Research on the effective path of co construction and sharing of high-quality information-based teaching resources in higher vocational education

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Abstract: At present, there are some problems in the construction of information resources in higher education, such as imperfect infrastructure, low overall level of resources, unreasonable application of information resources and low information literacy of teachers. In the current environment of the rapid development of big data and cloud computing, it is necessary to establish an educational resource service system integrating the co construction and sharing of information resources, balance the co construction of resources and improve the sharing mechanism. By analyzing the characteristics of higher vocational education, combined with the reality of the uneven process of educational informatization construction in Colleges and universities at the present stage, this paper expounds the construction and sharing of educational informatization resources from two aspects, and puts forward the construction mode and sharing mode of educational informatization resources with the characteristics of Higher Vocational education, so as to provide reference for the construction of educational informatization in higher vocational colleges.

1. Introduction

In higher vocational education, the admission conditions and graduation destination of students determine the school running mode, school running concept, management mode, management process, professional structure and curriculum of higher vocational education. The employment oriented higher vocational teaching system puts forward many requirements for higher vocational teaching and related work. An in-depth analysis of the higher vocational teaching system will help to grasp the teaching law of higher vocational education and provide a basis for the information construction of higher vocational colleges. In the 1990s, with the construction of information superhighway, the concept of educational informatization was put forward. The informatization of higher vocational education is derived from the concept of educational informatization based on the characteristics of higher vocational education. Informatization of higher vocational education refers to starting from the talent training specifications of higher vocational education, taking advanced educational ideas as the guidance, modern information technology as the means, focusing on the in-depth development and extensive utilization of information resources, and aiming at cultivating innovative talents to meet the requirements of the information society in all aspects of higher vocational education and teaching, Accelerate the systematic project of realizing the modernization of higher vocational education. The informatization of higher vocational education should not only be digitalized, networked, intelligent and multi-media at the technical level, but also go deep into all aspects of higher vocational education and teaching, such as educational thought, educational concept, educational purpose and educational methods, so as to make resources sharing, teaching materials multi-media, teaching personalization, learning autonomy, activity cooperation, management automation Environment virtualization, and finally realize the modernization of higher vocational education. Higher education information resources can be understood as: the sum of curriculum resources, learning resources, information tools and service platforms as technical carriers of higher vocational education content and teaching auxiliary expansion, which are presented in digital form by means of computer technology, communication technology and network technology. Resource construction is the process of forming a resource system through systematic planning, design, development, selection and collection of resources according to the needs of users. Co construction

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emphasizes not only construction, but also multi-party participation, which can reflect the meaning of "common". When co construction is only a behavior and an action, its purpose is to "share", that is, to provide resources and services. The subject of sharing is the user of resources, which is also diverse.

The concept of educational informatization was put forward in the 1990s, which is manifested in the construction of computer-aided instruction (CAI) resources. At this time, the resources are still scattered resources dominated by demonstration. They are simple electronic paper teaching materials or teaching auxiliary materials under the traditional teaching mode, mostly auxiliary. The concept of "resource pool" began to form in the late 1990s, which means that resource construction is carried out in a structural and systematic direction. Because the database needs to solve the problems of technical isomorphism, heterogeneity and interface, the corresponding resource database standard construction is carried out. At present, China has made great progress in the construction of digital education infrastructure, and has made important progress in resource development and application. With the development of big data and cloud technology, the construction of resources has gradually transformed from one-way and single to multi-directional interactive generation. In terms of content, we also pay more attention to the construction of resource platform and network service system. The construction of information resources in higher education is developing towards co construction, sharing and mutual integration. The construction of higher education information resources in China has been greatly developed, whether in the number of resource banks or in the number of resources in the library, whether in the promotion of resources or the application of resources in various ways. It has played an important role in the teaching reform of higher information education, the innovation of information teaching for college teachers and the promotion of students' autonomous learning.

