

Research on the Application of Network Teaching Resources in Local Private Colleges and Universities

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Abstract: In the network era, the construction and application of network teaching resources is the key link to realize the information-based teaching of educational resources. Whether the "resource-rich" network teaching resources are suitable for local private colleges and universities, it is necessary to screen, organize, structure and apply them according to the needs of different levels of colleges and universities. Through the research and analysis of the construction and application of network teaching resources in local private colleges and universities, it can provide a certain reference basis for more effective construction of regional network teaching resource database, giving full play to the advantages of network teaching resources, and forming a complete set of resources suitable for teaching application in local private colleges and universities.

1. Introduction

The COVID-19 in the past three years has disrupted people's normal pace of learning and life. During this period, the Ministry of Education required colleges and universities to make full use of online teaching resources and teaching platforms and actively carry out online teaching to ensure normal teaching progress. Therefore, during this period, the construction and development of network teaching resources has also greatly promoted the great changes in teachers' ideas on the combination of education and teaching with network teaching resources technology and information as well as the reform. The application of network teaching has made great changes in modern educational technology, which not only promotes the innovation of teaching mode by teachers, students and society, but also promotes the cultivation of students' ability of independent learning and independent thinking, thus improving the teaching quality more effectively. The purpose of network teaching resources construction is to improve teaching quality and realize the sharing of educational resources^[1]. At present, most colleges and universities in China have basically completed the network campus, and more effectively meet the basic use requirements of teachers, students and staff, and improve efficiency. For example, in administrative management, it has its own portal, office automation, teaching management, financial management, etc; in the field of public service management, there are "campus one card" system, school mail system, etc; The construction of campus network has basically realized the full coverage of campus life and learning. However, the construction of campus network teaching resources in colleges and universities is still lagging behind. The first reason is that different colleges and universities have different levels and requirements for talent training, and the standards for the construction of network teaching

resources are also different; Second, the construction of subject platform system is not perfect, and the sharing of network teaching resources is not sufficient; Thirdly, the construction of online teaching resources is a long-term project, and the periodic renewal needs teachers to continue to repeat, and needs the support of funds. Therefore, new requirements are put forward for the construction of network teaching resources in colleges and universities.

2. Core-platform Construction

The Outline of the National Medium and Long-term Education Reform and Development Plan (2010-2020) proposes "to build a national digital teaching resource database and public service platform that can effectively share and cover all levels of education"^[2]. Although there are still many constraints in the construction of online teaching resources in colleges and universities, its role in modern society has become increasingly prominent. At the beginning of 2020, when the epidemic began to spread, offline teaching in almost all schools was affected. The country quickly responded by establishing a "smart primary and secondary" online teaching class covering primary and high schools. This platform covers all subjects from primary to high schools, as well as all teaching contents in different versions. The best teachers in China are employed to teach. The teaching ideas are clear, and the subject content is systematic and coherent, so that students under the epidemic can also carry out systematic learning at home. The construction of this platform is a huge change for the teaching of primary and secondary schools in China. Many students can learn systematically with the help of this excellent platform even if they can't be guided by the teacher offline. The knowledge learned in the platform is the same as the offline teaching content. Relevant research shows that online teaching resources also have its unique advantages in teaching application^[3].

For local private colleges and universities, although they are different from other domestic colleges and universities in terms of talent training objectives, the most important thing to make better use of online teaching resources is to build a teaching platform. At present, many high-quality courses in local private colleges and universities cannot cover all courses, and the network teaching platform used by teachers is also in a decentralized state, lacking sharing and interactivity. Therefore, local private colleges and universities can build their own network teaching platform according to their own characteristics, or jointly carry out the construction mode of teaching platform with some local private colleges and universities. The construction of the teaching platform does not necessarily require teachers to record and upload lessons to the platform in person. The construction of the platform should provide the diversity of teachers' online teaching resources. For example, with the help of some domestic excellent famous teachers' teaching videos or links, they can be shared on the platform. However, it is relatively important that each discipline should set up teachers with rich teaching experience in the discipline as reviewers to systematically build the online teaching resources of each discipline in the construction team only by comprehensively controlling and guiding the quality audit of network teaching resources, platform interaction and evaluation system adaptability can the construction of network teaching resources in local private colleges and universities be more conducive to improving teaching quality.

