Discussion on the Construction and Management of Smart Classrooms in Higher Vocational Colleges

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ABSTRACT. *The trend of education informatization continues to spread, and the application of wisdom education has broadened. The establishment of smart classrooms is mainly dependent on information technology. It is a new type of intelligent teaching method, which creates a teaching and learning atmosphere for teachers and students. Teachers can use novel information technology and a variety of teaching resources to teach students knowledge, the use of teaching models should be based on the teaching methods and activities standards. In order to speed up the construction of smart teachers and serve teachers and students more quickly, this paper deeply analyzes the work focus of construction and management of smart classrooms in colleges and universities.*

KEYWORDS: *Smart classroom; construction; management*

1. Introduction

The smart classroom creates a smart learning atmosphere that meets the standards of smart learning and conforms to the development trend of university information. For the traditional education model, it has no effect on the overall development of students. With the implementation of the construction and management of smart classrooms, the teaching resources are greatly enriched, and students use imaginary and physical resources to learn and enrich our own professional knowledge promotes the long-term development of students.

2. The principle and function of the smart classroom

The Smart Classroom brings together audiovisual, projection, and interactive devices to allow teachers and students to complete teaching and learning tasks within the system while achieving distance education goals. The wisdom classroom has abundant teaching resources, various technologies, diverse teaching methods, and continuous interactive effects, which have fully stimulated students' learning motivation.

Based on the network view, it is convenient for smart classrooms to carry out teaching and research tasks better. Students use the smart classroom to discuss and research in groups. The smart classroom has become a bridge for communication between teachers and students. Its multimedia processing technology is relatively complete, which can not only realize listening, speaking, reading and writing, but also test students' learning outcomes. This system can record the whole process of teaching by teachers and students, use records to understand their own problems, master the current learning progress of students, and learn about their own shortcomings through records [1].

3. Principles and development stages of college smart classroom construction

3.1 Principle

(1) Openness. Building a smart classroom based on cloud service environment should open the database framework, card structure, communication interface and key system. Universities can expand the purchasing path of software and hardware devices by themselves. Smart classrooms can be connected with third-party systems, and system docking can be realized according to design requirements. Missions to ensure consistent data and regular R&D and maintenance techniques. When building smart classrooms, the basic data and data information should be consistent with the digital platform. The data appearing inside the system is the precondition for university decision-making, and the principle of openness is emphasized.

(2) Practicality. Introduce new development concepts, technologies and products to fully demonstrate the concentration and modularization effects. The system function should be clear and reasonable, meet the actual needs, enhance work efficiency, and ensure that the management system software and hardware are in line with the university conditions. The system not only needs to highlight the system micro-class, interaction, recording and broadcasting effects, but also needs to implement remote control management. Teachers and students can communicate and interact online, watch online video on demand, and strictly supervise teaching activities.

(3) Reliability. In order to ensure that the equipment can operate safely and smoothly, you can purchase products with high reputation and market share, and understand the product's efficiency and compatibility. The fault repair skills of hardware facilities should be strong. In the process of developing system software, it is necessary to select a platform with good anti-risk capability, further optimize security management countermeasures, and provide guarantee for the smooth operation of the smart classroom platform.

(4) Flexibility. Smart classrooms provide assistance for different multimedia hardware, software and terminals, and increase the innovation and renewal of technical products. On the other hand, the system software and hardware facilities have a certain expansion effect, universities should improve the service level according to the actual situation, and the system for the number of users and

equipment will not be controlled.

3.2 Development stage

(1) For traditional smart classrooms, the content involved in the construction period includes virtual reality technology and multimedia classrooms. It combines education and information technology and is frequently used in distance education and educational informationization. The characteristic of the smart classroom under this stage of development is that the teacher does not rely too much on the computer, and uses multimedia technology to complete the teaching content, lacking teaching freedom. For the construction of smart classrooms at this stage, there is no deep integration of information technology and teaching [2].

(2) Nowadays, China's science and technology are developing rapidly, and various technologies are emerging, such as human-computer interaction technology, Internet technology and streaming media technology, which are widely used in modern educational information teaching. The construction and management of smart classrooms are free from the limitations. Teachers and students are separated from the keyboard, and natural multi-dimensional interaction methods and contents are selected to infiltrate human-computer interaction dialogue in the virtual teaching environment.

