

Theoretical and Practical Exploration on the Construction of Virtual Teaching and Research Room in Colleges and Universities

Cong Qian^{1,2}

¹Hetao College, Inner Mongolia, China

²Lyceum of the Philippines University, The Philippines

Abstract

As a new paradigm and idea of teaching organization construction and teacher training in Colleges and universities in China, the combination of online and offline virtual teaching and research room can not only further improve the quality of curriculum teaching and the academic level of teachers' teaching and research, but also be of great significance to completely break the contradiction between scientific research and teaching in Colleges and universities. Therefore, this paper makes an in-depth exploration on the theoretical basis and various practical ways of the construction of virtual teaching and research room in Colleges and universities, truly brings the role and value of virtual teaching and research room into scientific research and teaching, and lays a solid foundation for further realizing the educational goal of building an efficient classroom in an all-round way.

Keywords

Colleges and Universities; Virtual Teaching and Research Room; Construction; Theoretical Basis; Practical Approach.

1. Introduction

Under the background of the continuous improvement of the development level of China's social modernization, the online and offline new team teaching and research work is carried out in an all-round way with the full support of information technology, which provides a new idea for the effective development of improving the teaching quality of colleges and universities, realizing the talent training objectives of colleges and universities, and improving the academic research ability of colleges and universities, which is also the reason for the birth of the organizational form of virtual teaching and research office. Under the background of comprehensively summarizing the "learning science and technology" course and teaching and research innovation cases, colleges and universities should deeply explore the theoretical basis and engineering design ideas of the construction of virtual teaching and research room, and constantly try the modeled expression forms and methodology, so as to lead to the deep-seated "double teacher teaching" mode based on school enterprise cooperation[1-2]. This can not only effectively solve the practical problem that "it is difficult for various courses to be transformed into research-based learning topics", but also ensure that in the process of collaborative innovation of inter school teachers and students. In this way, the construction level of the University's network platform and the intelligent development level of the resource bank can be further improved, creating a good environment for the comprehensive training of compound innovative talents with educational, technical and in-depth integration of professional knowledge and skills, and providing positive help for the innovation of relevant systems and mechanisms and the comprehensive realization of the conceptual goal of healthy and harmonious teaching culture ecology construction[3-4].

2. Establish the Healthy Development Goal and Value Orientation of Virtual Teaching and Research Team

First, colleges and universities should establish a highly open classroom environment, which involves a series of teaching methods focusing on expanding international vision, such as space-time expansion, resource expansion, teacher-student openness and so on. Second, establish a highly flexible teaching classroom, so that students can make independent choices on learning content, knowledge difficulty, learning path, learning partners, achievement expression, etc. Third, continuously improve the teaching ability, strengthen the scientific and technological content of educational technology from different levels such as hardware, software and environment, and establish an efficient classroom with the continuous improvement of the intelligent level of man-machine cooperation. Fourth, establish an efficient classroom with rich learning resources, cross time and space communication, high level, obvious level and large scope. Fifth, establish a classroom environment with high management level and high enthusiasm for students' participation. Sixth, establish a classroom atmosphere with high aesthetic interest, artistic charm, cultural taste and other humanistic connotation to ensure that students can devote all their attention to specific teaching. Seventh, by creating a talent training mode of teaching and learning, we can ensure that students can continuously improve their learning ability and teachers can continuously improve their innovation ability in classroom teaching. Eighth, the established teaching classroom should not only have a large number of reusable resources, but also have good potential for sustainable development. Ninth, establish an efficient classroom that can effectively integrate the three functions of social service, college teaching, scientific research and education[5-6].

3. Establish an Intelligent Platform that can Provide Living Environment and Technical Support for Virtual Teaching and Research Teams

