Exploration and Practice of the Construction of "Network University Town" in the Internet + Era

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Abstract: In recent years, the era of Internet + has arrived, and there have been new developments in network technology and communication technology. Cross-school study for credits, the operation is relatively complicated. To this end, we can make full use of the online university city to make active explorations in teaching mode, teaching management, and credit system. This article sorts out and analyzes people's views and needs in the online university city through the form of questionnaire survey and statistical methods. The survey results show that 28% of people are satisfied with the connections between groups on the network platform, and some people think that the sharing of learning resources on the network platform is obvious to all. This will undoubtedly encourage the construction of online university towns.

1. Introduction

With the continuous advancement of network technology and communication equipment, the demand for mobile terminal products and services is increasing. Under the background of "Internet +", college students are more eager to obtain information and learn advanced culture through the Internet. Therefore, we should transform and upgrade the traditional university city and improve the infrastructure construction to meet the various needs of students. In other words, the development of people's needs to build an online university city.

There are many theoretical results in the Internet + era and the "Network University Town". For example, based on the World University City network service platform, some people explore how to build a course platform in the World University City, and elaborate on the overall planning and design of space provided by science and technology for space teachers and students [1, 2]. Some scholars also analyzed the idea of building a university city, explained the setting of video resource library, case library, practice library, course and course database, and finally discussed how to use the cloud platform of global university city to conduct online and offline hybrid education [3, 4]. Liu Fengjiao pointed out that the Internet has become a new carrier for students' ideological and political education. Actively occupying the position of online education is an indispensable prerequisite for achieving educational goals [5]. Therefore, it is reasonable to study the construction of network university city in this article.

This article first studies the basic concept of the network university city and its construction requirements. Secondly, this article analyzes the goals of curriculum reform in the Internet age. Then it elaborated on its reform content in detail. After that, the construction of the network learning community, namely the network university city, was modeled and described. Finally, through experimental investigations, this article found that most people still agree with the construction of university towns. However, the system designed in this paper still has some minor problems, which need to be improved.

2. Exploration and Practice of the Construction of "Network University Town" in the Internet + Era

2.1. Network University City

The construction of an online university is a process led by the government and society, with schools and enterprises participating in the planning and management of students' educational goals. It includes teaching activities, scientific research and campus culture. Online university is a new type of education model, which has the characteristics of the Internet. Different from "campus" in the traditional sense, under this new form, college students can study and live in a free and autonomous choice space [6, 7].

The network university city is formed on the basis of computer application technology and gradually matures. Its main functions include information processing capabilities and multimedia teaching services. In addition, the development of the online university city is indispensable for communication tools widely used by college students, namely mobile phones and tablet computers. The main body of the online university city includes teachers, students, schools and society. Teachers are responsible for organizing lectures, while students mainly use the Internet to obtain learning information and learn online. Universities and the society take the lead in publishing the curriculum resources in the school to online universities and provide them to teachers and students for visiting experience and communication [8, 9].

The construction of the online university city is mainly composed of education, leisure and entertainment, and service. The teaching area is the most concentrated learning knowledge for students, and it is also the fastest way for college students to obtain information. The function of education is to set up public resource platforms such as campus outlets and office areas in the school to provide learning resources and learning platforms. Leisure and entertainment functions mainly include students' cultural activities, physical fitness, social recreation and so on. The service function means that in the online university, there are specialized management and service departments to provide services such as consultation to students, teachers and the society [10].

The construction of the network university city needs to consider various factors to restrict and influence it in the actual construction process. The online university town is a virtual space based on the Internet. In this "net", we can find all kinds of people of different sizes, different personalities and individual characteristics. Due to the lack of corresponding laws, regulations and management systems, as well as the lack of relevant management personnel and insufficient capital investment, there are still many difficulties to overcome to build a qualified online university city. Therefore, when we explore and practice the construction of the online university city, we must fully consider the varying degrees of influence between student groups and people from all walks of life [11, 12].

2.2. Reform Goals

2.2.1. Course Resource Sharing

In the process of the development of online education, the school has gradually formed various advantageous online education resources, accumulated high-quality online education resources, and laid a good foundation for educational cooperation. On this basis, in order to expand the radiation scope of the inter-school teaching alliance, establish an Internet + network university city, build a cross-school training cooperation mechanism, improve the functions of the online course mutual selection management information system, and set up "teacher, student and student" real-time communication and information feedback. At the same time, it realizes real-time sharing of excellent university teaching resources such as lectures, minor majors and other excellent university teachers in the network teaching city.

