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18-21 апреля 2023 г.

META EDU - DESIGN AN IMPROVEMENT PLAN FOR EDUCATION BASED ON THE POST PANDEMIC ERA

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1、 Foreword

Meta education is based on the post-epidemic era, which solves the problem of low interaction between college students and teachers in the process of online education, which is the most innovative and advanced online education model born by combining the metaverse model since the online education model.

Under the influence of the epidemic around the world, China's education department has launched an online education model, but compared with regular classroom and offline education, teachers' ability to manage students is weakened, and most students are more casual and inattentive than in the past. At the same time, the interaction between teachers and students in the class is also greatly reduced, resulting in the knowledge learned by students in the process of online teaching, which

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cannot be absorbed in time in the classroom, and students cannot efficiently communicate with teachers in real time to solve doubts about the teaching content during the class. In addition, there are some students with poor self-discipline who have plummeted their academic performance during the epidemic online education period, and need a platform or supervisor similar to the offline environment to supervise their learning. At the same time, the metaverse concept is currently gradually emerging in the global upper market, gradually occupying a large market share, while education + metaverse is still in its infancy, and there are not too many competitors to develop on the education model, but we will always put education first and never forget the original intention of education.

2、Market demand and competition and development trends of the industry

（1）Research on market environment

Before the concept of metaverse online education was not popular, the Chinese government gave strong support to the application of its underlying core supporting technologies such as AI, VR, AR in the field of education, and issued a series of documents that mentioned promoting the application of virtual reality technology in basic education, higher education, vocational education and other high-risk experimental courses such as physics and chemistry.

In recent years, affected by the new crown pneumonia epidemic, the education industry has emerged and gradually popularized the online education model, and this model will be the general trend of future education industry reform, but the controversy around online education has always existed, and many scholars believe that the current online education has the following problems: difficult to guarantee the

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quality of teachers, poor user experience, lack of teacher-student interaction and other problems.

In the future post-epidemic era, online education will become an indispensable model for education, and the metaverse, as a new platform for online education, will not only fundamentally solve the problems of scattered construction of new education infrastructure, data islands, and uneven quality, but also redefine the space for online education, change the teaching mode and evaluation mode of online education, and support students' personalized learning and all-round development.

Li Yongzhi, deputy director of the Shanghai Municipal Education Commission, said that education is one of the areas where the development of human society is relatively lagging behind, and technology-enabled educational reform is an inevitable trend to conform to the society's transition from an industrial society to an information society. The metaverse is seen as the next revolution in the internet. Many experts believe that the metaverse has a very good combination opportunity in the education industry, which has triggered the education industry to enter the game. At present, many educational organizations and institutions have issued relevant policies to promote the development of metaverse education applications.

(2) Technology trends

Shen Yang, professor and doctoral supervisor of the School of Journalism of Tsinghua University, delivered a keynote speech based on the development of the metaverse, he said that the metaverse is a new type of Internet application and social form that integrates virtual and real technologies and integrates a variety of new technologies, which provides immersive experience based on extended reality technology,

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generates a mirror image of the real world based on digital twin technology, builds an economic system based on blockchain technology, and closely integrates the virtual world with the real world in the economic system, social system and identity system. And allows every user to do content production and editing. He divided the existence of the metaverse into five types, namely pseudo-metaverse, quasi-metaverse, low-profile metaverse, high-profile metaverse, and ultimate metaverse.

Under the metaverse ecosystem, teachers will no longer use chalk writing on the blackboard or a screen to teach, but can customize their classrooms in the metaverse according to the characteristics of the curriculum. With just one click, students can show the construction of space geometry, the process of the Big Bang, and even complete free-fall experiments with Galileo through thousands of years.

And the evolution of artificial intelligence technology can make it a teacher who knows students better than anyone. Education departments or educational consortia can AI the teaching mode and experience of the best teachers in various courses across the country and train them into various styles of virtual digital teachers to match the needs of different types of students.

Blockchain-based token technology will also play a role in students' dynamic evaluation, and teachers or learning systems will score students' homework, exams, key behaviors, etc. on the chain, forming a more comprehensive credit record and incentive closed loop, which can dynamically optimize students' learning and behavior guidance.

At present, many top technical teams around the world are already investing in the development and research of "metaverse education", and it is believed that in

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the near future, the education industry will undergo major innovation.

