



The Dilemma and Relief of “Metaverse + Education Archive” Informatization in China

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Abstract

“Meta-universe” is a development trend in the current informatization era, and transforming real features into virtual digital information is the future development direction of educational archives in the context of “meta-universe”. As a basic work of national education development, informatization of education archives has made great progress, but at present, the relevant research is not deep enough. In this paper, we discuss the informatization of education in the context of metaverse, analyze the current problems of education archives, such as insufficient basic investment, low systematization, unbalanced and insufficient development, and propose targeted measures, hoping to inspire the construction of future education archives informatization.

Subject Areas

Educational Reform

Keywords

Metaverse, Education Archives, Informatization, Dilemma, Relief

1. Introduction

The year 2021 is considered to be the “year of the metaverse” [1]. In recent years, a number of risk prevention and control initiatives caused by the epidemic have led to the continuous development of online education models that combine virtual and real worlds in epidemic areas around the world, and since then, various educational models of “metaverse + education” have been developed. For example, the metaverse and the reform and innovation of higher education [2], the metaverse and the reform direction of vocational education [3], and Zhao Shenghui elaborated the theory of metaverse in the field of archives, and ex-

explored the archival resources in the metaverse practically, which is also the initial theory of “metaverse + archives” research [4]. At present, the research on “metaverse + archives” is relatively small, especially the research on the informatization of metaverse and educational archives, which has a huge research gap and will be the focus of research in the field of “metaverse + educational archives”. Therefore, this research will take “Metaverse + Education Archive” as the research direction to explore the development of information technology.

2. Prospects for the Development of Informatization of Education Archives

The development of informatization of archives in China began in the 1970s, when the Central Archives began to experiment with computerized storage of archives; in the 1980s, a “stand-alone” computerized archival management system appeared in China; in the 1990s, with the advancement of information technology and the rapid development of the Internet, the development of informatization of educational archives also began. In the 1990s, with the advancement of information technology and the rapid development of network in China, the development of informatization of educational archives also started; the processing of informatization of educational archives has been greatly developed in the 21st century. The parallel development of electronic and paper archives has become the trend of the times. In 2008, the Ministry of Education and the State Archives Bureau formulated the Measures for the Management of Higher Education Archives, which laid a solid foundation for promoting the management of higher education teachers’ archives and gradually transformed the management of higher education archives into a scientific, systematic and standardized one [5]. In 2012, the Office of the State Archives Bureau and the General Office of the Ministry of Education also issued the Interim Measures for the Construction and Management of National Social Practice Bases for Primary and Secondary School Archives Education for the informatization of primary and secondary school archives, which provided strong guidance for the promotion of the informatization of primary and secondary school archives [6]. In 2022, the Ministry of Education issued a document entitled “Education System to Do a Solid Job of Archives in the New Era”, which highlights the importance the Ministry attaches to the management of archives in the education system, and also points out that the Xi’an University of Electronic Science and Technology has built a “one-net-access” archives service system, and the digitization rate of archives has reached 90%. The archives of East China University of Science and Technology have adopted a series of information reform measures, such as delayed hours, self-service archives, “zero door-to-door”, express delivery, etc., which highlights the basic guideline for the implementation of the “14th Five-Year Plan” for archives, that is, to firmly establish The idea of “managing archives for the Party, guarding history for the country, and serving the people” is evident [7]. This also indicates that the development of education archives informatization in China is promising, and the future construction of education archives

informatization system will improve quality and speed.

For the current education archives management, the state, the Ministry of Education, and the Archives Bureau have all attached great importance to it, however, due to the late start of the development of education archives in China, the large base of education archives, the systematization of education archives is not mature enough and other problems are still serious, and the unbalanced and insufficient contradictions of the development of education archives informatization still exist, for which it is necessary to sort out the characteristics of education archives informatization. In this regard, it is necessary to sort out the characteristics of education archives informatization, analyze the current informatization problems faced by education archives, and propose practical measures, which is also the purpose of this paper. It is hoped that this paper can provide a reference for the informatization of education records in China.

