Application Status and Promotion Strategy of Integrated Network Teaching Platform——Taking Northwest A&F University as an Example

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Abstract The development of Internet technology has brought convenience to the development of education and teaching, and has also changed the traditional methods and means of education and teaching. The construction of an integrated network teaching platform based on Internet technology brings new opportunities for the development of higher education. Taking the construction of the integrated network teaching platform of Northwest A&F University as an example, the current situation and existing problems in the construction of the integrated network teaching platform of the Northwest A&F University are explained. By proposing the promotion strategies for the application of the integrated network teaching platform, the construction of the integrated network teaching platform is improved, thereby facilitating the online and offline mixed teaching and further promoting the improvement of teaching level and teaching effect.

Key words Integrated network teaching platform, Mixed teaching, Promotion strategies

1 Introduction
The Internet plays an important role in the development of human society. The computer network has not only penetrated into all walks of life, and it has gradually entered all aspects of human life. Network teaching platform is a general term for software systems that provide comprehensive support services for e-learning[1]. In order to comprehensively improve the quality of higher education, strengthen the construction of good-quality teaching resources, and promote the improvement of teaching level, the construction of network teaching platform is imperative.

2 Overall operation of the integrated network teaching platform
In order to promote the construction of high-quality digital teaching resources and enrich teaching forms and means, in October 2009, Northwest A&F University introduced the integrated network teaching platform developed by the Institute of Education of Tsinghua University. Since 2011, the school has been relying on the integrated network teaching platform to implement the "thousands of courses online project" to comprehensively promote network-assisted teaching. In order to improve the efficiency of the use of the integrated network teaching platform and ensure the smooth development of network-assisted teaching, two sessions of school-wide platform operation training have been held, with more than a thousand participants.

3 Problems in the construction of network teaching platform
In recent years, the construction of the integrated network teaching platform in Northwest A&F University has achieved obvious results. But compared with the universities at the same level, there are gaps in both the quality and quantity of the courses and the interaction of the courses. In recent years, a series of problems in the network teaching platform construction of China’s colleges and universities have existed in Northwest A & F University, and even typical.

3.1 Emphasizing construction but neglecting application and management Some online courses on the network teaching platform are born on the basis of the project. This kind of policy-driven construction method, because the starting point of project construction is often for "identification" or "acceptance", but not for teaching, so it often leads to low teaching utilization rate. The phenomenon of emphasizing investment but neglecting benefits and emphasizing technology but neglecting design is very serious[2]. At the same time, due to the lack of certain evaluation and supervision mechanisms, the situation of slow or no update of content is more serious. Many courses are built once. After the first construction is completed, there is very little re-update of knowledge, lacking later maintenance and management.

3.2 Neglecting learning performance Teachers’ understanding of online teaching is not deep enough. As a result, the curriculum and the connotation of many courses in the platform lack harmony and unity[3]. Some platform courses focus on the external form of the courses. Although the content of the courses is presented in different forms, the teaching connotation is still stale. The teaching content is not updated in time, the teaching design is not reasonable, and the extension of teaching is not sufficient. Many courses only focus on the presentation and explanation of teaching content. They do not have a good design of learning environment and learning activities. At the same time, they lack a reasonable evaluation and feedback system. In most platform courses, there is a lack of real-time tracking and recording of student activities.

3.3 Insufficient teamwork for curriculum construction When the school launches a project-based online course, it is generally
prescribed by a professor, and there are often many factors to consider, what class to talk about, which professor to choose, how to say, what is the effect of the lecture, what is the impact on the school, whether there are academic advantages across China? It cannot be considered purely from the perspectives of education and academies, especially teacher energy and learning performance[4]. Two phenomena have been caused. First, other members of the course group apply for the project in the name of the professor, and they are self-contained from beginning to end and lack the active participation of the professor. Second, after the professor applied for certain project, he basically completes it alone, did not give full play to the team’s advantages, and did not completely release the teachers’ vitality and creativity.

3.4 Negative teachers and backward concept In the application of online teaching, the enthusiasm of teachers needs to be further improved. The pedagogical foundation of teachers and the new teaching concepts and skills in the network era still have obvious gaps compared with comprehensive universities and engineering colleges. Further guidance and training are needed.

4 Promotion strategies for application of integrated network teaching platform

In recent years, the use of the integrate network teaching platform has been good. The number of users, the number of courses and the total number of visits per year have steadily increased. A lot of work has been done on the application level of teachers’ information technology, teaching facilities and environment construction, and incentive and reward system.