2.1. Basic Framework

Through the analysis of successful cases of the construction of online teaching resources in domestic excellent universities, we can build the core content of the construction of online teaching resources - the basic framework of platform construction (Figure 1), specifically:

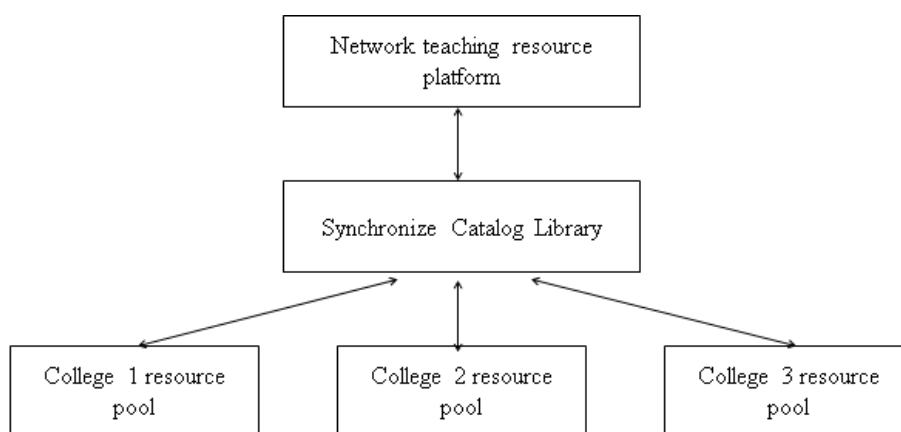


Figure 1: Basic framework of constructing network teaching resource database

The network teaching resource platform of local private colleges and universities can be built alone or jointly with many colleges and universities at the same level, so as to achieve the unification of resource standard formulation, normative operation, management and service guarantee as much as possible. The joint construction between schools can make full use of the high-quality resources among many schools, and can better promote the further improvement of the teaching methods and teaching quality of the same type of private colleges and universities. The network teaching resources can be constructed and managed according to the university-discipline-profession-course catalogue, and the sharing and updating of inter-school construction can be realized through a unified platform, which lays a solid foundation for the application of the network teaching resources construction.

2.2. Resource Construction

Teaching resources are one of the three elements of teaching. Network teaching resources are an indispensable part of teaching resources and the basis for teachers and students to carry out normal teaching activities. On the basis of fully mastering the learning characteristics and cognition of students in local private colleges and universities, combined with the school-running orientation and talent training objectives of local private colleges and universities, using the existing network teaching resources of online course learning platforms such as MOOC, Wisdom Tree, School Online, etc. of the current university, combining teachers themselves, integrating course teaching plan, courseware, micro-class, video, exercise library, test library and other materials, through the construction of the basic framework, Integrate relevant online teaching materials into their own online teaching platform. In the process of promoting teaching activities, the online teaching content is constantly updated according to the needs of the society, so that the online teaching resources meet the development of the times, so that students can understand the application prospects of the course knowledge in practice, and thus stimulate students' enthusiasm for learning.

2.3. Protection Mechanism

For many years, stability has been a difficult problem to solve in the construction of online teaching resources. It is a long-term work, involving teaching, technology, management and other factors, and requires long-term cooperation from multiple departments. For local private colleges and universities in underdeveloped areas, taking the intercollegiate domain network as the network foundation, utilizing the network resources of domestic excellent colleges and universities and combining their own characteristics, the resource aggregation system built as a two-in-one network

teaching resource service platform of local private colleges and universities as the core platform, and the construction of shared high-quality resources requires multiple mechanism guarantees, It is also the fundamental measure to solve application and sustainable development^[4] (Figure 2).

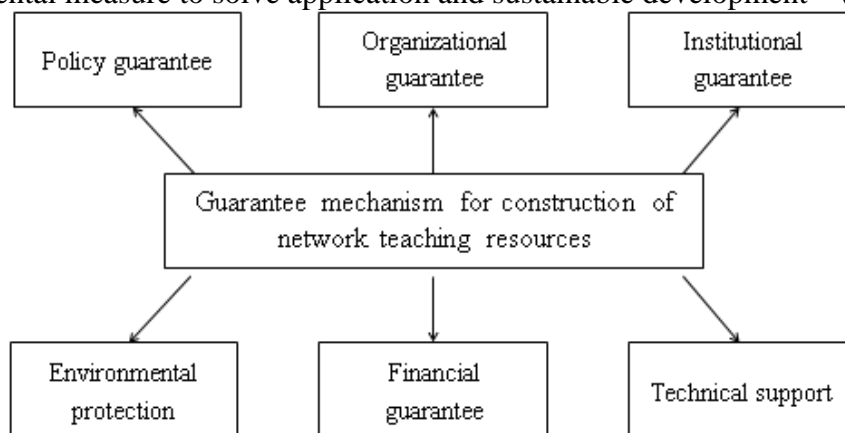


Figure 2: Guarantee mechanism for the construction of networked teaching resources