In the process of carrying out various practical work, the virtual teaching and Research Office of colleges and universities should establish a network teaching platform with high perfection and comprehensive ability. The platform should not only contain innovative technology, but also accommodate the learning experience and teaching innovation combined online and offline, but also involve the innovative content of teaching service and network learning. China is not lagging behind other countries in its efforts to track the world's advanced information technology. However, due to the influence of relevant factors, the level of technology integration application in China's teaching innovation field has been slower than ever. The main reason is that the online and offline learning experience and teaching innovation level are relatively low, and the innovative content of teaching services and e-learning is not advanced. To ensure the effective realization of the goal of building a virtual teaching and Research Office in Colleges and universities, first of all, we should take a highly systematic way to comprehensively sort out the types of existing platforms and classify the functions of the platforms. On this basis, it actively reflects on the experience and lessons learned in the traditional process of building a virtual teaching and research office platform. Secondly, government departments should start from the policy and financial aspects, actively support the establishment of virtual teaching and research rooms in Colleges and universities, and strictly supervise the cooperation between colleges and enterprises. In the process of giving full play to the functions of virtual teaching and research rooms, colleges and universities should constantly innovate and develop various functions of the platform. Finally, enterprises should give full play to their unique advantages in service innovation and technological innovation. Through active cooperation with colleges and universities, government departments should objectively evaluate and strictly supervise the content and operation of various platforms, and

use the government procurement mode to reasonably determine the R & D cost and operation and maintenance cost of the platform. In this way, not only the goal of cooperation and collaborative innovation between different platform developers can be effectively realized, but also the public welfare of the teaching platform can be scientifically maintained[7-8].

4. Promote the Construction of Deep-Seated Resources in Schools and Enterprises and the Two-Way Construction of Talent Training of Virtual Teaching and Research Team

The teaching platform established by colleges and universities must be unified with the construction of intelligent resource database. Only by ensuring the high richness of learning resources, can it provide support for the further improvement of teaching and research quality and teaching level, and create a good environment for the comprehensive display of teaching and research achievements and teaching achievements. The two are in a causal cycle relationship with each other. For the construction of teaching resources, it mainly takes "people" as the core, "people" specifically refers to the research team of college teachers and the learning and innovation team of teachers and students. When the ability of learning subjects continues to develop, in the digital living environment, the learning ability of teachers and students will also be improved, and the improvement of learning ability includes the improvement of resource construction ability. In the process of co construction and sharing of learning teams, teachers can present an effective circular innovation and development law among the teaching environment, teaching resources and teaching subjects through the continuous improvement of the intelligent level of resource database and learning platform[9-10].

For new teachers, they will face more problems in opening cross time, space and region online courses, especially when using and innovating various complex functions in the technology platform, building intelligent resource database, organizing and guiding student teams, and collecting online learning data, which are quite different from the traditional teaching mode, which is also the biggest problem faced by colleges and universities in establishing virtual teaching and research offices. Therefore, colleges and universities should start from a diversified perspective, promote the transformation of practical problems towards research-based learning topics, and promote the active development of school enterprise cooperation.

5. Innovate Intelligent Evaluation Mode and System to Provide Policy Space for the Development of Virtual Teaching and Research Office

For the intelligent evaluation model, it is not the ultimate goal, but a means. Its main purpose is to reasonably adjust the teaching feedback in a scientific and accurate evaluation method to ensure that in the process of teaching innovation, it can always move forward along the correct development goals. This is also the specific function of management, mainly including school management, professional management, curriculum management, teaching management, teacher management, student management, etc.

In the process of innovating the management mechanism, we can start from three aspects: first, after establishing the correct goal orientation, we can implement the innovation measures of various evaluation models, so as to ensure that the innovation direction does not get lost and yaw. Second, in the process of evaluation, the data used must be highly accurate and scientific. In order to meet this requirement, we must actively create an intelligent evaluation system based on man-machine combination. Third, in the process of innovating the evaluation mode, we should not only comprehensively surpass the traditional student evaluation mode, but also comprehensively change the teacher evaluation and standard answer evaluation mode in the

traditional teaching evaluation, and establish a diversified and intelligent evaluation mode integrating user evaluation, achievement evaluation, process evaluation, team evaluation and independent evaluation.

6. Establish a Good Style of Study and Teachers' Ethics to Provide Spiritual Support for the Sustainable Development of the Virtual Teaching and Research Office

In the process of actively establishing the virtual teaching and research team in Colleges and universities, we should strengthen the active exploration of the new modern learning mode, the new curriculum teaching mode and talent training mode in the information age. This is not only a highly systematic and complex project, but also needs to settle down to carry out relevant work in the social atmosphere of eager for quick success and instant benefit and the soil of scientific research and teaching culture. This is also the necessary academic concentration for carrying out high-level scientific research in various fields.

