Logical Innovation of Metaverse Empowerment Ideological and Political Education: Reconstruction Based on People, Things and Scenes

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Abstract: *Metaverse, as a new technology, new thinking and new method facing the future development, has brought new opportunities for the reform and innovation of ideological and political education in colleges and universities in the new era. To explore the focus of Metaverse's empowerment of ideological and political education, and to straighten out the logical sequence of the integration of ideological and political education and Metaverse, we can start with the three key elements of ideological and political education: "people (educational subject and object), things (educational content and resources) and fields (educational environment)", build a diversified and convertible educational community, and pay more attention to the process of emotional interaction. And innovate the carrier form of educational content, break through the environmental restrictions of educational content expression, and promote the supply of multi-subject educational content. And realize the three-dimensional expansion and superposition of ideological and political education field. With the help of Metaverse technology, the basic forms of "people, things and scenes" in virtual and real time and space are created, and the logical sequence of their integration is built to realize the benign development and value return of education.*

Keywords: *Metaverse, Colleges and universities, Ideological and political education, Logic innovation*

1. Introduction

The Fifth Plenary Session of the 19th CPC Central Committee put forward the long-term goal of strengthening the country through education and the basic requirements of deep integration of artificial intelligence with various disciplines and industries. Relying on Internet technology to further promote the effective development of ideological and political education has become an urgent requirement given by the times to colleges and universities. In recent two years, Metaverse, as a new technology, new thinking and new method, has promoted the innovation and reform of ideological and political education in colleges and universities. How to use the advantages of Metaverse to improve the effectiveness of ideological and political education has become an important issue for ideological and political educators in colleges and universities in the new era to think deeply and explore.

2. The value and significance of metaverse empowering ideological and political education in colleges and universities

(1) Conceptual traceability

Metaverse's "popularity" began when Metaverse concept stock Roblox was listed in the United States in March 2021, and immediately Metaverse began to enter people's field of vision. Subsequently, Microsoft, Baidu, ByteDance and other domestic and foreign giants have entered the market to test the water. In October 2021, mark zuckerberg, CEO of Facebook, announced that the company changed its name to Meta, and announced that it would invest $15 billion to support Metaverse content creation. This completely detonated Metaverse. At this point, the concept of Metaverse is popular all over the world, and 2021 is also called the first year of Metaverse.

In 2022, the state and local governments have issued policies and plans to speed up the layout of the industrial chain and gradually establish the Metaverse ecology. According to "China Metaverse Industry Policy Summary (November 2022 Edition)" published by Zero One Think Tank, as of November 7, 2022, 15 provincial-level units (including municipalities directly under the Central

Government, the same below) and 23 municipal-level units in China have issued about 80 policies explicitly supporting Metaverse industry.

At present, there is no unified definition of Metaverse. Metaverse is not only a new technology, new thinking, but also a new method. From the perspective of new technology, some scholars believe that it is a digital medium linking the physical world and the virtual world. From the perspective of new thinking, the Metaverse Report of Yikai Capital states that Metaverse is an immersive experience virtual space-time composed of many factors in the real world, which can map the real world in real time and is independent of the real world [1]. It shows brand-new digital holographic thinking and creative thinking. As a new method, it strengthens the immersive experience of the virtual world, creates another three-dimensional Internet world parallel to the real world, and provides new methods and more possibilities for people to live, study and work intelligently.

Generally speaking, Metaverse is a virtual world which is integrated and constructed by human beings based on artificial intelligence, blockchain, Internet of Things, cloud computing and other digital technologies, mapped or surpassed by the real world and can interact with the real world [2]. It takes the real world as the prototype to create, and links the virtual world and the real world interactively. It has powerful social functions. It is characterized by holographic digitization, high intelligence, high immersive experience, strong socialization, virtual identity, and high coupling with the real world.

(2) Value and significance

In 2021, "Opinions on Strengthening and Improving Ideological and Political Work in the New Era" issued by the Central Committee of the Communist Party of China and the State Council pointed out that it is necessary to promote the deep integration of the traditional advantages of ideological and political work and information technology, so that the biggest variable of the Internet can become the biggest increment of career development. "China Education Modernization 2035" emphasizes once again that aiming at the goal of education modernization, focusing on the whole process and realizing the normal and long-term effect has become an important task to promote the modernization of ideological and political education in colleges and universities. For ideological and political education in colleges and universities, the rapid development of Metaverse technology has had a profound impact on social economy, politics, military, education, culture and other fields, and has also become an important era background in the field of ideological and political education in colleges and universities. In recent years, China's Internet technology is booming, and the network has also become the main front and important channel of ideological and political education in colleges and universities. However, with the in-depth development of network ideological and political education, its limitations in technology, thinking and methods make it difficult to achieve the desired results.

