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The University Innovation Base Carrying Out the Intelligent Physical Construction and Service Construction

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Abstract

In order to adapt to the development of the times, innovation and entrepreneurship bases in colleges and universities need to strengthen the Intelligent construction of the bases. The Intelligent construction of dual innovation bases in colleges and universities includes two aspects: physical space Intelligent and service Intelligent. The construction of Intelligent physical space starts from three levels: the construction of the physical space at the bottom level, the construction of the intelligent equipment system at the middle level and the construction of the artificial intelligence data center at the top level. The service Intelligent construction of the dual-creation base promotes the modern cultivation of students from the aspects of serving the innovation and entrepreneurship knowledge education and practical activities.

Keywords

Innovation and entrepreneurship, practice base; Intelligence, Environment construction, Service construction.

1. Introduction

The innovation and entrepreneurship base of colleges and universities is a special and exclusive educational space led by students and assisted by tutors, which helps students to improve their comprehensive abilities. In the context of the information age, the concept of intelligent space of college dual-creation bases is a reflection of the fact that the construction of college education bases focuses on the future development of the college education environment and embraces new science and technology in the context of the "four new" education proposed by the Ministry of Education. The development of innovative education and entrepreneurial practice in colleges and universities relies on the intelligent conditions of dual-creation bases, emphasizing the support of Internet big data, Internet of Things and other technologies for educational content, reflecting the development trend of educational technology, and promoting the effectiveness of educational achievements by keeping up with the cutting-edge of education.

2. Smart Physical Space Construction

The construction of intelligent physical space in colleges and universities is divided into three levels: the bottom level is the construction of basic physical space, which provides a comfortable learning environment for innovation and entrepreneurship education and an appropriate workplace for entrepreneurial practice projects; the middle level is the construction of intelligent equipment systems, etc., which monitors and connects things with things and people with people, and realizes ubiquitous connectivity of the Internet of Things; and the top level is the construction of the AI data center, which not only provides teachers and students with more information resources. At the same time, the monitoring data to carry out quantitative variable research, behavioral analysis, to enhance the learning and practice experience of teachers and students, to achieve a modern new teaching environment that is

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different from the traditional teaching environment, and to promote the quality of education in innovation and entrepreneurship[1].

2.1. Basic Physical Space Construction

The main content of the basic physical environment construction of the practice base of colleges and universities is to create a scientific and reasonable architectural and spatial environment. "Chiseling a house for a room, when it is not there, there is a room for it", architecture and space are useful for meeting the specific needs and goals of the practice base[2]. In collaboration with educational technology, architecture and interior designers, specialized functional areas are created for hands-on activities, individual learning and project collaboration, and physical spaces are scientifically designed to adapt to different learning and practice scenarios. By integrating ergonomics, green design and sustainable design concepts into the design of architectural and spatial environments, improve the way space is allocated and used, reflect the applicability and modernity of the base's physical space, and optimize the experience of indoor space.

2.2. Mid-Level Intelligent Equipment System Construction

Clarify the objectives of the Dual Creation Site and conduct a comprehensive needs assessment to determine the types of activities to be carried out, the equipment and resources needed, and any specific technical requirements. Smart devices, Internet of Things (LOT) devices, sensors, augmented reality (AR) or virtual reality (VR) devices, and interactive displays are some of the educational technology devices that are currently integral to integrating into physical spaces. Establishing the necessary infrastructure to support the need for intelligence and a robust network infrastructure to support the need for connectivity between objects and people, which includes reliable WiFi or wired connectivity throughout the dual-use site, stable data transfer and communication, infrastructure capable of handling the expected workload and supporting technology integration, etc.

The dual-creation base realizes the collection needs through various sensors, radio frequency identification technology and other devices.[3] Ubiquitous connectivity of things to things and people to people to implement monitoring, connectivity and interaction. Identify specific objects that need to be monitored and select appropriate sensors such as temperature sensors, motion sensors, humidity sensors and other types of sensors depending on the objects and parameters that need to be monitored. Setting up GPS or indoor positioning technology and positioning system to track the position of objects in the dual-creation base, realizing real-time location-based tracking and interaction[4]. Integrate RFID technology for object identification and tracking, set up RFID readers to detect and track their movement or status. Infrared sensors can detect when a person is approaching or interacting with an object, using infrared sensors to detect motion and trigger specific actions or reactions to achieve interaction with the object.