(3) With the promotion and popularization of computer technology, mobile technology and Internet of Things, smart classrooms face new problems. In the construction of smart classrooms, more stringent requirements were put forward for human-computer interaction technology, and the sustainable development of smart classrooms was promoted. Combined with existing technologies, smart classroom building can be innovated using mobile devices and distributed smart spaces. Mainly related to online learning, live broadcast, exchange and other effects.

4. Analysis of the construction and management of smart classrooms

First, regarding the wisdom classroom planning ideas, human beings are the focus of learning activities, and also the core of planning classroom atmosphere [3]. Smart classrooms should use new technologies to fully demonstrate their effectiveness, not only to understand the variety of courses, but also to meet a variety of types of activities. When implementing environmental planning tasks, it is necessary to comprehensively analyze and consider the impact of lighting factors, sound factors, and spatial factors on teaching. When building a smart classroom, the teacher needs to use the one-button recording function reasonably to form a high-quality video and upload it. The way students watch videos is on the mobile learning platform to enhance the learning effect. Teachers can help self-reflection and enhance their professional skills when watching videos. Applying wireless projection technology to the smart classroom, the teacher puts the student's work on the screen, allowing the students to watch together, facilitating communication and communication between the students, making the course teaching more flexible and

novel.

Second, the construction of smart classrooms mainly includes mobile learning, flipping classrooms, energy conservation, intelligent control, unified management, and centralized discussion. After a series of research and discussion, the solutions are developed in the innovation laboratory. It is promoted and used in recording classrooms and multimedia classrooms. The solution integrates the Internet, software, hardware facilities, and detailed integration under the premise of the computer Internet of Things to prevent the emergence of multimedia classroom information islands. After the smart classroom is built, any classroom is a system node, and the campus network is used to control the replacement between data. First of all, the classroom terminal inside the centralized control center can enrich the teaching resources. Secondly, the centralized control center can control the classroom facilities, open the classroom terminals, and collect teaching information to provide accurate data for teaching. With the continued popularity of the intelligent Internet of Things, equipment management issues have been resolved. The IoT system is able to control the mathematics switch facility autonomously and monitor the classroom equipment and campus activities throughout the day. Install access rights to classrooms and devices to avoid the use of the device. In addition, during the construction period, the smart classroom can be designed in a step-by-step manner, continuously upgraded and accumulated, and finally upgraded to a smart classroom. The construction of this method can better handle the problem of fund allocation and prevent the loss of equipment resources.

Third, regular staff training is organized to enhance employees' professional skills and service awareness. There are many contents in the management of smart classrooms, including software and hardware knowledge, intelligent control modules, Internet of Things and network knowledge. Therefore, it is necessary to regularly organize personnel to participate in the technical training of smart classrooms, enrich business knowledge, and effectively handle the problems encountered by smart classrooms during lectures. On the other hand, to enhance employees' awareness of professional technology and service. Only by further deepening the service awareness can we quickly find the source of the problem, put the management work in place, assist the teacher to complete the teaching task, improve the quality of the lectures in the smart classroom, and meet their requirements.

Fourth, it fully reflects the diverse characteristics of management roles. For smart classrooms, the main body of management is not only attached to the administrator, but its role is diversified, especially the role of the teacher. When a teacher establishes a teaching activity, he or she must not only collect content and impart knowledge, but also be given the role of a manager with multiple identities. The manager can ensure that the equipment environment is in a normal state, and also use auxiliary tools in the management work. The teacher should also understand and master in detail. In addition, the student role can also be a charging manager, in which students occupy a dominant position and learn in a classroom atmosphere. Therefore, it is necessary to fully demonstrate the diverse roles of smart classroom managers and focus on cultivating technical ideas in daily learning [4].

5. Conclusion

In summary, with the promotion and construction of smart classrooms, the long-term network teaching resources, multimedia technology resources and micro-curricular resources are infiltrated in the education cloud, which highlights the flexibility, convenience and efficiency of the classroom teaching atmosphere, and enhances the teachers and students relationship, to achieve resource sharing, to lay a solid foundation for personalized education, international education and information education. On the other hand, the management of smart classrooms is also extremely important to ensure the normal operation of their work, thus helping teachers to achieve smart classroom teaching tasks. At this stage, the construction and management of smart classrooms in higher vocational colleges is still immature, and still reveals many problems. In this regard, we should increase construction efforts and effectively implement various management tasks to promote the long-term development of smart classrooms and provide services for teachers and students .

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