

Analysis of the Overall Structure and Practice Mode of the Intelligent Education System

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Abstract: The intelligent education system is a brand-new education model and teaching reform measures proposed by the college education system in the current information age. Through precise top-level design, the advantages of information technology can be effectively brought into play, and it can adapt to different teaching environments and become an intelligent auxiliary tool for schools to carry out teaching activities. Under the intelligent education system, the reconstruction of information education can be effectively realized through the modes of personalized learning, intelligent teachers, and precise management. With intelligent infrastructure as the core, the application scenarios, technical platforms, guarantee systems, The overall framework such as the learning system has effectively promoted the formation of modern teaching methods and provided technical support for the implementation of intelligent education.

1. Introduction

Since 2017, the research results on my country's intelligent education have continued to surge in an explosive manner. First, led by the State Council, the “New Generation Artificial Intelligence Development Plan” was proposed, and then in 2018, the Ministry of Education also proposed the “Education Informatization 2.0 Action Plan.” It can be seen that with the advent of the era of big data, the development of educational informatization has become an inevitable trend. In this process, as the concentrated expression of my country's educational power, colleges and universities should accelerate the development and establishment of intelligent education systems to change The traditional talent training model promotes the better development of young college students in our country.

2. The Overall Structure of the Intelligent Education System

2.1 The Construction of the Infrastructure of the Intelligent Education System

The work execution of the intelligent education system needs to provide support for information processing, network communication and data storage through basic hardware facilities. The specific composition can include the following three aspects:

The first is the wireless network connection device. As my country's network communication technology enters the 5G era, it is foreseeable that the future network development trend will inevitably be the comprehensive integration of the Internet of Things, mobile networks, and the Internet. Therefore, the network facilities of the intelligent education system need to be able to meet the current ubiquitous communication characteristics. And must have excellent compatibility and applicability to meet the needs of future technology upgrades.

Secondly, in terms of perceiving key facilities, in order to meet the broader intelligent learning needs of students, the intelligent education system should be equipped with diversified network connection ports, which can support the access of various mobile terminals, smart wearable devices, PAD devices and new imaging technologies. So as to better realize the extraction of the whole process information of students' learning activities under the condition that information perception and physical perception are separated from each other.

The last is the construction of the cloud system, through the digital construction of educational resources in colleges and universities, in order to realize the integrated and shared management of teaching resources, to satisfy students to obtain learning information through the intelligent education system, and to support the development of diversified academic exchange activities [1].

2.2 Construction of Core Technology Platform

The function of the core technology platform is to provide technical support and information support for the intelligent education system in teaching activities, to meet the various needs of teachers and students to carry out teaching activities in different situations, thus reflecting the flexibility and flexibility of teaching activities under artificial intelligence services. Convenience.

First of all, with the support of Spark, Map Reduce, Hadoop and other technologies, a high-capacity, high-response data processing center can be established, which can integrate data collection, storage, and processing work at the same time. At the same time, combined with artificial intelligence technologies such as big data statistics, pervasive algorithms, and natural language understanding, the collected information will be transformed from data to knowledge, so as to continuously expand the self-completeness and update of the intelligent education system of colleges and universities [2].

Secondly, combined with the graph search engine to effectively realize the classification and storage characteristics of knowledge, and provide characteristic resource management schemes according to the different needs of teachers and students, so as to realize the intelligent management and upgrade of data and information, and effectively support the skills training needs of students .

Finally, a competence center is established. Through intelligent correction, voice evaluation, text recognition, online question and answer, etc., the students' learning results are connected with the text, pictures, and resource information in the database, so as to give the intelligent education system cognitive ability and make it more humane Provide services for teachers and students.

2.3 Construction of Teaching Support System

The main function of the teaching support system is to integrate a variety of information technologies to provide a good basic environment for the development of intelligent teaching, so as to promote the overall change of teaching methods. For example, through the construction of an education cloud platform, it provides intelligent services integrating management, teaching, evaluation, and learning for the teaching activities of colleges and universities, and develops a broader resource contribution platform. At the same time, it can support teachers and students in large capacity to start learning online at the same time, which is conducive to the implementation of online and offline hybrid education models. At the same time, based on this, support colleges and universities to develop intelligent learning environments such as virtual simulation training rooms, artificial intelligence classrooms, STEM comprehensive innovation laboratories, and intelligent digital laboratories, so as to effectively use college digital information to carry out modern education for students Service [3].

2.4 Construction of Application Service Scenarios

The application scenarios of the intelligent education system mainly focus on services and two aspects:

The first is the intelligent service for school teaching activities, which mainly integrates the school's teaching and research, teaching, evaluation, exam learning, etc., and provides intelligent “micro-teaching” services for teachers and students through the support of information technology to create a brand new Intelligent teaching platform.