Design user interfaces that allow people to interact with mid-level technology equipment systems, such as touchscreens, mobile apps, or voice systems, to enable centralized control and maintain real-time information, notifications, and control functions to ensure smooth connectivity to faculty and student activities within the practice site. Simulation and immersive technologies combine to create realistic learning experiences. AR or VR to simulate real-world scenarios and allow students to practice skills in a controlled environment, utilizing interactive displays and multimedia tools to increase engagement.

2.3. Top-Level Intelligent Data Platform

The top-level intelligent data platform obtains teachers' and students' behavioral data by collecting the middle and lower level systems, and builds an intelligent data center for teachers' and students' user profiles. Centering on the teaching and practice activities of teachers and students at the base, it takes the initiative to dialogue and serve innovation and

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entrepreneurship instructors and students, providing them with high-quality resources and services, and realizing in-depth independent learning in the intelligent space.

It is important to regularly assess the effectiveness of smart physical spaces. Quantitative research methods are used to analyze the collected data, and techniques such as regression analysis, hypothesis testing or data mining, and data analysis tools are used to extract meaningful insights and identify patterns. Relying on sensors and IOT devices, real-time data are collected from the ground floor architectural space of the dual-creation base and the mid-level educational technology equipment system, and the process of data collection and management needs to ensure reliability and security. Gather feedback from students and faculty on the use of the base equipment and their experience in the space, identify needed improvements, and address any issues or challenges in a timely manner.

Based on students' practice content and learning preferences, the top-level intelligent data platform provides relevant resources or links to conduct behavioral analysis of teachers and students at the dual-creation base, to understand how individuals interact with the smart space, and to analyze the characteristics of innovative activities, entrepreneurial preferences and behaviors in order to identify areas of interest or potential directions for improvement. This analysis can be conducted through data mining, machine learning algorithms, or user feedback mechanisms. Design smart spaces that promote information collision and knowledge sharing through interactive displays, collaborative platforms, or repositories that encourage faculty and students to explore, discover, and exchange information. Using techniques related to analysis to track and assess student progress within the practice site, monitor student engagement, performance and knowledge acquisition, and provide insights for personalized learning interventions and improvements in teaching methods .[5] Allow college faculty and students to offer suggestions, report issues, and provide feedback on their experiences to ensure that the smart space is effectively meeting needs.

3. Intellectualized Service Construction of Dual-Creation Bases

The architectural space, LOT facilities and equipment system and big data platform of the innovation and entrepreneurship base of universities are the basis for the modernization and development of the dual-creation base. Relying on this important foundation, the ultimate goal of the development of innovation and entrepreneurship bases in colleges and universities is to improve the education of innovation and entrepreneurship knowledge and the service of practical activities.

3.1. Serving Innovation and Entrepreneurship Knowledge Education

The process of integrating smart technologies into classroom activities to educate on innovation and entrepreneurship knowledge is to combine traditional classroom teaching with online platforms, virtual simulations or mobile applications, and to utilize the advantages of the smart conditions of the bicentennial bases to provide fast and efficient educational resources and create a high-quality learning environment. Through the smart infrastructure of the practice base, digital teaching materials, multimedia materials, research databases and other relevant resources are provided for easy access by students anytime and anywhere. Use smart tools to facilitate collaboration and communication between students and teachers, and utilize online collaboration platforms, video-conferences and forums to facilitate shared learning both online and offline.

Create a dynamic and interactive learning environment that supports the teaching of innovative entrepreneurial knowledge through the effective use of smart conditions at the practice site. Use data analytic and learning analytic techniques to identify directions for instructional improvement based on the three levels of construction of a dual-entrepreneurship space.

