Research on Virtual Intelligent Education Platform for Cloud-end Network Simulation under the Background of Large Data

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Abstract: With the rapid development of Internet of Things, Cloud Computing, Mobile Internet and Artificial Intelligence (AI) technology under the background of big data, intelligent education has ushered in the era of intelligent and intelligent cloud. All countries in the world have identified the core elements of the development of education informatization as application, and the key point of application is the construction of application platform. It can extract valuable knowledge from large data and construct a knowledge base that can support query, analysis and calculation. The functional design of the platform was established on the original e-government system of the Education Bureau, which successfully achieved a smooth upgrade and made full use of the resources of the original e-government system. The use of smart education cloud platform can improve the utilization rate of educational resources in colleges and universities, realize the wisdom teaching under the background of big data, and promote the rapid development of educational informationization.

1. Introduction

Big data is a new IT word popular after mobile Internet, Internet of Things and cloud computing. It has become a hot topic in science and technology, enterprises and academia [1]. At present, there are many problems in the construction of educational application platform, such as different standards, scattered resources, isolated information island, low-level repetitive construction and so on. Data processing relies on Intelligent technology, and big data application relies on subject problems [2]. Therefore, the key to the application of big data in education is data-driven and education-oriented. All countries in the world have identified the core elements of the development of educational informatization as applications, and the key point of application lies in the construction of application platforms [3]. How to effectively use massive amounts of smart resources and cloud computing to build a smart education cloud platform in a big data environment, overcome learning obstacles and realize smart learning. It is a hot issue that needs to be solved in the current intelligent education platform.

The Smart Education Cloud Platform provides learners with a good smart learning environment and a personalized learning experience. Using big data technology, you can build complex models to characterize data and interpret data [4]. Valuable knowledge can be extracted from big data and built into a knowledge base that supports query, analysis, and calculation. All localities should organize high-quality educational resources such as central schools and special-level teachers [5]. Make full use of information network to provide suitable and applicable resources and services for teachers and students. With the application of intelligent education platform as the starting point, the construction of software platform should be implemented step by step [6]. According to the requirements of national education platform, we should unify standards and database. Big data can be used to analyze and mine the data stored in the data center by data mining technology, so as to grasp the learner's learning dynamic data in time.

2. Overview of Big Data and Intelligence Education

Big data refers to massive and complex data sets that cannot be extracted, stored, searched, shared, analyzed and processed by existing software tools. Intelligence education platform is a complex system, which needs support from multiple information systems. It involves many professional fields,

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complicated related organizations and frequent exchange of information between systems. Intelligence education can cultivate intelligent and innovative talents. The core technologies of smart education are big data, cloud computing, Internet of Things, augmented reality, mobile communication and positioning technology. Teachers and students through the network, video, and intelligent software. Provide continuous induction, evaluation and support for learners' learning behaviors.

The essence of smart education is to use intelligent technology to build an intelligent environment, so that teachers and students can display smart teaching and learning methods. Make it impossible to change from small to powerful. Table 1 is a comparison of the basic elements of cloud platform wisdom education and traditional education teaching process.

Table 1 Comparison of the basic elements of the teaching process of wisdom education and traditional education

	Traditional education	Wisdom Education
Teacher	A course, a teacher	One lecturer and several tutors in a course
Student	Most of them are children and adolescents with similar age and learning basis.	Most of them are adults. They are very different from each other.
Content of courses	Presenting Teaching Contents with Textbooks	Presenting Teaching Content with Learning Materials
Teaching environment	Classroom-based collective teaching environment	Learners' personal space is dominant

Intelligent Education Cloud Platform can provide students with knowledge map-based learning, knowledge architecture map is conducive to learners to quickly find their own knowledge points. Intelligence education can cultivate intelligent and innovative talents. The core technologies of intelligence education are big data, cloud computing, Internet of Things, augmented reality, mobile communication and location technology. The establishment of data standards for intelligent education platform needs to be based on data standards that meet the actual needs of education itself. It is necessary to conduct research and treatment on all processes, characteristics, laws and practical problems of the education industry. The smart education cloud platform can provide learners with a good smart learning environment and personalized learning experience [7]. Big data technology can be used to build complex models to characterize data and interpret data. With big data-based knowledge computing, valuable knowledge can be extracted from big data. In the implementation and planning of the information platform to ensure uniformity, while ensuring scalability is carefully considered at the beginning of the design.

3. Smart Education Cloud Platform

Wisdom education and smart learning are the core part of the smart education cloud platform. Through this platform, teachers can realize smart teaching, and students can realize smart learning. The Smart Education Cloud Platform is an intelligent platform based on cloud computing technology, virtualization technology, distributed storage and other technical architectures, and can provide operating platforms for renting or free cloud services for different users. The system must be built with strict security measures and effective security design tools. Security requirements are primarily ensured through identity verification mechanisms [8]. Teachers can view students' learning feedback information online and get useful information through clustering analysis through cloud platform. And the information for the targeted teaching and answering. After evaluation, the information intelligence can be pushed to the learning terminal in time. After obtaining the information, the adjustment can be made in time in order to improve the learning effect of students.

Intelligent education cloud platform, supported by cloud service, constructs a high-quality resource integration, sharing, application-oriented, and takes intelligent learning, intelligent learning environment and intelligent teaching method as the cornerstone. Intelligence education cloud

platform can support all kinds of intelligence education. Such as online interactive learning, online interactive teaching, smart management, smart evaluation and so on. It is important to design an easy-to-operate and secure smart education cloud platform, but a good platform design needs to follow certain design principles. The smart education cloud platform in the context of big data breaks the traditional educational informationization boundary. Visualization of online data information and visualization of smart education management. It is able to establish a learner-centered educational environment, provide accurate educational services, and customize daily education and lifelong education.

4. Conclusions

With the background of big data, building a smart education cloud platform is a platform for realizing the interconnection and intercommunication between home and school. The smart education cloud platform helps the construction of educational information in the big data environment. For the construction of big data environment, education informatization is a new education and teaching environment, and realizes wisdom teaching. The functional design of the platform was established on the original e-government system of the Education Bureau, which successfully achieved a smooth upgrade and made full use of the resources of the original e-government system. Intelligent interactive classroom provides a good condition, which is the future trend of education informatization and enlightens the new future of education. Resource users are also resource builders. The use of intelligent education cloud platform can improve the utilization rate of educational resources in Colleges and universities, and realize the sharing of intellectual education resources. In order to realize the intelligent teaching under the background of big data, intelligent interactive classroom, intelligent learning, intelligent management, and promote the rapid development of education informatization.

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