Higher education shoulders the important task of establishing morality and cultivating new people of the times. Ideological and political education needs to be based on the background of the times, grasp the pulse of the times, master the initiative and leading power of the development of the times, make arrangements in advance, be brave in innovation, and strive to make ideological and political education resonate with the new era. Using Metaverse technology to empower ideological and political education, and using highly integrated digital twin technology, digital identity authentication, interactive technology and other emerging technologies to innovate and reconstruct the subject, object, content, path and other elements of ideological and political education, can better design the top-level of ideological and political education in colleges and universities, solve the innovative proposition given by the times in the field of ideological and political education, promote the quality and efficiency of ideological and political education in colleges and universities, and meet the needs of students' personal growth and success.

3. Research status of metaverse enabling ideological and political education in colleges and universities

Metaverse's powerful coupling ability of virtual and real space provides new technology, new thinking and new methods for teaching ideological and political education in colleges and universities according to their needs, which also causes heated discussion and active exploration by scholars in the field of education. Colleges and universities began to explore the application scenarios and implementation paths of Metaverse in specific education topics, with a view to breaking through the existing education model and improving the effectiveness of ideological and political education in colleges and universities.

(1) Theoretical research

The existing researches on Metaverse combined with ideological and political education mainly focus on prospect detection, implementation path, ethical risk avoidance and so on. For example, Dong Yi of Shanghai University of Engineering Science thinks that Metaverse can empower ideological and political education in colleges and universities, which can create an interactive learning environment combining virtual and real, provide technical support for intelligent and accurate portraits, and optimize the evaluation system of ideological and political education in colleges and universities [3]. Dong Kouyan of Zhejiang University proposed to carry out social governance simulation experiments by using digital twin technology, digital body double technology, NET technology and immersive interactive technology, to define virtual life scenes, to optimize network content supervision, and to strengthen value guidance [4]. Li Haifeng and Wang Wei from Xinjiang Normal University suggested that the focus of Metaverse empowerment education should be strengthened from the aspects of teaching and educating new infrastructure, learning process, and virtual-real integration learning, and described the space of Metaverse wisdom learning in education [5]. Zhao Jianchao of Jiangxi University of Finance and Economics believes that the new technology of Metaverse will profoundly reshape the perception environment, information environment, cultural environment, etc. of online ideological and political education, which is conducive to improving the accuracy of online ideological and political education and meeting the individual needs of the educatees.

(2) Practice and exploration

With the blessing of theoretical research, some universities in China began to take practical steps to explore new forms of education by using Metaverse technology. In January, 2022, the School of Animation and Digital Arts of Communication University of China built the first open Metaverse virtual university in China-the virtual campus of Communication University of China on the Metaverse platform of Baidu Xirang. With the help of street map, 3D reconstruction, 3D engine and other digital technologies, the virtual campus of Communication University of China vividly reproduced the entire campus buildings and public facilities, and accurately realized the construction of digital twin campus. The experiencer can freely access the platform of Xirang through VR, mobile or PC, and start the campus roaming tour with virtual avatar, as shown in Figure 1.

Figure 1: Virtual campus scene

In March, 2022, the intelligent party building space of Audio-visual Publishing House of National School of Administration landed the first "Metaverse+ Party Building" system in China. In the graduation season of 2022, universities such as Peking University, Tongji University, China Communication University and Shanghai International Studies University held Metaverse graduation ceremonies. School of visual arts New Media Art Institute also used Metaverse technology to design a unique graduation gift-Graduation Shield for all graduates. Relying on blockchain technology, GradationShield presents students' four-year wonderful college life through digital art design, forming digital assets that are permanently preserved in the form of NFT digital collections.

The application of Metaverse technology in domestic colleges and universities has sprung up, which has brought new ideas and put forward higher requirements for the transformation of educational ideas, contents, methods and environment in colleges and universities. It has become a key question for ideological and political workers in colleges and universities in the new era to think deeply and answer how to effectively integrate the emerging Metaverse technology into the specific process and scene of ideological and political education in colleges and universities, break through the barriers of integration

between Metaverse technology and ideological and political education in colleges and universities, clarify the empowering logic and accurately describe the implementation path, as shown in Table 1.