4.1 Strengthening the application training of the integrated network teaching platform and enriching the network teaching resource library In order to further expand teaching time and space, expand the benefits of high-quality education resources, and inspires students’ learning enthusiasm and autonomy, Northwest A&F University requires the basic teaching information of all the courses in the 2014 version of the professional talent training program to go online, makes clear requirements for the scope and content of the courses online, and makes detailed arrangements for the work progress. All the courses must upload their teaching content to the integrated network teaching platform. Relying on the platform, online teaching activities, such as Q&A discussion, online testing, assignment and submission are carried out. Teachers are required to carry out a combination of online and offline teaching reforms relying on the platform. The use of heuristic, inquiry, discussion, participatory, flip teaching and other new teaching modes are advocated[5]. By adopting a combination of centralized organization and step-by-step radiation, the university increases the training of the integrated network teaching platform to maximize the understanding of teachers and students on the platform and online courses, organizes an experience exchange meeting for teachers on in-depth application of network teaching modules, and organizes operation trainings of the integrated network teaching platform in stages and in different levels. In addition, shared and self-owned resources with the characteristics of the university is built to provide convenience for teachers and students to view, browse and download, provide the greatest help for course construction and self-directed learning of teachers and students, and maximize the shared value of the resource library platform. Resource sharing also avoids repeated construction of teachers.

4.2 Improving the teaching environment, innovating teaching models, and broadening the channels of independent learning For the current situation of multimedia classrooms in Northwest A&F University, in accordance with the planting and construction concept of "top-level design, unified standards, data sharing, application integration, one-stop service"[6], the university has planned to deploy the overall environment of teaching. In the summer of 2018, the existing multimedia classrooms were upgraded, and an integrated teaching and management cloud platform was established, and 14 smart classrooms were built, achieving the informatization of environment (including equipment, classrooms, etc.), resources (such as cloud teaching resources, network teaching resources, etc.) and activities (including teaching, learning, management, services, etc.), and providing an efficient "teaching" and "learning" system for teachers and students. To enrich the teaching resources, teachers normalize lesson preparation and teaching. To ensure that teachers and students can effectively interact with each other, students use the Internet to conduct independent learning, and create a relaxed and stable online learning environment for teachers and students, the university is actively preparing to upgrade the integrated network teaching platform. The new smart classrooms and upgraded network teaching platform will promote the flipping classroom, mixed teaching, ubiquitous learning, micro-curriculum and other modes, effectively improve the teaching effect and improve the quality of personnel training[7].

4.3 Establishing and improving incentive measures to cultivate excellent online courses A perfect incentive mechanism is a booster for platform applications[8]. In addition to the intrinsic driving force, teachers’ teaching work also needs the promotion of external motivation. The university encourages teachers to actively participate in teaching activities, focusing on the application of the results of course construction. The courses that fail to go online will be notified and their rectification is urged. Teachers who have a good course network resource construction and practice application will be appreciated and rewarded to give full play to the role of demonstration.

5 Conclusions

With the continuous construction of the network teaching platform, the construction of integrated network teaching platform in Northwest A&F University has achieved remarkable results. The number of online courses and the number of visitors have both increased. In recent years, teachers have used the integrated network teaching platform to carry out online and offline mixed teaching to a large extent. The teaching methods have been changed, the teaching effect has been improved, and the enthusiasm of students to learn independently has been enhanced. The number of people that have visited the integrated network teaching platform has increased rapidly. Especially after the upgrade of the integrated network teaching platform and the launch of the mobile client, the
application effect has been improved. The total number of visits to the platform has reached 65.89 million. There are 94,739 registered users, 90,906 student users and 3,457 teacher users.

At present, teachers have built 967 courses (total 1,735 courses/times) in the platform. Various types of teaching resources of more than 600 courses are relatively complete. Relying on the platform, 371 courses carry out homework assignment and correction, and 338 courses conduct network Q&A activities. The effect of online and offline mixed teaching is obvious (Fig. 1).

![Fig. 1 Total visit chart of the integrated network teaching platform (person-time)](image)

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and also great challenges. Fragmented learning is an unavoidable historical trend. It is recommended to set up correct attitude and behavior towards fragmented learning, neither let the fragmentation cut off learning path, not make the fragmentation break our learning atmosphere. In all, we should fully understand the characteristics, advantages and disadvantages of fragmented learning, maximize the advantages and minimize the disadvantages, so as to make better use of the fragmented learning in an efficient manner.

**References**


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