In terms of policy guarantee, it is necessary for education authorities at all levels to formulate corresponding policies to encourage local private colleges and universities to build network teaching resource platforms that conform to their own characteristics. At the same time, it is also necessary to organize and build standards and norms for the construction and sharing of various network teaching resources, organize relevant project initiation and research, and provide macro guidance for the construction and application of network teaching resources^[5]. The organizational guarantee is the responsibility of the relevant administrative departments. Under the leadership of the school informatization work leading group, the Academic Affairs Office and the Education Information Center jointly lead the organization and management of the overall work of the construction of network teaching resources, such as the overall planning and related coordination work. The basic guarantee for the construction and sharing of network teaching resources is the basis for the construction and sharing of network teaching resources, involving various management systems and mechanisms. Therefore, each management system and mechanism needs to be implemented at all levels. At present, many local private colleges and universities have established some network teaching resources and technology platforms, but due to the lack of necessary management system and incentive mechanism, network teaching has not been well reflected in the application scope and effect. At the same time, the construction of network teaching resources cannot be separated from the support of the environment. The fund guarantee is also an important guarantee for the sustainable development of the construction of online teaching resources. Schools should set special funds in advance and give full guarantee in terms of funds. Technical support refers to providing guarantee for the healthy and normal application of the construction of network teaching resources in terms of technical support, mainly including system maintenance, research, training and guidance of application technology, to ensure that the construction and application of network teaching resources can operate stably, safely and reliably for a long time.

3. Objective - Practical Exercise

There are many problems in the construction of network teaching resources in local private colleges and universities, which need to be studied on both theoretical and practical levels. Theoretically, it is necessary to build and share the core platform, but in practical application, it is necessary to learn from the theory of network teaching resources construction, and study the specific components of the local private colleges and universities. In practice, it is necessary to

combine with the needs of local private colleges and universities to formulate a specific implementation plan.

3.1. User-oriented Formulation of "Dynamic Development" Norms for the Construction of Online Teaching Resources

High-quality online teaching resources can well understand and attract students. When teachers use online teaching resources, they can reduce the workload of preparing lessons, and thus organize teaching more easily. Therefore, an excellent network teaching resources integration course must design the curriculum system structure and basic elements; At the same time, we should design the process of the construction of online teaching resources, such as the construction of the contents of each unit or module of the course, the sequence of learning, the interactive activities of learning, and the evaluation and feedback of learning. When building network teaching resources, we should also strengthen their sharing so that students of the same subject between different colleges or universities can find and access resources more easily.

On the original resource database, each discipline platform can be built into a portal website for each discipline and course, and presented to students in the form of keywords, making the network resources more professional and more conducive to retrieval. The construction of network teaching resources is a long-term and dynamic development process. In this process, it is necessary to constantly find problems, solve problems, summarize experience, and constantly improve, in order to finally achieve the goal of improving the level of education and teaching quality.

3.2. Change the Way Students Learn Independently and Build an Inter-School Alliance with "Complementary Advantages and Coordinated Development"

There are great differences in the learning basis and learning ability of students in local private universities. Therefore, by building online teaching resources, students can be provided with personalized learning services. The biggest advantage of online teaching resources is that they can be viewed repeatedly. If they cannot understand at one time, they can also learn for the second and third time until they are fully mastered, thus transforming into a way for students to learn independently. At the same time, statistics and analysis of online teaching resources can enable teachers to have a clear understanding of students' doubts and problems during the whole teaching process, and can make timely feedback and suggestions.

Only by making more universities, teachers and enterprises realize that the construction of online teaching resources is the core embodiment of education informatization and the direction of future development, can more universities, teachers and students be attracted to participate in teaching activities in online teaching resources, break through the constraints of learning time and space, form a learning community, and finally form a local private university alliance teaching service platform, Realize the sustainable development of co-construction and sharing of network teaching resources.