Table 1: Michaels researched and counted the Metaverse situation of some domestic universities

Metaverse trends in the layout of some domestic universities	
colleges and universities	Dynamic
Renmin University of China	Cross-disciplinary research institute established Metaverse research center.
Tsinghua University	Established metaverse culture laboratory with school of journalism and communication
Beijing University of Posts and Telecommunications	Established "Beiyou-Zhongke Shenzhi Metaverse Joint Laboratory" jointly with Beijing Zhongke Shenzhi Technology Co., Ltd..
The Chinese University of Hong Kong (Shenzhen)	Human Cloud System Laboratory recruits postdocs and masters
China University of Geosciences (Wuhan)	Signed a strategic cooperation agreement with Tencent to build an intelligent application of metaverse concept in higher education industry
Communication University of China	Create a virtual campus of Communication University of China with Digital Art Institute.
Zhejiang University	International United Business School Launches Metaverse Campus
Zhejiang Media College	The National Experimental Teaching Demonstration Center of TV Editing and Directing and Shenzhen Seeing Science and Technology signed a "Seeing Science and Technology Metaverse Laboratory".
Southeast University	Relying on the network "cloud platform", start the construction of campus "Metaverse".

4. Metaverse empowers the logical creation of ideological and political education in colleges and universities

Under the background of Metaverse technology, the ideological and political education in colleges and universities will realize from the face-to-face classroom learning visual scene to the multi-dimensional three-dimensional scene combining reality with reality, and from the five senses of listening, speaking, reading and writing produced by the educated, they will feel the full-hearted immersion experience with strong interaction. But this is just an idea. How to make Metaverse's idea develop and become a reality still needs to solve and answer a series of questions. Metaverse, as an emerging technology and means, how to find the focal point and logical sequence of integration with ideological and political education has become a key issue to promote the innovation of ideological and political education process and results in colleges and universities. In the ideological and political education, people (educational subject and object), things (educational content and resources) and scenes (educational environment) exist as three main elements, which profoundly influence the methods and direct effects of ideological and political education. Starting from the three key elements of "people-things-scenes", this paper analyzes the basic form of creating people, things and scenes in Metaverse with the help of intelligent devices and algorithms and the logical sequence of empowering ideological and political education in colleges and universities, so as to provide theoretical reference for the development and landing of educational Metaverse.

(1) People: the subjective and objective transformation of ideological and political education based on Metaverse

"People" refers to the living body displayed in the Metaverse space in the form of human beings, which is mainly the subject and object of ideological and political education, including educators in real life, students, digital doppelgangers in the virtual world, and digital homo sapiens who can synchronize three-dimensional reality in real time.

① A more diversified and convertible cooperative education community.

Ideological and political education must overcome the constraints of old habits and actively respond

to the changes of the relationship between the subject and object of education under Metaverse technology. The ideological and political education field under Metaverse empowerment subverts the original hierarchical positional relationship between teachers and students. In the existing educational model, educators, as the main body of education, have more rights of expression and discourse in the process of transmitting educational thoughts and contents. However, in Metaverse time and space, ideological and political educators and students have equal expression rights, and the subject of ideological and political education content production and dissemination presents the characteristics of diversified subject language. Educators and audiences can also transform their identities, and both teachers and students can complete the scene shaping and content production of values. The more important status of ideological and political educators will be transformed into virtual simulation scene designers and value-oriented gatekeepers, and the scene experience and cultural atmosphere conforming to the mainstream ideology will be created in the virtual twin space to realize the flexible education of ideological and political education.

The subject and object of education in Metaverse scene include not only the virtual doppelganger of real people, but also the virtual learning object-Numeric Homo sapiens created in the "three-dimensional" virtual space according to the cognitive needs of ideological and political workers and college students. They also assume the responsibility of educators, helping college students to improve their cognition and grasp of learning content in virtual space.

On the construction of the education team, Metaverse-based ideological and political education will pay more attention to collaborative education. On the premise of establishing a moral education system, Metaverse digital world scene builders, reality educators, digital intelligence assistants and technology developers will be gathered to participate in the education team, so as to realize a new pattern of ideological and political education by all employees and consolidate the leading position of ideological and political educators in the Metaverse field.