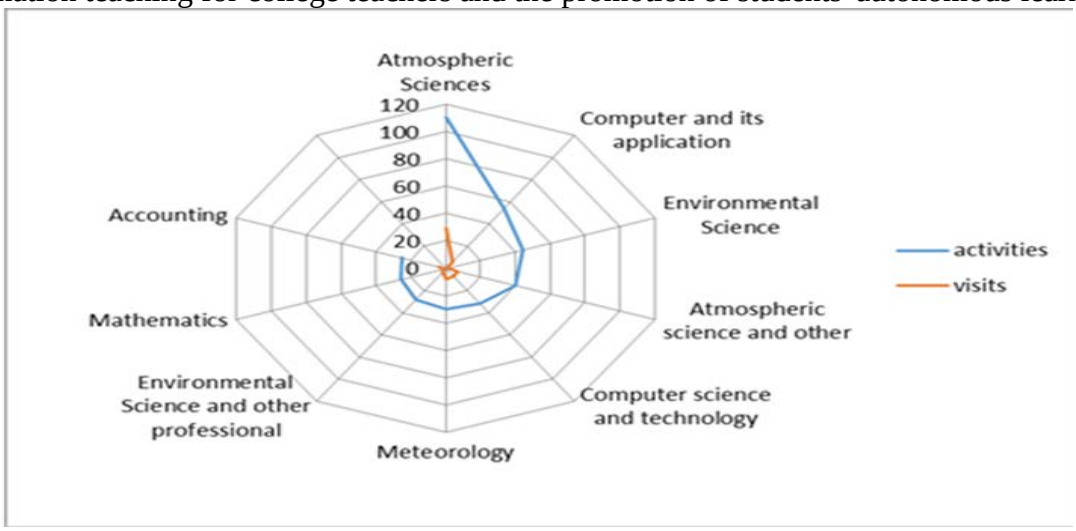

Figure 1 Distribution of educational resources

In the resource service cloud model for teaching and teachers and students, the co construction and sharing of information resources is an open co construction and sharing. Its openness is reflected in breaking the barriers between schools and regions. First, schools can jointly build and share their own high-quality resources, followed by the co construction and sharing of resources by non education departments, non education technology enterprises and the public, Then there is the open co construction and sharing of various resource types in a wider range in various ways and facing various technical platforms. The co construction and sharing of information resources is a sustainable co construction and sharing. We should use various ways to improve the overall level of information technology of educational resources and avoid the singleness and unidirectionality of resource development projects. Collect resources in a distributed manner, absorb users to participate in resource construction, generate user evaluations and recommendations in use, and evaluate educational elements and data sharing in use. The co construction and sharing of information resources is innovative. We should focus on the innovative construction and sharing of resources and support innovative learning with new resources. Including through resource co construction and

sharing, teachers can become common learners and cooperative thinkers based on inquiry; Students can understand and analyze their learning understanding and progress structure in various disciplines, so as to build a framework for knowledge construction; Under the guidance of the principle of innovation, teachers and students can enhance their understanding and practice of resource generation and application, and promote teachers' professional growth and students' all-round development.

2. Current problems in the construction of information resources in Higher Education

China's higher education informatization construction has achieved rapid development, and the overall coverage is expanding. However, in the current environment of rapid development of information technology, with the more and more extensive use of big data and cloud computing, it also brings new requirements for the innovative development of informatization teaching. There are still the following deficiencies in the construction of information resources.

2.1 Imperfect infrastructure

In the past two years, the broadband and campus network of colleges and universities have been basically covered, and its network structure is relatively reasonable, which can basically meet the use of external information resources. However, there are still prominent problems in the construction of infrastructure hardware facilities. The hardware construction of multimedia classrooms and campus network coverage in many colleges and universities is far from reaching the standard. More schools lack systematic network teaching and other infrastructure software infrastructure platforms, and there are still many deficiencies in resource construction and sharing.

2.2 The overall level of resources is low

Educational informatization resources should include core videos, courseware, cases, exercises, expansion tasks, tests, teaching tools and other system contents. At present, the overall level of resources is not high, which is prominently reflected in the lack of shared high-quality systematic digital resources. At present, most of the teaching resource banks are the accumulation of teaching material content, which has problems such as low level, single repetition and so on. Some excellent resources are scattered in the hands of individual teachers without sharing mechanism guidance, resulting in great waste. The construction of resource bank is mainly completed by school teachers, with obvious discipline system characteristics but not obvious professional characteristics; The content of the resource bank mainly focuses on teaching services, which is difficult to highlight vocational education; The construction of resource bank lacks overall design, interactive feedback and sustainable development.

2.3 Insufficient application of information resources

The informatization of higher education is now in the stage of exploring and running in the application of teaching resources and actual teaching mode. After the completion of the resource database, many schools are in a state of idleness, and the strength and depth of resource application are not enough. What is more used is only the shallow use of multimedia courseware, or only as a supplement to after-school teaching, and the interaction of resource application is not strong, The utilization rate is not high, and it is difficult to promote and share.

2.4 Teachers' information literacy is not high

The information literacy of college teachers is another decisive factor for the co construction and sharing of the whole resources. As the main builder and user of the co construction and sharing of resources, the information literacy of teachers determines the quality of the construction of information resources, the effectiveness of the practical application of information resources and the efficiency of information teaching.

