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Research on network ideological and political education in colleges and universities empowered by metaverse

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Abstract: The metaverse can create a symbiosis field of sensation and perception which consists of real mirroring, virtual creation, wearable device, and learning field. This field contributes to helping students rapidly reach the ideal state of immersive learning experience. In the field, students are able to fully participate in every stage of the experiential learning process, and their bodily sensations and motor systems have an embodied interaction with the metaverse environment, which can effectively promote the formation of their embodied cognition. Thus, students' learning efficiency can be improved, and their correct values can be established imperceptibly in the metaverse.

Keywords: metaverse; network ideological and political education in colleges and universities; embodied cognition theory; experiential learning theory

1 Introduction

The network has become an important medium for colleges and universities to carry out ideological and political education. Network ideological and political education in colleges and universities has broken through the time and space limitation of traditional offline classroom teaching, and high-quality teaching resources can be shared openly on a national scale through the internet. However, current network ideological and political education in colleges and universities merely transfers the location of teaching activities to cyberspace. It can't effectively promote the formation of students' embodied cognition, nor can it help them reach the ideal state of immersive learning experience. The metaverse has vast potential to make up for these shortcomings and enhance the quality of ideological and political theory courses in colleges and universities.

2 Limitations of traditional offline classroom teaching

2.1 Teaching activities are constrained by the time and space limitation of the real world

Traditional offline classroom teaching activities are constrained by the time and space limitation of the real world. Teachers and students cannot freely choose their class time and place based on their personal circumstances. Even when experiencing physical discomfort or psychological stress, they are still required to participate in the classroom activities, which often leads to lower satisfaction and adversely affects teaching quality.

2.2 Inability to create learning contexts with a sense of presence and interaction

In the traditional offline classroom teaching activities, teachers usually rely on texts, images, videos, and verbal descriptions to create learning contexts. However, students often lack a sense of presence and interaction. For example,

when teaching about the revolutionary spirit, teachers typically present historical texts, images, and videos through PowerPoint slides, then verbally describe the heroic and moving deeds of revolutionary martyrs, which attempt to create suitable learning contexts for students. Nevertheless, this kind of contexts is unable to realistically recreate the historical scene in which the revolutionary spirit was cultivated, therefore students can't be personally on the scene and fully experience the great revolutionary spirit.

3 Advantages and shortcomings of current network ideological and political education in colleges and universities

3.1 Advantages of network ideological and political education in colleges and universities

Firstly, network ideological and political education in colleges and universities can break through the time and space limitation of traditional offline classroom teaching. Teachers and students no longer need to go to the classroom. Instead, they can freely choose when and where to carry out teaching activities according to their own needs.

Secondly, network education platforms enable high-quality teaching resources to be shared openly on a national scale. As long as teachers upload their high-quality digital teaching materials to network education platforms, uploaded materials will become publicly available, and platform users will be able to access and study them anytime and anywhere.

3.2 Shortcomings of current network ideological and political education in colleges and universities

Firstly, current network ideological and political education in colleges and universities is unable to effectively promote the formation of students' embodied cognition. Embodied cognition theory holds that interaction between the body and the external environment plays a crucial role in shaping cognition [1]. However, as with traditional offline classroom teaching, current network ideological and political education in colleges and universities creates learning contexts through texts, images, videos, and teachers' verbal descriptions. Thus, students are difficult to realize interaction between the body and the external environment during the learning process, and their embodied cognition can't be formed.

Secondly, students are difficult to reach the ideal state of immersive learning experience. The immersive learning experience is considered as the most ideal state of learning [2]. However, current network ideological and political education in colleges and universities essentially utilizes projection function of network education platforms to transfer the classroom to cyberspace. It is not only unable to create learning contexts with a sense of presence and interaction for students, but also a lack of realistic classroom learning environment that students have a class together in the classroom. As a result, students are difficult to reach the ideal state of immersive learning experience.

4 The metaverse can make up for shortcomings of current network ideological and political education in colleges and universities

4.1 The experiential learning process empowered by metaverse can effectively promote the formation of students' embodied cognition

David Kolb, the famous American social psychologist and educator, pointed out that learning should not be regarded solely as an outcome, but an entire process that consists of concrete experience, reflective observation, abstract conceptualization, and active experimentation [3]. Therefore, teachers should not only emphasize learning outcome, but also guide students to fully participate in the entire teaching process.

In the experiential learning process empowered by metaverse, at the concrete experience learning stage, learners can utilize wearable device technology, brain-computer interface technology, and human-computer interaction technology to implement real-time interaction and intelligent feedback with characters, experimental equipment, and natural environment in the metaverse; at the reflective observation learning stage, teachers and students can utilize the function of group creation and embodied social communication to implement real-time reflective observation; at the abstract

conceptualization learning stage, learners can utilize collaborative editing function, intelligent analysis function, and whole life cycle record and prediction function to implement abstract conceptualization, causal explanation, and conclusion exposition; at the active experimentation learning stage, learners can utilize the function of self-creation and group collaborative creation to implement hypothesis verification, practical application, and knowledge transfer [4]. Thus, students are able to immerse themselves in a complete experiential learning process on the metaverse education platforms. In the process, students' bodily sensations and motor systems have an embodied interaction with the metaverse environment, which can effectively promote the formation of their embodied cognition.

4.2 The symbiosis field of sensation and perception contributes to helping students rapidly reach the ideal state of immersive learning experience

The metaverse can create a symbiosis field of sensation and perception which both empowers the real world and transcends the virtual world. This field, which consists of real mirroring, virtual creation, wearable device, and learning field, contributes to helping students rapidly reach the ideal state of immersive learning experience [5]. For instance, when teaching about the revolutionary spirit, teachers can transfer the real classroom to the virtual historical scene in which the revolutionary spirit was cultivated. In the scene, students can not only witness the historical formation process of the revolutionary spirit, but also interact with revolutionary martyrs. Thus, students can be personally on the scene and fully experience the great revolutionary spirit, and their correct values can be established imperceptibly in the metaverse.

5 Conclusion

Current network ideological and political education in colleges and universities is not only unable to create learning contexts with a sense of presence and interaction for students, but also a lack of realistic classroom learning environment. As a result, students are difficult to reach the ideal state of immersive learning experience, and their embodied cognition can't be formed. In contrast, the metaverse can create a symbiosis field of sensation and perception which both empowers the real world and transcends the virtual world. In the field, students are able to fully participate in every stage of the experiential learning process, and rapidly reach the ideal state of immersive learning experience. Their bodily sensations and motor systems have an embodied interaction with the metaverse environment, which can effectively promote the formation of their embodied cognition and makes up for shortcomings of current network ideological and political education in colleges and universities.

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Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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