② Pay more attention to the educational process of emotional interaction.

Traditional ideological and political education is a process in which educators convey ideas, export opinions, shape values and standardize words and deeds to the educated. In this process, educators and educatees pay more attention to the output of educational content, and do not give enough to emotional communication. To some extent, this makes the educated feel alienated from the educators, and makes the process of education a little cold and lacking in temperature. However, the concealment of some educatees' intentional behaviors also makes it difficult for educators to capture the real feedback of educatees. The real world environment can't effectively extract the emotional elements of both educators to meet the needs of ideological and political education, which affects the effect of further education. Ideological and political education in colleges and universities should strengthen the emotional interaction between educators and educatees, so that the emotions of both teachers and students can penetrate into the educational process and integrate into the space environment, and improve the educatees' emotional identity and value recognition of educators.

Through data collection, mining and correlation analysis, educators of ideological and political education under Metaverse empowerment can create highly customized and socially precise ideological and political education scenes for educated individuals with different learning levels and emotional needs. Educated people experience events in the simulated virtual scene, and produce their own feelings and feelings, so as to achieve a unified presence experience of knowledge, behavior and emotion, which can better promote the exchange of ideas and emotional attachment between educators and educated people and meet the needs of emotional interaction.

(2) "Thing": the integration of ideological and political education content and resources based on Metaverse

"Thing" is the core proposition in the process of ideological and political education. The "thing" in ideological and political education refers to the educational content and resources provided to accomplish the educational purpose and promote the educational effect. The determination of ideological and political education content should be based not only on the objective basis of the purpose and task of ideological and political education, but also on the ideological and moral status of the educated. According to the educational system and subject content, it includes five aspects: political education, ideological education, moral education, law and discipline education and psychological education.

① Change the existing forms of educational content carriers and promote the integration of educational resources.

In the existing forms of education, the content of education depends on words, pictures, videos and language expressions of educators, and most of the educational resources obtained by the educated depend on educators. Due to the constraints of the existing technology, means and educators' education level, the educational content displayed through various scenes is limited and cannot be completely received by students. Students' enthusiasm and initiative in learning will also be affected by the beauty and interest of the educational content.

Metaverse, as an extension of the concept of immersive virtual reality, will change the form of educational content transmission and improve the transmission efficiency of knowledge. In the virtual space created by Metaverse, the supply of educational content and resources is enlarged, and the virtual educational field built by holographic digital technology provides rich media and digital information for ideological and political education. It provides educators and educatees with external and potential educational elements, educational contents and educational resources in the high-quality interaction between virtual and real, realizes the integration of resources between real and virtual worlds, and greatly enriches the sensory experience and emotional needs of both educators.

(2) Break through the environmental restrictions of educational content expression.

Metaverse's open scene and space-time expansion have brought infinite possibilities for educational reform. In the process of daily ideological education management, with the help of digital twinning and holographic imaging technology, the virtual avatar in Metaverse world allows educators and educated people to go to places that are difficult to reach in real life, talk and communicate with people that are hard to see in real life, break the restrictions of real environment such as communication time and space, realize "instant", "close distance" and "accessibility", and open a new communication mode between teachers and students under Metaverse technology. On the one hand, ideological and political educators can use digital identities to go deep into virtual classrooms and virtual communities in Metaverse space, to master students' ideological trends, learning effects and timely understand students' needs. For example, in the process of students' ideal and belief education, with the help of Metaverse emerging technology, students can be accurately pictured and visually analyzed, their ideological deviation can be understood, and targeted training education can be carried out. It can also be based on the dynamic data mining of behavior, establish data association and construct data model, which can effectively predict its behavior dynamics, master the educational law, and enhance the foresight and predictability of ideological and political education. On the other hand, ideological and political educators can also set up a practical service platform in Metaverse, so that students can integrate theory with practice in the virtual space, turn ideological and political education requirements into action consciousness, and improve the educational effect.

③ Promote the supply of multi-subject education content

With the development of Internet technology and the diversified extension of information dissemination channels, the public has won more opportunities to express themselves on the Internet, and the production of network information content has gradually become popular and popular. However, in the existing educational model, the content supply based on ideological and political education mostly depends on college educators. As the educated, students have fewer opportunities to participate in content production, and they have a certain sense of alienation from ideological and political education.