3.3. Application of Network Teaching Resources in Local Private Colleges and Universities

Taking the course of Architectural Drawing of Liuzhou Institute of Technology as an example, this paper discusses the current application of network teaching resources in local private colleges and universities. Architectural Drawing is one of the important basic courses of architecture specialty. The purpose of this course is to enable students to master various graphic methods for representing objects in three-dimensional space with plane diagrams, and local graphic methods for solving geometric problems in space with plane diagrams. The main research contents of this course

include: Projection principle, which is the theoretical basis for drawing engineering drawings; the second is the light and shadow of architecture, and the principle of perspective painting, which is the theoretical basis of painting performance. This course is the basic course of architectural drawing, based on the concept of projection; Basic drawing specifications of architectural drawings; the drawing principle of axonometric drawing and perspective drawing and their application in architectural representation; in this course, the management of online teaching resources mainly depends on the database storage mode, such as "Rain Class" and "Tencent Class". Their advantages are that they can quickly search for teaching resources, but their disadvantages are that the storage space required for data resources is large, and further coordination is needed in resource sharing, communication and interaction.

This paper studies the network teaching resources from three aspects. The first is online teaching resources mainly include text, video, test questions, test papers, etc^[6]. The second is the structure of network teaching resources, that is, integrating multimedia materials and network teaching resources, taking network courseware, thematic websites, cognitive tools, etc. as the main communication platform; the third is a specific online course. Take Architectural Drawing as an example, and use the two platforms of "Rain Class" and "Tencent Class" to put the course resources on the network.

Because of the COVID-19, the course of Architectural Drawing also made some attempts and comparisons when using the network teaching platform. After nearly three years of practice, we found that the construction and application of network teaching resources must organize "scattered" resources to form a "trunk branch" tree structure, so as to better improve the organizational structure of various disciplines, In order to better adapt to the thinking habits of teachers and students in the network era, it is necessary to build and integrate, share and apply the resource database between different regions and different schools, and constantly optimize and improve it^[7].

4. Development: Shared Services

4.1. Service Sharing Model of Campus Teaching Resources Based on Network

With the development of education in China, the enrollment expansion of local private colleges and universities is also very fast. With the rapid development of the network era, the updating frequency of many educational and teaching resources has also accelerated. The construction of campus network teaching resources to enable it to provide services and share for teaching effectively in the long term requires not only perfect network technical facilities, but also sustainable development and construction of network teaching resources^[8]. The construction mode of campus network teaching resources is shown in Figure 3. The development and construction of network teaching resources includes many contents, so it is necessary to construct and integrate these resources. Only in this way can its structure be clear and better adapt to the subject curriculum. For example, develop and build specific teaching resources: courseware, question bank, etc; in teaching practice, teachers should give full play to their role. Establish and update the teaching resource database; The development, service and sharing of professional teaching websites need to be constantly improved and updated in the application process in order to better serve teaching and realize more effective sharing of online teaching resources.

4.2. Sharing of Network Teaching Resources among Colleges and Universities

The construction of network teaching resources in colleges and universities is the basis and foundation for realizing the full sharing of network teaching resources among colleges and universities. Although different colleges and universities have different management modes,

transmission channels and application platforms of online teaching resources, they can still get through and unified management to realize the sharing and service of online teaching resources among colleges and universities. A unified application platform can be established between schools. By integrating and managing the network teaching resources between schools, a large database can be formed to improve the convenience of sharing. If the network teaching resource database between universities is not compatible, a retrieval directory can also be established to access the resource database between universities, which not only ensures the independence of the resource database between universities, but also solves the port problem of other universities when accessing. Therefore, we can reasonably and effectively build and use the network teaching resources between schools, which will greatly help improve the utilization rate of network teaching resources in local private colleges and universities, so that they can better serve the improvement of teaching level.