The second is the application for the daily work management of colleges and universities. The daily work of colleges and universities involves multiple levels, including the collection and records of student learning information, the notification of related documents, and the management of student groups. The construction of application scenarios of the intelligent education system also incorporates these contents into the platform management system to assist manual services and decision-making, while simplifying the traditional work process, improving the effectiveness of

university management, and providing suitable teachers and students. Relevant and user-friendly management services.

2.5 Comprehensive Security System

Strictly keep the identity information of teachers and students in school, as well as the protection and management of school teaching and research results, to avoid the risk of loss or leakage of school information and data, so as to eliminate people's trust crisis in artificial intelligence services. At the same time, the security performance and protection performance of the intelligent education system are strengthened. In addition, it is also necessary to establish a strong external connection function to achieve a complete connection with social enterprises, national education systems, and local communities, and to promote the integration of “production”, “learning”, “research” and “application” in colleges and universities. A coordinated mechanism to build an ecological education system of school-enterprise alliance and collaboration, so as to promote the better development of university teaching.

3. The Practical Mode of the Intelligent Education System

The campus service management mode under the intelligent education system mainly relies on the framework of the platform to continuously enrich its system function settings, so as to provide effective technical support for the development of campus teaching management interaction. The actual operation mode is mainly reflected in the following aspects.

3.1 Construction of the System Platform

In the process of practical application, the service platform of the intelligent education system is mainly composed of three parts, namely the systematic database, service port, and infrastructure. These three parts jointly build the basic service framework of the platform and provide for the function development of the system. Provided hardware support and guidance. Among them, the infrastructure part of the platform is mainly composed of the campus mobile network, the regional cloud education platform and the Internet of Things. It creates a platform functional framework with powerful network communication functions, which can support the implementation of multiple functional software, and is The basic teaching environment forms an effective perception ability; the database undertakes the important mission of integrating the school's daily work data, including student information, teaching records, academic achievements, establishing teacher-student files, etc., and classifies, stores and processes these data to It is used to serve the teaching and management work of colleges and universities; the platform service port is for the vast number of teachers and students. According to the needs of college management and teaching work, it supports the loading and development of multiple application systems, such as user identity authentication and information Manage and ensure that there are sufficient connection ports to meet the relevant functional requirements raised by the continuous development of colleges and universities.

3.2 Development of Functional Modules

The functional modules of the intelligent education system are various functional modules developed for the daily development needs of colleges and universities, mainly to meet the practical needs of mainstream business during the management of colleges and universities, and to reflect the practical application value of the intelligent education system. According to the key content in the work of colleges and universities in the past, the development of the functional modules of the smart education system can be concentrated in four directions:

Management and use of resources. With the advancement of teaching activities in colleges and universities, it will continue to produce a large number of generative educational resources, such as book resources, learning resources, archive resources, teaching resources, etc. This part of the content is not only an important wealth of knowledge for colleges and universities, but also involves To many private information and scientific research results of teachers and students. The main work content of the resource management function is to properly preserve this part of information and

make effective use of this part of resources in a safe and reasonable situation, so as to promote the improvement of college teaching quality.

Docking of teaching software. Through the preset connection ports of the intelligent education system, multi-functional teaching software docking can be realized, which can not only meet the requirements of information technology such as VR and AR, but also realize the establishment of different forms of online courses with the assistance of advanced artificial intelligence. For example, “SPOC” courses, “MOOC” courses (online open/restricted online courses of different scales), etc. Through this form, students can not only participate in large-scale open class learning, but also conduct small-scale group learning Discussion effectively enriched the development form of teaching activities in colleges and universities [4].

Comprehensive management functions. The comprehensive management work is based on the student campus card to manage the identity information and learning activities of teachers and students. It also includes intelligent management services for the resources of students' economy, knowledge, and goods.

3.3 Development of Service Work

The development of school services can serve students in two forms: smart user terminals and mobile user terminals. The difference between the two service modes is that the way the smart user terminal provides smart services to teachers and students needs to rely on the data information of the campus management platform, including voice engine, one-click search, semantic network (Web3.0), and real-time push And other related functions, which can support teachers and students to choose multiple service functions that they need; mobile user terminals mean that teachers and students can use mobile devices such as mobile phones to use the service functions of the intelligent education system, although it is temporarily unable to support the use of the intelligent education system The core technology part, but it is more flexible and fast to use, you can get campus information through mobile devices anytime and anywhere [5].

In addition, there is another service method that relies on the service functions of various social software, such as the use of the WeChat official account platform to establish an external access port on the campus, so that people inside and outside the school can use this as a channel to learn about the campus Part of the information is conducive to open dialogue and exchanges between universities and the external environment on the premise of protecting their own information security.

4. Conclusion

In summary, in the context of information development, university teaching management needs to seek new work development models as soon as possible, so as to promote education work due to the perfect integration of information technology, and provide young college students with more efficient modern education service.

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