2.2.2. Sharing of Cultural Quality Education Resources

Relying on the cross-school study credit system, formulate the construction policy of "division of labor and responsibility, and branch implementation." The establishment of a network university city, with the construction of network teaching platforms, systems, courses, and campus culture as the main line, improve the level of cultural quality education, and penetrate Into the talent training plan.

2.2.3. Sharing of Experimental Teaching Resources

Through in-depth study and practice, under the premise of not increasing the cost of educational funding for colleges and universities, the use of high-quality experimental equipment resources currently owned by each school has solved the problem of weak disciplines and insufficient investment in some colleges and universities. In a relatively short period of time, the experimental teaching level of the universities in the region can be improved, and the full opening of the universities to the society can also be promoted.

2.3. Reform Content

(1) Break the traditional classroom teaching model. Relying on Internet technology, create a flexible learning space to facilitate students to develop diversified learning methods. Due to the network and intelligence characteristics of the network quality course resources, the teaching mode has gone out of the "standard" or "applied" frame. On the online high-quality course resource platform, users of different levels and categories can learn on-demand, learn independently, and communicate independently.

(2) Construct teaching content that adapts to the new teaching model. Through the establishment of a network university city and the introduction of a new model of cross-school credits, the course teaching content and information technology are organically combined, and new engineering technologies such as the Internet, the Internet of Things, and big data are integrated into the traditional teaching content. The theoretical part uses the completed video quality courses online, offline classroom time for interaction, discussion, and evaluation between teachers and students, and supplements the online teaching model. For the practical part, online learning can use the college's virtual laboratory under construction. Students can perform simulation operations online, and offline can use the open laboratory for actual hands-on operations. Teachers can provide standardized instructions to make up for the inability of online learning. The lack of two-way

interactive on-site teaching.

(3) Improve online teaching resources. The update and improvement of the online teaching resource platform requires a lot of time and energy from the teaching team. It is recommended to establish a protection and incentive mechanism for teachers. Encourage the construction of a multi-level education and teaching resource co-construction and sharing system, and then realize the purpose of co-constructing a network university city in the Internet + era.

(4) Strengthen the construction of online learning platforms. Use advanced information technologies such as the Internet, cloud computing, and streaming media to build a high-quality open course sharing system with the functions of teaching, learning, and interactive communication.

(5) Formulate a reasonable credit management system for cross-school study. The implementation of cross-university study credits requires the formulation of clear management methods and standardization of teaching management links.

2.4. Network Learning Community

The popularization of computers and the development of the Internet have made the concept of "online learning community" emerge. Compared with the learning community, the e-learning community has more restrictive conditions of "network". The addition of the restriction of the network means that the formation and development of the learning community must be carried out in the large environment of the network. Therefore, the network learning community has the universal nature of the learning community. Although scholars have all put forward their own opinions on the network learning community, they are all based on the integration and second elaboration of the definition of the learning community based on the characteristics of the network environment.

We can understand from four aspects: one is composed of learners and their assistants (including assistant teachers, subject experts, and other assistants). The second is to communicate with the help of network platforms or network tools. The third is learning activities are centered on topics or projects. The fourth is to form a relatively stable social relationship that helps and promotes each other on the basis of cooperation and exchanges, joint construction and sharing of resources.
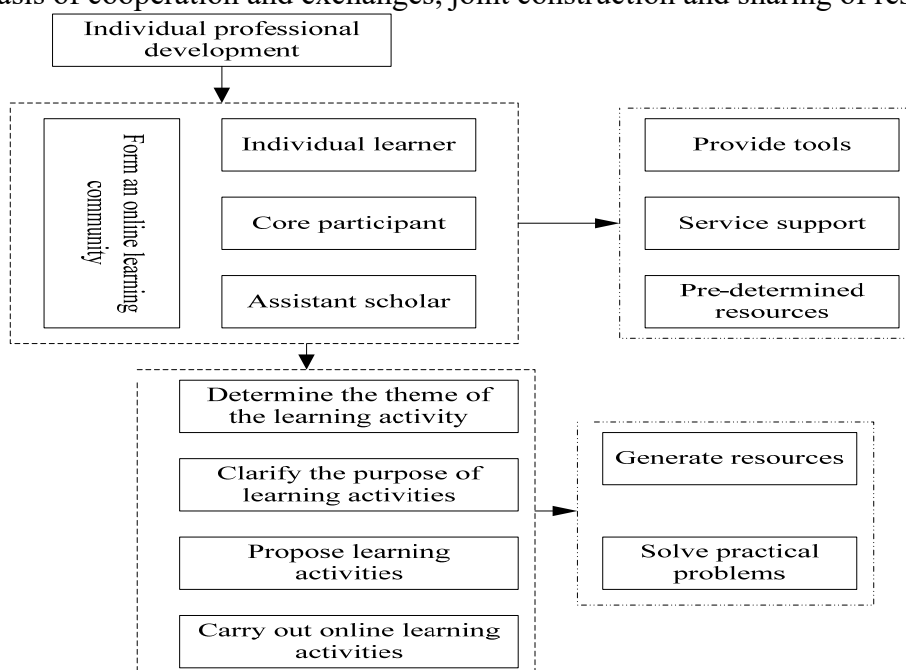