In Metaverse space, educators can not only tap the needs of educated people's growth and talents with the help of big data algorithms, deep learning and other technologies, but also guide educated people to cultivate high-level core literacy and become the creators of knowledge. Metaverse-enabled ideological and political education, in which both teachers and students are placed in specific virtual reconstruction scenes to carry out situational education, and their words and deeds will be digitally recorded. Excellent words and deeds have also become potential ideological and political textbook content, which has a certain value orientation for people in virtual landscape space. As an educator, you can use Metaverse time and space to collect dynamic videos of students' experiences. Students' opinions or reflections on the scenes or events experienced by them enrich the educational content as practical cases of ideological and political education, thus guiding college students to form correct world outlook, outlook on life and values.

(3) Scene: the field transformation of ideological and political education based on Metaverse

"Scene" is the physical environment in the process of ideological and political education. Metaverse not only brings ideological and technical progress to ideological and political education, but also jumps out of the traditional classroom of the physical world. With the immersive experience brought by

multi-dimensional sensory links, it profoundly changes the activity scene of ideological and political education and opens up a larger imagination space for education and practice.

① Three-dimensional expansion of ideological and political education field

Metaverse-based ideological and political education field in colleges and universities is neither a traditional offline classroom nor a simple internet. It is a global two-way interlocking channel between the real world and the virtual world, and it is a brand-new audio-visual sensory world with virtual and real integration. It further expands the existing ideological and political education channels and educational scene boundaries, and pushes the ideological and political education field to expand to a higher dimension.

Under Metaverse technology, the physical environment can be taken in three dimensions, and a highly intelligent and all-digital virtual field can be built for different ideological and political education contents, so that the real scene can be reconstructed and historical events can be highly restored. Students can break through the theoretical "direct instruction" of traditional ideological and political classroom and the plane "watching" of Internet audio-visual education, make use of wearable devices to return to the situation, transcend the time and space barriers of virtual reality, and participate in the narrative space of ideological and political education as "witnesses" to stimulate their emotional identification and ideological resonance with ideological and political education content, and enhance students' understanding and mastery of educational content.

② The superposition and creation of ideological and political education field

Metaverse, as a new form of media convergence, educators can create various virtual intelligent spaces such as virtual communities, schools and practice bases according to educational needs and purposes, and can create a "virtual reality" educational narrative space that deviates from natural reality and superimposes activities. Through the "synchronization and simulation" of virtual scenes and specific activities, the ideological and political education based on Metaverse will change the existing single-thread education path and narrative structure, accommodate the differentiated collaborative community of educating people, and open up the space channel where various educational carriers such as ideological and political classes, professional classes, and practical classes gather, so as to realize the global coverage of ideological and political education.

At the same time, the linkage of Metaverse multidimensional space promotes the effective superposition of three-dimensional field and ideological and political activities. Both teachers and students are immersed in Metaverse space in the first person. In the immersive three-dimensional field and superimposed activities, the educated can choose an open, personalized and differentiated educational process and path through physical interactive practical experience, and turn the change acceptance learning into personal active exploration to make up for the differences in logical thinking and learning level of the educated. Ideological and political educators will focus on guiding students to immerse themselves in scenes, complete interactions and explore new knowledge, enlighten their minds and cultivate their virtues with flexible process guidance and implicit value edification, and strengthen practice to make ideological and political education more lively, vivid and warm[6].

5. Conclusion

At present, Metaverse is still in the initial development stage of planning and layout. Although it has been actively explored by all walks of life at home and abroad, it is not perfect and cannot solve all the outstanding problems in education. As an ideological and political educator, we should objectively and rationally look at the profound influence of the new generation of digital intelligence technology on education, and we should also realize that Metaverse, as a high intelligence technology, serves education and cannot exist beyond education itself. Metaverse is the twin virtual space of the real physical world. To educate people in the world of Metaverse, it is necessary to recognize that the real world is the foundation of Metaverse's enabling ideological and political education. Educators should further clarify Metaverse's "educational limit" through repeated experimental exploration. That is to say, what educational problems and educational goals can be solved by, into and in Metaverse, and what they can't do, may even bring disadvantages. Education should return to the thoughts, words and deeds and learning effects of real learners and educators. At the same time, ideological and political educators should be alert to potential risks such as "virtual addiction", guide the educated to clarify the communication boundary between virtual world and real world, be the "pilot" between virtual world and real world, and realize the benign development and value return of education.

Acknowledgments

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