

# The System Development and Design of Chinese Digital Teaching Resources in Higher Vocational Colleges

Lixin Nie<sup>1\*</sup>, Changwan Liu<sup>2</sup>

<sup>1,2</sup>Jiangxi university of applied science, Nanchang, Jiangxi, China, 330109

\*Corresponding author's e-mail: gyx010307@126.com<sup>1</sup>

Author's e-mail: gyx84562@163.com<sup>2</sup>

## Abstract

With the continuous development of Internet technology in China, the teaching level of higher vocational colleges in China is also constantly improving, and gradually becoming one of the very important topics in higher vocational colleges. China has gradually entered the information age, and more and more higher vocational colleges have begun to establish their own LAN teaching system. In the process of the rapid development of teaching, it is necessary to further strengthen the connection between the digital teaching system and the teaching work in higher vocational colleges, promote its integration with the Internet, provide more convenient ways for students, and play its complete role. This paper discusses the design and development of Chinese teaching system in the Internet era, aiming to increase the development and design of Chinese digital teaching resource system in higher vocational colleges, so as to accelerate the process of Chinese teaching in higher vocational colleges in China.

**Keywords:** *Teaching Resources; Systems Development; The Internet*

## 1. INTRODUCTION

With the continuous progress and development of the Internet, China's higher vocational colleges have further strengthened their teaching methods. Language digital teaching is an important means to manage teaching resources, serve teaching topics and teaching objects [1]. This paper discusses and studies the process of the systematic application of Chinese digital teaching resources, and some important information and part of the data in the system are closely related to the assessment of teachers. The design of the system also needs to consider the security of the system data.

## 2. DIGITAL TEACHING RESOURCES DEVELOPMENT ENVIRONMENT

In the digital teaching resources development and design, generally use code to write, this language has good compatibility, for ASP. NET program development and framework have good compatibility, and can help developers in a short time to complete the Web application software design, developers only need to install the corresponding software and start, can be in VC + +. Development in the NET environment. In this aspect of language development, dynamic Web

applications can be built, and developers can use their compatible language to program them. With the support of the software, developers can also use servers to create the corresponding control pages, thus making the code simple.

In the latest components, you can support the isolation mode from previous versions, which allows a variety of servers to run separately. In the process of deploying servers, developers only need to install correctly to execute the corresponding dynamic page program. The structure system used by the Chinese digital teaching resource system studied in this paper is mainly divided into three levels: data access level, business logic level and user interface level. Processing of requests and access from general users through the platform. Under this design scheme, users can query the data and implement relevant operations through a regular browser, without additional installation of client software. The main data can be borrowed from the Web server responsible for the implementation [2]. In addition, the database used in the system is SQL, which can be responsible for the centralized management of the data to ensure the security of the data.

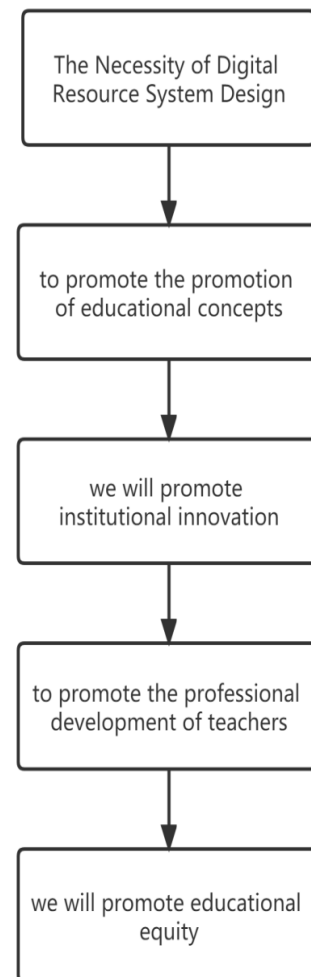
### 3. THE NECESSITY OF CO-BUILDING OF TEACHING RESOURCES

Since the 1990s, a series of major projects and policies and measures implemented by the state have laid a solid foundation for the development of education informatization in China [4]. The national education information infrastructure system initially formed, urban and economically developed areas at all levels of schools have campus network and access to the Internet, information terminal is gradually entering rural schools; the digital education resources are abundant, the application of information teaching to expand and deepen; education information in promoting education equity, improve education quality, innovation mode support and driving role. In such an environment, the Ministry of Education has put forward the Ten-year Development Plan for Education Informatization (20xx-2020), and the construction and sharing of high-quality educational resources have also been put on the agenda. In the Plan, it is clearly proposed that "by 20xx, an educational resources and public service system with network resources as the core should be basically built, so as to provide convenient and fast services for learners to enjoy high-quality digital education resources", and at the same time, "a co-construction and sharing mechanism of digital education resources should be established".