Figure 1: Network learning community practice activity model

We can summarize the network learning community as a learning group constructed by learners and scholars (teachers, experts, mentors, etc.) in a virtual network environment with the help of a variety of interactive, collaborative, and shared software tools. According to the different organizational forms, we divide the network learning community into two types: formal network learning community and informal network learning community.

The purpose of the construction of the network university city is to strengthen the interaction of community members, enhance group motivation, and promote knowledge sharing. The construction of an online university city is inseparable from the support of the online learning environment and the development of online learning activities. The practice model of the online university city provides guidance and reference for the formation of the online learning community, the implementation process of learning activities in the learning community, and the specific composition of the support platform of the online learning community. The practical activity model of the network learning community is shown in Figure 1:

The formation of college students' network learning community stems from the needs of individuals for their own professional development. After college students have entered the stage of university study, major changes have taken place in their learning methods and learning content. The learning content is no longer broad and comprehensive basic knowledge, but has begun to tend to specialize. The learning method is no longer passive and receptive learning in high school, and it encourages discovery learning and inquiry learning.

The learners encountered some problems in the learning process and generated professional development needs, and then formed an online learning community. The participating members of the network learning community include individual learners, assistant scholars, and core participants (opinion leaders) derived from the role of individual learners. The network learning community as a whole should form a clear division of labor between them.

After the formation of the learning community, the learning environment that the community relies on needs to have corresponding support tools, services and pre-set resources. In the early stage of the construction of the network learning community, the pre-defined resources mainly rely on the uploading of scholars, such as some basic materials and technical support for carrying out activities. More professional resources can be supplemented and improved by all members of the community in the later learning activities.

3. Questionnaire Survey on the Construction of "Network University Town" in the Internet + Era

3.1. Investigation Background

Under the current management system, the University City has independent organizational structures, management powers and operating modes. Therefore, when starting resource sharing and cross-school credits, we should first establish a daily management department, clarify management regulations and implementation methods, so that various work organizations can be implemented. All actors have their own independent interests. Participating schools should, on the basis of adhering to public welfare, take free as the main body, reasonably charge fees, and ensure the sustainable development of the project.

3.2. Questionnaire Design

In order to understand the effect and personal experience of members participating in community learning activities, and to obtain suggestions for improving the platform, according to the research theme of this article, the theme of the questionnaire is determined to be the feasibility and plan of

the construction of the online university city. The design of this questionnaire is based on two starting points: one is to verify whether the constructed model is valid on the supporting platform based on the four levels of influencing factors that affect college students' participation in the online learning community (learning community). The second is to develop the design Do a more detailed investigation and analysis of the application of the platform. Therefore, the questionnaire investigates and analyzes the four aspects of the user's recognition of the learning platform, the effect of individual professional development, the effect of teamwork and the guidance effect of core participants.

Reliability of the questionnaire.

For random error W, it is generally assumed that its expected value (average value) is 0 and is independent of the true value. Under this assumption, there are:

$$W(a) = W(s) \tag{1}$$

Since s and W are independent of each other, there is the following formula:

$$\tau(a) = \tau(s) + \tau(W) \tag{2}$$

It can be seen that the variance $\tau(a)$ of the measured value is equal to the sum of the variance $\tau(s)$ of the true value and the variance $\tau(W)$ of the error. We use the reliability coefficient T to express the degree of reliability, namely:

$$T = \frac{\tau(s)}{\tau(a)} = 1 - \frac{\tau(W)}{\tau(a)} \tag{3}$$

The greater the T, the greater the credibility of the questionnaire.

The reliability of the questionnaire was analyzed, and the T value was 0.896, indicating that the questionnaire has good reliability.