Teaching work is a science, which aims at seeking truth and can explore the objective law of teaching. Teaching work is a technology, and its difficulty is to lead people to "goodness". Goodness is not only to standardize the ethics of the learning team, but also the engineering innovation achievements in the process of cultivating and improving personality. Teaching is an art, which shows its charm through aesthetics, guides the learning team to fully experience the superb learning artistic conception and feel the fun of creative teaching. Teaching is a philosophy, which can not only fully understand the teaching wisdom of "truth, goodness and beauty", but also enjoy learning life by creating a learning society. It is a concrete manifestation of a sense of responsibility and mission.

7. Conclusion

In the process of building a virtual teaching and Research Office in an all-round way, colleges and universities must always be based on the innovative development of College Teaching in contemporary society. The corresponding teaching work and the system engineering design of teaching and research activities must have high complexity. Through the continuous improvement and modification of relevant contents in the process of practice. Actively explore the training course of College Students' learning ability in the information age based on "learning science and technology", and scientifically design and improve the engineering construction model of virtual teaching and Research Office in Colleges and universities. In the process of transforming from theory to practice, it can accurately refine from various strategic points, internal structures and functions from complex links, and fully reveal and fully express the internal relations of relevant contents. On this basis, ensure that the design idea and thinking mode can strictly follow the transformation direction from static to dynamic, from plane to three-dimensional, and from linear to nonlinear.

Acknowledgments

Funding: 2021 Planning Project of the Education Department of Inner Mongolia Autonomous Region Research on the Construction and Evaluation of Virtual Teaching and Research Offices in Universities of Central and Western China under the Background of "Internet +" (Numbering: NGJGH2021454).

References

- [1] Hu Jian, Chen Houjin, Zhang Jing, et al Relying on virtual teaching and research room to improve course teaching quality -- Taking the "double training plan" of Beijing Jiaotong University as an example [J] Beijing Education: Higher Education Edition, 2018 (5): 3.
- [2] Liu Jia Difficulties and Countermeasures in the construction of design teaching and research departments in Applied Undergraduate Colleges and Universities -- Taking Guangzhou Nanfang University as an example [J] Cultural industry, 2021 (9): 2.
- [3] Cai Tao, Rao Weijuan, Wan Li, et al Exploration and Research on the construction of "entrepreneurship and innovation" course in the teaching and Research Department of traditional Chinese medicine in Comprehensive Universities -- Taking the course of traditional Chinese Medicine Aromatherapy as an example [J] Journal of Chengdu University of traditional Chinese medicine: Educational Science Edition, 2021,23 (2): 3.
- [4] Sun Xichao, Gao Lili Exploration and practice of teaching and research office construction in Local Applied Undergraduate Colleges under the background of education in the new era -- Taking J teaching and Research Office of College B as an example [J] Progress in education, 2020,10 (6): 6.
- [5] Yin Jianping, Lin Xuanjin, Zeng Jianchao Practice and Exploration on the construction of virtual teaching and Research Office of "curriculum ideological and political" in Colleges and Universities - - Taking the construction of virtual teaching and Research Office of "teacher's way" in Zhongbei University as an example [J] Journal of Zhongbei University: Social Sciences Edition, 2021,37 (6): 5.
- [6] Anonymity The Ministry of education carried out the pilot construction of virtual teaching and Research Office -- building a national information platform for virtual teaching and Research Office of Higher Education [J] China education network, 2021 (12): 86.
- [7] Hu Fuling, LV Zijian Design and implementation of virtual teaching and research room in auxiliary teaching system [J] China management informatization, 2011 (15): 5.
- [8] Zeng Jianchao, Wu Shuqin, Zhang Chunxiu Virtual teaching and Research Office: Exploration on the innovation of grass-roots teaching and research organizations in Colleges and universities [J] China University teaching, 2020 (11): 6.
- [9] Sang Xinmin, Jia Yimin, Jiao Jianli, et al Theoretical and practical exploration on the construction of virtual teaching and research room in Colleges and universities [J] China higher education research, 2021 (11): 7.
- [10] Di Jianhong, Hu Xiaojuan, Zhao Nan, Yang Shuai Relying on the virtual teaching and Research Office of rail transit signal and control to promote professional construction [J] Education and teaching forum, 2020 (46): 2.