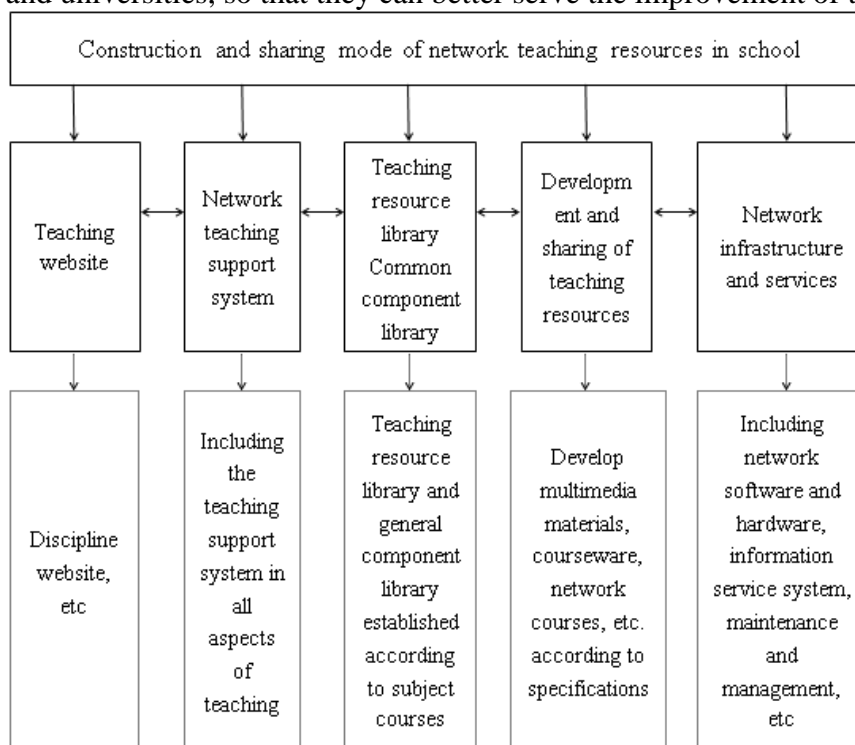


Figure 3: Construction and sharing of campus network teaching resources model

5. Conclusions

The construction and application of network teaching resources is an important subject in the current construction of university education informatization. In order to better promote the construction of network teaching resources in local private colleges and universities, first of all, we should pay enough attention to understanding, increase investment in funds, and schools should also actively develop incentive policies related to the construction and application of network teaching resources related to schools. Second, teachers should actively participate in the construction and application of network teaching resources, which not only meets the needs of the development of the times, but also can reform and improve teachers' teaching methods and means; Third, establish a guarantee mechanism for the construction of online teaching resources, solve the problem of intellectual property rights, so as to more effectively encourage teachers to actively participate in the construction and application of online teaching resources, and further improve the teaching quality of local private education. Finally, local private colleges and universities need to combine their own development and discipline characteristics with the network teaching resources between

regional schools, form their own characteristics under the guidance of national norms, and constantly adjust in the application practice, so as to be more suitable for the sustainable development of the network teaching resources construction of local private colleges and universities.

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References

- [1] Dong Qi. Discussion on the construction of university network teaching resources under the network environment. *Journal of Science and Technology Information* (2022), 20 (23): 178-181.
- [2] Kan Guokun. The practical difficulties and solutions in the construction of the "golden course" network resource database of ideological and political courses in higher vocational colleges in the new era. *Higher Education*, (2022), No. 570 (24): 189-192.
- [3] Zhang Wanbing, Li Weijie. Comparative study of online and offline teaching modes in higher vocational colleges. *Education and Teaching Forum*, (2022)573 (20) 61-64.
- [4] Lin Meiyang. The construction of medical online teaching resource platform based on big data - taking Putian Vocational and Technical College as an example *Journal of Putian Vocational and Technical College*, (2021),28 (04): 99-102.
- [5] Zhang Xiaoling, Shang Yingmei. The construction and development path of university network teaching platform under the information condition. *Journal of Wuzhou University*, (2021), 31 (04): 82-87.
- [6] Zhang Baikun, Zhang Junxiong. Discussion on the construction of university network teaching resources *Wireless Network Technology*, (2021), 18 (14): 27-28.
- [7] Yu Ning, Liu Xiaoxing, Kang Mingjie. Construction and Practice of Computer Course Teaching Resources in Higher Vocational and Technical College. *Guangdong Vocational and Technical College. Proceedings of the 6th Teaching Seminar of Guangdong Vocational and Technical College (I). Guangdong Vocational and Technical College: Guangdong Vocational and Technical College*, (2023):1780-1784.
- [8] Yuan Huiqin, Zuo Suying. Analysis of the construction and sharing of online teaching resources *Information Engineering*, (2021) (01): 175-176.