At present, the new curriculum reform is further promoted, which requires "to highlight the diversified, open and inclusive classroom teaching culture, optimize the teaching environment, teaching content, teaching methods and means to the greatest extent, form the optimal classroom form, and comprehensively improve the efficiency of classroom teaching and the quality of education." In the information technology support and the construction of excellent classroom, will need and emerge a large number of excellent teaching resources, how to better jointly build and share these high-quality teaching resources, it is very important. Teachers' job burnout, conservative self-experience, poor self-reflection and learning improvement also limit the development of teachers and students, and have great obstacles to the stable improvement of education and teaching quality [6]. In addition, some teachers in the use of class equipment and network teaching resources teaching work, more active, but the teachers also exist fragmented, individual combat, electronic teaching resources form is relatively weak, to dry teaching digital resources development and production, collection, integration, etc., lack of collective communication and sharing, cannot maximize the role of teaching resources. Therefore, there is still a lot of room to improve teachers' information technology teaching skills, improve the classroom teaching efficiency, and comprehensively improve the teaching quality [12]. Based on these conditions, we decided to carry out "research on the

construction of quality teaching resources in rural schools under the condition of education informatization".

### 4. THE NECESSITY OF DIGITAL RESOURCE SYSTEM DESIGN



**Figure 1.** The Necessity of Digital Resource System Design

First, to promote the promotion of educational concepts. With the development of global economic "integration", it is inevitable that education will move from closed to open up. The joint construction and sharing of quality teaching resources can not only promote the implementation of the new curriculum reform concept, but also promote teachers to form a team, scientific and open learning cooperation consciousness, and enhance inter-school and regional exchanges and cooperation.

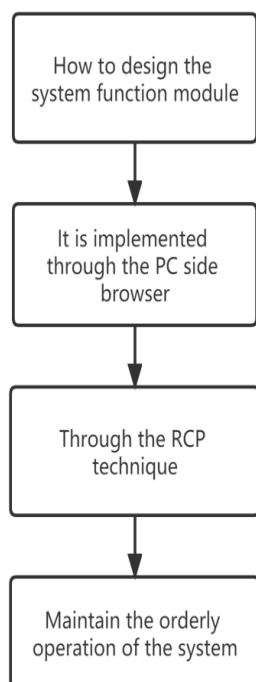
Second, we will promote institutional innovation. Through the establishment and improvement of the joint construction and sharing mechanism of high-quality teaching resources, it can stimulate the initiative,

enthusiasm and creativity of teachers to develop high-quality teaching resources, and finally form a relatively perfect co-construction and sharing mechanism, which can be applied and promoted.

Third, to promote the professional development of teachers [6]. The establishment of the co-construction and sharing mechanism of high-quality teaching resources can promote teachers to actively participate in the use of teaching information technology, which is conducive to improving the level of teacher education information technology, narrowing the gap between teachers in the use of modern education means, so that high-quality resources can serve education and teaching more conveniently [8]. At the same time, it can also enhance the communication and work between teachers, gradually establish a teacher learning community, improve education and teaching skills, improve classroom teaching efficiency, and strive to create "efficient classroom" and "excellent classroom", so as to promote the professional development of teachers and promote the improvement of teaching quality.

Fourth, we will promote educational equity. The joint construction and sharing of high-quality teaching resources can narrow the gap between rural schools and urban schools, so that children can also enjoy higher quality educational resources, enjoy more advanced information technology education, and promote the balance of compulsory education and educational equity.