3.3. Questionnaire Process

In addition to college students and teachers, the subjects involved in this questionnaire also include people from all walks of life. The questionnaire is related to the national online learning platform, so 1,000 people were sampled to answer the questions online, including 700 students, 100 teachers, and 200 members of the public. Except for the answers with consistent options, the rest of the questionnaires are valid answers. There are a total of 900 valid questionnaires, and the effective response rate reaches 90%.

4. Analysis of the Results of the Questionnaire

4.1. Recognition of Platform Function Modules and Implementation Plan

Table 1: Recognition of the platform function modules

	Students	Teachers	Social people
Curriculum Center	19%	12%	20%
Resource Center	26%	21%	16%
Individual space	18%	12%	10%
Group space	28%	30%	24%
Q & A circle	11%	8%	9%
Special forum	16%	12%	11%

It can be seen from Table 1 that many platform participants are very satisfied with the course center, resource center, group space and the attached thematic forum modules in the platform. The analysis here believes that the setting of the curriculum center and resource center modules meets the needs of college students to quickly obtain professional-related information resources.
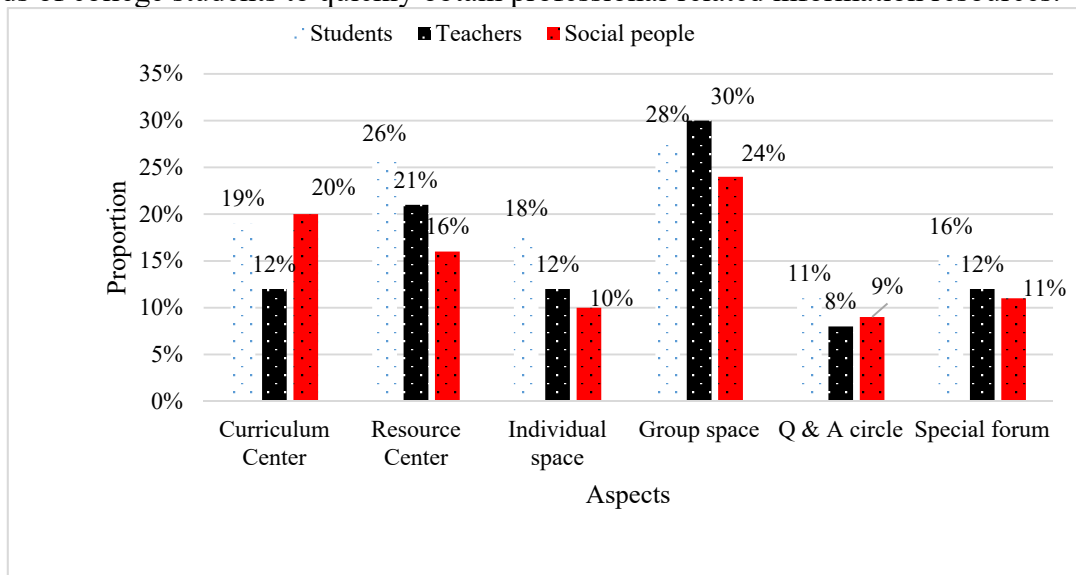

Figure 2: Recognition of the platform function modules

As shown in Figure 2, we can see that the group space and thematic forum are the core functions of this platform. The design is complete and can meet the needs of students for multi-person collaborative learning. Therefore, it has also received unanimous praise from the learners. The Q&A circle and personal space are less recognized. In addition, the function of the Q&A circle can be replaced by a special forum, and many questions of learners are answered in the forum communication, so the function of the Q&A circle is not reflected.

For this reason, it is necessary to break the traditional classroom teaching model for the construction of the online university city. Use the online teaching platform to teach online. The curriculum construction party should enrich and enrich online teaching resources according to teaching needs. Strengthen the construction of online learning platforms. It is imperative to formulate a credit management system for inter-school study.

5. Conclusion

The discipline setting of major universities can be said to have their own characteristics, and they also have their own advantages. However, due to the fact that courses were not open to each other and resources could not be shared in time between major universities, invisible barriers between universities were formed over time. Therefore, practice the construction and exploration of the "online university city" in the Internet + era, and promote the opening of ordinary colleges and universities and the mutual recognition of credits, in order to allow major colleges and universities to open high-quality courses to each other for students to study across provinces and universities. At the same time, it also allows students to have more choices in course selection, which not only realizes the complementary advantages of college teaching resources, but also helps students to develop in all aspects according to their own hobbies and promote exchanges between colleges and universities. Sharing with teachers is also an active exploration of the talent training model. According to the experimental investigation of this article, the platform system designed in this article has received support from most people in terms of curriculum center, resource center, and

group space. Therefore, this can provide theoretical and methodological reference for further network university city construction.

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