2.5 Imperfect resource sharing mechanism

At present, there are still many obstacles to the realization of resource sharing. There is a lack of

unified system guarantee for the organization and management of the government and the operation mode and process of Resource Co Construction and sharing. Different colleges and universities often develop different network platforms, resulting in the difficulty of unified planning of compatibility standards, and it is difficult to realize resource sharing among colleges and universities because of their respective interests. The lack of enterprise and external collaborative construction mechanism makes it more difficult to jointly build and share resources at the social level. Therefore, there is an urgent need to ensure the operation mechanism of resource construction and application from the policy level

3. Co construction and sharing of information resources in Higher Education

The overall goal of the construction of higher education information resources is to establish an education resource service system integrating the co construction and sharing of information resources under the big data network environment and relying on various advanced information technologies, promote the sharing, development and utilization of public information resources, improve the informatization level of public services, and meet the needs of users for higher education information resources to the greatest extent, Promote the continuous improvement of educational informatization level and drive educational modernization. The specific construction contents can be reflected in the following aspects.

Table 1 Sharing methods and contents

Information resources	Resource construction
	Business processing
	knowledge management
	data processing
	AI modeling

3.1 Building information-based teaching resources

The construction of teaching resources should start from the needs of students and under the guidance of curriculum teaching objectives, build supporting teaching resources including micro course core resources, network teaching plan, teaching design, homework practice, evaluation and testing, expansion resources and so on. In addition, it also includes interactive supervision, question answering and puzzle solving of online community, learning exchange, development and promotion between different platforms of colleges and universities.

3.2 Hardware environment construction

Upgrade the existing education network, campus network and other communication network construction to realize the connectivity and coverage of the whole network. To build an information resource learning and sharing platform, information standards should be formulated when information technology is first applied, so as to finally realize the sharing and exchange of information resources between different platforms. Increase the construction of infrastructure such as multimedia classroom, voice room, electronic reading room and network classroom.

3.3 Develop teachers' Information Literacy

Information resources are not only the training content to improve teachers' information literacy and ability, but also the auxiliary support of training. Based on the resource sharing service platform, we should establish a new training resource system, gather resources and services, promote resource transaction and exchange, deal with the generated resources, and develop micro curriculum resources to meet the professional personalized learning needs of teachers.

3.4 Balanced Resource Co Construction

The construction and sharing of higher education information resources need to pay attention to

and apply core key technologies such as cloud computing and big data. We should carry out data mining and learning analysis based on big data, infer more accurate data, and provide support for individualized teaching and personalized learning. With cloud computing as the architecture, the platform is centrally managed and resources are jointly constructed and shared, so as to truly realize the interconnection of educational information network and improve the utilization efficiency, security and stability of resources.

3.5 Develop sharing mechanism

With the development of information technology and the gradual deepening of educational reform, as a complex system engineering, the co construction and sharing of educational information resources must form an effective mechanism with the participation of government, enterprises and schools. The government should attach great importance to overall planning, provide public services, and promote the overall planning and balanced development of digital resources of higher vocational education through policy guidance. Balance educational resources, improve the development level of hardware and software of information construction, and formulate the construction standards of vocational education information resources. As the main body of educational information resource construction, higher vocational colleges should give full play to the school-based resource construction, so as to realize the sharing of educational information technology resources among schools, cities and even countries.

4. Conclusion

The co construction and sharing of higher education informatization resources is based on improving the informatization awareness and quality of the whole people, cultivating skilled and applied professionals, and meeting people's demands for the value of lifelong education and lifelong learning. It is conducive to schools and management departments to carry out services, promote the development of personalized "one-stop" services, accelerate the orderly implementation of the construction of teaching resources and communication platform, standardize data management and retrieval, intelligent collection and analysis, and also conducive to the construction of all-in-one card system, digital library system and other information systems. It is conducive to the construction and development of educational teachers, enhance teachers' awareness of reform and innovation, and improve teachers' information-based teaching literacy. By providing rich resources and standardized courses, teachers from all over the country can communicate nationwide, set up courses independently according to the needs of students, carry out data intelligent monitoring and evaluation, improve the overall teaching level and realize information-based teaching innovation. It is conducive to the adjustment of ubiquitous learning methods in the information environment. The resource construction can start from the demand, highlight the characteristics, meet the self-development goals of learners at different levels, and promote the all-round development of learners. It is conducive to serving external institutions and enterprises to share resources with the whole society. The participation of external departments of social enterprises allows them to make full use of shared network resources and carry out vocational training. Enterprise employees can also use rich resources to study independently and improve their vocational skills and literacy

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