3. Characteristics of “Education Archives” Informatization

The informatization of educational records is a historical necessity for the development of educational records, and the construction of “metaverse” is also the direction of the reform of educational records in China, but the informatization of educational records is characterized by volatility, fragmentation and sharing, which are characteristics that cannot be ignored in the development of informatization of educational records.

1) The volatility of information in education archives

As an important link in the development of education, education records play an important role in the development and evaluation of students. As a developing human being, students’ education records are also volatile, and the information in students’ education records will be corrected as students transfer to other schools and go on to higher education. As far as the electronic information in their records is concerned, the content is also subject to change. First, teachers or school administrators can add or delete information, such as when a student receives a national, provincial, or municipal award, or when a student is disciplined for an offense, and this information will change as the student develops. Second, the development of computer technology has led to the continuous updating of coding schemes, storage formats, system software, and storage media [8]. In the process of updating these technologies, the information of educational archives will also be changed and lost with the change of electronic carriers, and some information has even been inconsistent with the information of the original carriers.

2) Scattered nature of information storage in education archives

The scattered nature of education file information exists in that the content, structure and background information of the electronic files of student file information are kept in a scattered manner, and each school will have electronic information of students, and this information is stored in different ways, and the storage of these information presents a geographic scattered nature. The decen-

tralization of educational records is even more diverse as students are educated from elementary school to university. The information in students' educational records is backed up in each school where they are educated, and the electronic information files of their educational records are stored in different ways, and the content, structure, and background information of these files may be distributed in different systems, machines, and locations, and the electronic storage of information is relatively scattered, and there is also a lack of information in archiving, which plays a crucial role in the quality and function of electronic documents.

3) Sharing of information in education archives

The electronic information of education archives has many benefits. It enables access by multiple people, at the same time, and in different geographical areas. Electronic education archives have brought great progress to the real-time information sharing of education archives, breaking the traditional paper-based restriction of accessing education archives in a fixed place, at a fixed time, and with a fixed number of copies of documents. It has provided many conveniences for the flow of talents in China. In the network environment, the inquiry of electronic documents can be carried out around the clock and across the territory, but at the same time, the sharing nature of the network can also bring certain hidden dangers to the security of education files, such as the invasion of viruses, worms, Trojan horses and other malicious programs can bring irreparable disasters to the inquiry of electronic files.

4. The Dilemma of "Meta-Universe + Education Archives" Informatization

The development of China's education archives informatization has advanced by leaps and bounds, but, under the premise of the basic contradiction of unbalanced and insufficient development of our society, the development of China's education archives informatization still has the problems of insufficient basic investment, high degree of systematization, unbalanced and insufficient development, which are worth to be reviewed and improved.

1) Insufficient basic investment in informatization of education archives

The basis of informatization of educational archives is the storage of electronic equipment, and the renewal of electronic equipment depends on the investment of funds. The purchase of electronic equipment requires tens of thousands, hundreds of thousands, or even millions of investment, for an elementary school, middle school, high school and higher education, the purchase of this electronic equipment is not a problem, because the size of the school is not very large, the number of people in a general high school is generally less than 3000, the number of students in primary and secondary schools is relatively small, but in the case of universities, the number of people in a school is almost tens of thousands, generally The number of ordinary undergraduate schools is around 20,000 - 30,000, and the investment in electronic equipment is relatively more, plus the maintenance and replacement of electronic equipment, the cost of which should

not be underestimated. The storage of paper education records also requires human and material resources and financial support, and the conversion of paper education records into electronic information also takes more time and manpower, and the entry of information is also a very heavy work. In terms of the current degree of informatization of education records in China, the investment funds for education records information are far from enough.

2) The low degree of systematization of education file informatization

As an evaluation means and mechanism for students' development, education file informatization needs to establish a national platform, and at present, the platform of education file informatization in China is mainly based on the platform of Xuexin.com. However, the educational records of China's Xuexin.com platform are mainly for students in higher education, and not enough attention is paid to basic education and secondary education, and the scope covered by its information is not complete, and the information content of its electronic files is only some very important personal school registration information, so it seems that, as a representative of China's educational records information, we can also see from it that the systematization degree of China's educational records is not high, and the establishment of a national is urgent to establish a nationwide education system electronic file, whose system coverage should include individual elementary school, junior high school, middle school, high school, senior high school, undergraduate and graduate groups, and even a person's lifetime curriculum vitae, and it is especially important to establish such a nationwide and systematic electronic file platform. This is also a side reflection of the problem that the systematization of education records informatization in China is not yet high.