## 5. HOW TO DESIGN THE SYSTEM FUNCTION MODULE



**Figure 2.** How to design the system function module

### 5.1. Students

In the process of students participating in learning through the Chinese digital teaching resource system, Often need to browse the text information or picture information,.At present, the vast majority of browsers have strong compatibility for pictures and video resources[9]. Therefore, this study directly realizes the same information interaction between users and the system through the PC end browser. And set up the personal information management module local resource management module and teaching information management module for the Chinese digital teaching resource system. In the local resource management module and the personal information management module, Student users can download, sort, modify and delete the operations according to the actual situation and the demand for learning resources.

### 5.2. Teachers

This research through RCP technology to establish the Chinese digital teaching resources system teacher user module, the module and administrator user module and student user module using the same database server, but in the Web server package by different programs, and realize the differentiated service, the distributed design scheme can make the system performance more perfect, achieve more complete user experience ". The teacher user module has functions such as personal information management, teaching management, course management and student management. Teachers can organize teaching resources through this module and provide differentiated teaching plans according to students' learning needs.

### 5.3. Administrator side

Teacher user module and student user module service object of teachers and students, and the administrator user module service object is the whole system, the administrator is the main worker to maintain the orderly operation of the system, also through the browser to achieve information interaction and online operation. The main functions of the administrator user module specifically include learning materials management, teacher management, student management and website basic information management, etc. The administrator is also given high operation rights, and can publish important information on the home page.

## 6. CONCLUSION

In order to promote the high-quality teaching resources of schools, recommend the quality education reform of higher vocational colleges in China, comprehensively improve the information education level of students, promote the balanced development of

education and the sharing of high-quality education resources. Education Informationization is an important part of national economy and social informationization, is an important symbol of education modernization, is the internal requirement of building a modern national education system, the formation of a learning society, is promoting the comprehensive innovation and profound reform of educational ideas, ideas, modes, content and methods.

## REFERENCES

- [1] calf. Research on the Automatic Quality Evaluation System of Digital Teaching Resource Bank [D]. Sichuan Normal University, 2013.
- [2] Guan Hao, Qin Xiaolin, Rao Yongsheng. The Research and Design of the Open Platform for Dynamic Mathematical Digital Resources [J]. Journal of Harbin Institute of Technology, 2019,51 (05): 14-22.
- [3] Liu Lei, Bai Zhentian, Hu Yitao, Fu Lingling. Development and implementation of participatory library digital teaching resource system under the social network environment [J]. University Library work, 2015,35 (02): 47-51.
- [4] Liu Lei, Fu Lingling, Guo Shiyun, Wang Qiyun. System model of participatory digital teaching resource construction in library based on demand [J]. Library Theory and Practice, 2015(03):84-88.DOI:10.14064/j.cnki.issn1005-8214.2015.03.026.
- [5] Luo Xuan. System Development and Design of Chinese Digital Teaching Resources in Higher Vocational Colleges [J]. Automation Technology and Application, 2020,39 (10): 31-33 + 74.
- [6] Ma Jianyue. Building an information ecosystem centered on educational resources [J]. China Education Informatization, 2014 (08): 93.
- [7] Ren Honghong. The Design and Application of the Network Teaching System [J]. Everyone, 2011 (08): 171-172.
- [8] Song Chengying, Che Yueqin, Zhang Ruifang. The Ecological construction of Digital Teaching Resources in Higher Vocational Colleges [J]. Journal of Nantong Vocational University, 2015,29 (03): 45-47 + 51.
- [9] Wang Xiaomeng, Guo Shuang. Research on Semantic Marking System Design of Digital Teaching Resources [J]. Education informatization in China, 2017 (13): 40-44.
- [10] Xia Liang. Design and implementation of the teaching resource management platform under the background of the integration of the two schools [J]. Telecom Technology, 2019(03):15-17+28.DOI:10.19469/j.cnki.1003-3297.2019.03.0015.
- [11] Zhang Mengmeng. ——— takes Henan University of Animal Husbandry and Economics as an example [J]. Journal of Henan College of Animal Husbandry and Economics, 2017,30 (04): 78-80.
- [12] Zhang Tao, Zhang Chengyu. Implementation of a cluster reconstruction system of digital teaching resources [J]. Modern Book and Information Technology, 2007 (08): 1-5.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