At present, there is still a lot of room for development of the related technologies of metaverse education. This requires the rise of a group of platform technology companies, providing a series of solutions from engines to editors to classification libraries to services, and reducing the threshold of local content simulation, interaction, and gamification design and production to a considerable level. In the future, the emergence of educational metaverse schools is also very likely.

3、 Goals and forms of implementation

（1） Goals

a. Over Goal

Today, the metaverse is still a relatively new and unfamiliar hot word for the public, but the metaverse has great development prospects and markets in the education industry. The company's ultimate goal is to establish friendly cooperative relations with major universities on metaverse online education, and play a leading role in driving and leading the education industry to promote metaverse online education.

b. Upfront Goals

The company's metaverse online education is aimed at current students, and at this stage, at least one humanistic quality course from seven universities in Songjiang University Town is piloted, for one semester, for college students who take this course, through Maya modeling to bring them an immersive learning experience, after each class, there will be an anonymous suggestion questionnaire for students to fill out, and the instructor will adjust it in time according to the suggestions. At the same time, after the end of the semester, the students were tracked and surveyed from

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various aspects such as audience acceptance and learning gain.

c. Late Goals

According to the survey results, if more than half of the audience still have negative attitudes such as opinions on metaverse online education after one semester of study, the company will communicate with the instructor and adjust the curriculum according to the suggestions made by the students until it is less than half; If the majority of the audience has a positive attitude such as positive and interested in metaverse online education, the company will launch the metaverse online education plan for other humanistic literacy courses for college students in the next stage, and if the effect is good, it will conduct pilot humanistic literacy courses in other universities.

（2）Implementation

a. Targeting and strategy

Set up specific courses, concentrate enrollment targets, target groups, and target users are mainly college students.

b. The specific implementation form

Virtual teaching uses high-tech technology, relying on the desktop virtual reality operation platform, combined with Maya animation modeling technology, integrating traditional teaching resources with virtual teaching technology, transforming traditional two-dimensional PPT teaching into 3D teaching, and establishing a meta-universe classroom data resource library and meta-universe classroom courseware library to achieve the purpose of making personalized course resources.

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In the pre-course, first of all, based on the existing curriculum of college students, contact the course teacher, like the lecturer to understand the content of the course and understand the core essence of the course communication. By combining the existing offline course content, designing and discussing, using computer Maya software to make online scenes and character modeling, and transforming them into the form of metaverse communities, visualizing and interacting the teaching content.

Taking the history course as an example, the creation of scenes in various periods according to historical events to achieve data set reduction and centralization creates near-real social, practical and cultural situations for students, allowing students to break through the limitations of time and space, and observe and experience the humanistic, historical and geographical environments of different times and places in an immersive manner, so that learning can occur naturally in near-real situations. The highly realistic and immersive characteristics of the educational metaverse will further enhance the user's sense of existence and presence, making it possible for users to learn like they are immersed.

In the mid-course, use the green screen as the background of the teacher's course, and change the green screen content according to the course content to match the course development. Synchronous online live broadcast of courses, students through the online end with model avatars into the public scene to carry out activities, forming a community-like form, with computer graphics, computer vision, gesture recognition, gesture recognition, facial recognition and other human-computer interaction technologies as the support of three-dimensional virtual reality/augmented reality learning environment, increase students' real-time facial features, realize the synchronous change of model avatar faces, promote students to cross the limitations of time and space to achieve classes in one classroom, increase the communication between teachers and students, and between students and students. It brings unlimited imagination to the educational metaverse. In addition, teachers can project virtual scenes to the learning community by switching the green screen background and using augmented reality products such as AI, and students can interact with the offline teacher through the green screen through mobile phone series operations. This overcomes the limitations of time and space brought about by online learning. On the one hand, it solves the fragmentation between teachers and students and students

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in online courses, and on the other hand, it also provides feasibility for the detection of the quality of online course students.

In the late-course, the course is progressed gradually, in addition to the basic teaching modules, and the community and diverse scenarios provided by the students. Gradually guide students to create themselves, try and learn by themselves in the metaverse community, properly contact modeling, use simple modular modeling to help students innovate independently, and lead students to complete the design and development of this lesson with teachers to achieve mutual learning in teaching.

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