3) The development of education file informatization is still unbalanced and insufficient

The current main social contradiction in China is the contradiction between the people's growing need for a better life and the unbalanced and insufficient development [9]. And for the development of education file informatization, it also has the problem of unbalanced and insufficient development. In the case of the western region of China, some minority regions even still have mainly paper-based education records, of which the contents of electronic education records are not perfect and sound enough. The degree of informatization of education records in the western region is obviously lower than that in the eastern coastal region. Especially in the basic education stage, schools do not pay enough attention to the informatization construction of education records, and the economy of the western region itself lags behind that of the eastern region, and its investment is stretched to the limit, which will inevitably cause the unbalanced and insufficient development of education records informatization.

5. The "Meta-Universe + Education Archives" Informatization Problem Relief

The degree of informatization of education archives in China is not yet high, and

the informatization of education archives is even weaker in the field of basic education, which requires the state to invest more in the informatization of education archives to meet the needs of education development and society, and to explore the establishment of a national system of archival information repository to promote the integration of archival construction.

1) Increase the investment in “meta-universe + education archives” informatization

According to the news released by the Ministry of Education, there are 529,300 schools at all levels in China, with 291 million students, 44.3 million students in higher education, 26,050,300 students in high school, and 158 million students in compulsory education [10], which shows that the scale of education in China is huge. With the arrival of “meta-universe + education files” informatization, it is necessary to invest more funds to promote the informatization of education files, construct a visualization platform for students’ development, and form a “virtual-real “This will help students to form positive evaluations of themselves and make it easier for them to see their progress in the metaverse, so that they can write better information about themselves in the process of education.

2) Enhancing the integration of “metacosmos + educational records”

As a major platform for recording the education process of students, it is necessary to build a platform for education records with full coverage, process and information in the education system. The construction of such a platform can well solve the problem of fragmentation of education records management and the problem of insufficient input and backwardness of education records in the western part of the country, and the establishment of such a nationwide information platform is very useful for the construction of an integrated platform for education in China and the construction of “metaverse + education records” in China. It is also important for the construction of “metaverse + education archives” in China. The establishment of such an informatization platform requires the joint efforts of the state, the Ministry of Education, the Bureau of Archives, and many other departments.

3) Building a data system of “metaverse + education archives”

The “metaverse + education file” is a system that records students’ educational experiences, their learning process, and their performance in various educational processes in a combination of “virtual and real” data. The information recorded in paper files can be mapped in the data system of “metaverse + education file”, and the specific temporal and spatial information, the evolution of events and the results can be recorded one by one. VR and AR technologies, as well as mixed reality MR technologies, will facilitate the recording and organization of data in the “metaverse + education archive”, so that teachers or students can access the data with a sense of scene, immersion and reality similar to the real world. The formation of “metaverse + education files” enables teachers and students to extract, convert, and access information from education files in virtual reality, regardless of geographical constraints. The establishment of such a data system is indispensable in the future development trend of “metaverse+”, which

will also be the way to informatization of education records in China.

6. Summary

As the development direction of “metaverse + education archives”, it will have a great impact on the implementation of education archives informatization in China. For the construction of “metaverse + education archives”, it is indispensable to increase the investment of “metaverse + education archives” informatization and enhance the “metaverse + education archives” integrated construction. This research also has some deficiencies in the research of “metaverse + educational archives”, such as the research of educational archives is not comprehensive enough, and the summary of its characteristics is not specific operation part. Because the research of the metauniverse itself is very novel, the understanding of the metauniverse is not deep enough.

It is also a future development trend to build the data system of “meta-universe + education archives”, which has an indispensable role in the future. Here, we hope that the informatization era of education archives in China will come soon, and we will make our contribution to the training of a new generation of talents who will take up the important responsibility of national rejuvenation in the new era.

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Conflicts of Interest

The author declares no conflicts of interest.

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