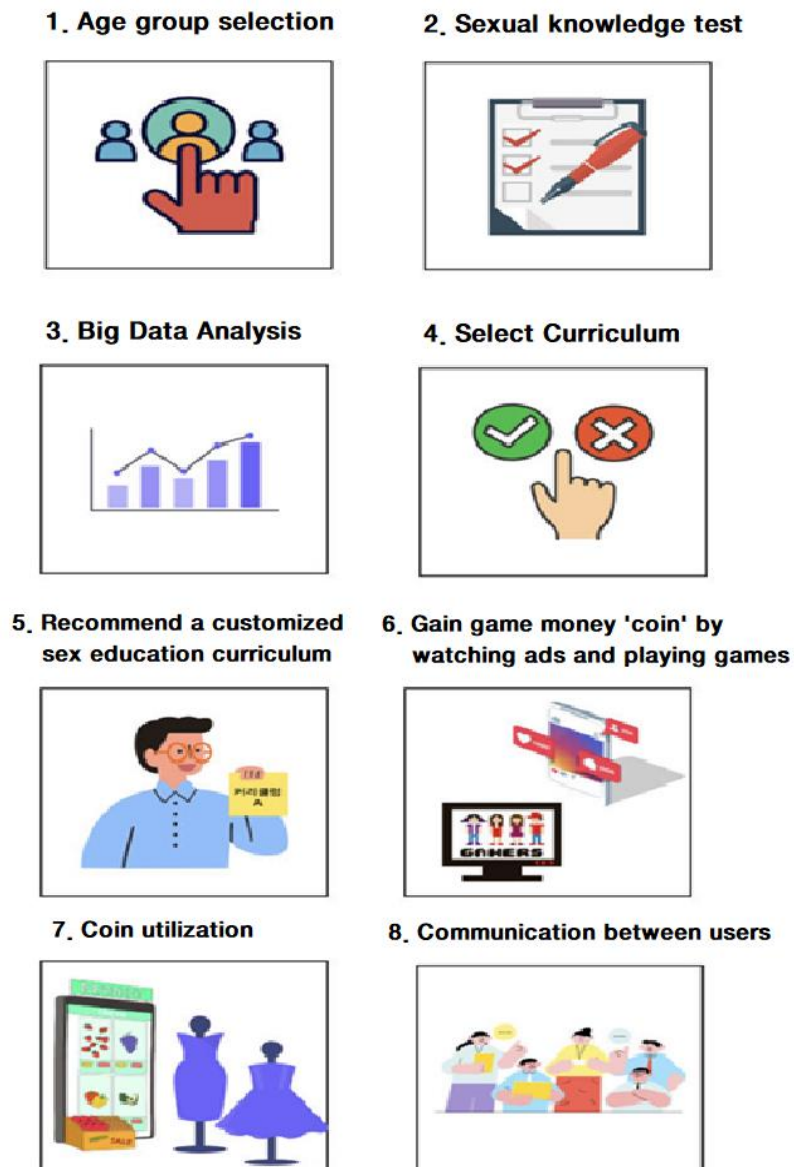


Figure 2. Program Execution Flow Diagram

4. Conclusion and Future Works

As a result of this study, the metaverse sex education platform was designed. Through the use of this platform, learners are expected to cultivate correct adult awareness skills and digital citizenship. For example, it can help high school seniors entering college or entering society to establish the right values in preparation for facing many problems with sex as adults, sexual intercourse, sexual harassment at work, and prostitution. In addition,

within the metaverse platform, learners can participate more actively in learning. Instead of exposing one's name and face in a place dealing with sensitive gender issues, one can participate in education through his or her decorated avatar and participate in education much more actively than face-to-face education and express one's opinion through chat. In addition, education by level can be received regardless of time and place, which can have the effect of bridging the educational gap between urban and rural areas. [2] In future studies, learners will derive and analyze the process and educational effects of using this platform and expand the age group subject to platform use through mission performance or education development using games.

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