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Analyze student performance data, engagement metrics, and feedback to improve pedagogy, adjust course design, and enhance instructional strategies. Utilize smart assessment tools to provide feedback and evaluate the entire innovative entrepreneurial knowledge education process. Use automatic grading systems, online quizzes, or smart assessment platforms to provide students with timely feedback, accurate tracking of learning progress, and timely guidance or intervention, resulting in independent student learning or smart tutoring by teachers. The education and teaching services of the dual-creation base of higher education are able to customize the knowledge content, learning pace and learning path according to the needs and preferences of students, so as to realize personalized learning.

3.2. Serving Innovation and Entrepreneurship Practice Activities

The practical activities of dual-creation bases in China's colleges and universities are divided into two types, one is the innovative research-type practice dedicated to the exploration of professional frontiers, and the other is the entrepreneurial project-type practice dedicated to the cultivation of entrepreneurial employ ability, and both types of practical activities can not be separated from the support of the technological conditions provided by the intelligent bases.

Innovative research-based practical activities require project-matched laboratory resources, equipment and materials to ensure that the advanced tools, software and hardware required for professional research projects are available to support actual project operations. To enhance students' mastery of technical skills related to their projects, hands-on training on laboratory equipment, software tools and techniques is also required to ensure that students can effectively utilize the conditions of the intelligent equipment, and to motivate them to explore new contents and methods within the practice sites for successful completion of innovative research.

Entrepreneurial project-based practice activities, play the role of Intelligent platform, linking on-campus resources and social resources, realizing the interconnection and sharing of information, entrepreneurial incubation projects need to be carried out in the process of close convergence with on- and off-campus needs, local needs and industry needs, giving full play to the advantages of technical conditions of the dual-creation bases, realizing the docking between schools and enterprises, increasing the attention of the community to the project, and facilitating the success of the entrepreneurial incubation projects.

Kopeman Base of Anhui University of Finance and Economics is a practice base that supports entrepreneurship programs. Kopeman Base takes advantage of the university's own favorable conditions in terms of equipment, information, resources and mentors, and combines practical projects and competitions with the China International University Students' "Internet+" Innovation and Entrepreneurship Competition and Challenge Cup Entrepreneurship Competition, and so on, for joint development. The practical projects operated by the students of Kopeman Base include creative printing, creative drinks, creative bookstore and business meeting service. Using the base's smart platform, activities such as live cultural and creative publicity and live banding have been carried out to promote students' understanding and application of knowledge in marketing, e-commerce, financial accounting as well as cultural and creative design. [6]Students use Kopeman's entrepreneurial experience as a summary of knowledge to participate in the China International University Students' "Internet+" Innovation and Entrepreneurship Competition, realizing the win-win effect of successful initial incubation of the project and achieving excellent results in the competition.

4. Conclusion

At present, colleges and universities are faced with not only the requirements of student innovation, but also the demand for entrepreneurial practice. The fact that society has entered

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the stage of network digitization means that universities need to keep up with the times in terms of thinking mode and service mode in the construction of dual-creation bases, change their traditional thinking, and develop in the direction of intelligent space construction. Utilizing the laboratory technology conditions of the dual-creation bases in colleges and universities, an environment conducive to the development of innovation education and entrepreneurial practice is created to expand the knowledge base of students, improve their technical skills, and provide services for the high-quality training of students.

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References

[1] Feng Yijie,Shao Bo. Planning and implementation strategy of library smart space construction[J]. Library Forum,2023(1):72-76.

[2] Gao, Hongyuan. Creating positive spaces suitable for students' development in school building use. Chinese Journal of Education,2017.11:54-58.

[3] TAN Chao,CHEN Can. Construction System of Innovation and Entrepreneurship Incubation Base in Colleges and Universities in the New Era[J]. Journal of Hunan Engineering College,2022,32(4):102-104.

[4] Liang Wei, et al. Research on the construction of virtual space of university library creator space[J]. Library Journal,2019(11)343:66-71.

[5] BAI Suhong,WANG Aixia. Research on the mode and path of spatial integration of smart libraries[J]. Research on Librarianship,2020,10-18.

[6] SUN Nameng,WEI Guobin. Research on the construction mode of college students' innovation and entrepreneurship wisdom space under the background of new economic management[J]. Journal of Kaifeng College of Education,2019,(39)8:99-100.