

A Comparative Study of the Construction Practices of Online Learning Spaces in Higher Education in China and Australia

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Abstract: Against the backdrop of digital transformation in education, online learning spaces have become a core vehicle for innovation in higher education teaching models. This paper, employing both literature and comparative research methods, focuses on the construction practices of online learning spaces in higher education in China and Australia, conducting a comparative analysis across five dimensions: construction philosophy, resource supply model, technology application focus, support service system, and evaluation mechanism. The study finds that China's online learning space construction prioritizes "equity first, serving large-scale education," leveraging national policy coordination to achieve balanced resource coverage and prioritizing the popularization of basic technologies and platform interconnection. Australia, on the other hand, prioritizes "learner-centeredness, focusing on individual needs," fostering a diversified resource supply through independent university decision-making and market participation, and prioritizing the deep integration and scenario-based application of intelligent technologies. The two countries also exhibit differences in their support systems and evaluation mechanisms, with differences ranging from "administrative-led multi-level support" to "service-oriented professional support," and from "quantitative evaluation of construction results to "multi-faceted evaluation of learning outcomes." Based on these differences, this paper proposes that my country, while balancing educational equity, needs to strengthen personalized services, introduce market dynamics to optimize resource supply, deepen the integration of technology and scenarios, and improve the professional support system, providing a reference for the high-quality development of online learning spaces in higher education.

Keywords: Higher education, Online learning space, China-Australia comparison, Construction practice, Digital education.

1. Introduction

With the deep integration of information technology and education, online learning spaces have evolved from "auxiliary tools" to "core infrastructure" supporting talent development in higher education. The quality of their construction directly impacts teaching efficiency and learning experience. In recent years, China has successively issued policies such as the "Education Informatization 2.0 Action Plan" and the "Implementation Opinions on Vigorously Promoting the National Education Digitalization Strategy Action," promoting the upgrading of online learning spaces from "school-wide" and "class-wide" to "everyone-wide," forming a large-scale construction model. Australia, relying on the "Higher Education Quality Standards Framework," has incorporated the construction of online learning spaces into its student learning experience optimization system, emphasizing its support for personalized learning and the cultivation of innovative capabilities. Existing research has mostly focused on the technical application or construction results of online learning spaces in a single country, lacking a systematic comparison of the practical models of China and Australia. China's large-scale construction experience and Australia's personalized practice approach each have their own advantages. The differences between the two stem from differences in educational systems and policy orientations, as well as different construction logics based on different population sizes and educational needs. Therefore, conducting a comparative study of the development practices of online learning spaces in higher education in China and Australia can not only fill a gap in international comparative research, but also provide insights for my country to address

issues such as the imbalance between large-scale development and personalized needs and the disconnect between technology application and teaching needs. This study has important practical significance for promoting the transformation of online learning spaces in my country's higher education from "existence" to "excellence." Using the analytical framework of "concept-resources-technology-support-evaluation," this article systematically analyzes the characteristics and differences in the two countries' practices, providing a basis for optimizing development paths.

2. Comparison of Concepts for the Development of Online Learning Spaces in Higher Education in China and Australia

The development concept is the "top-level design" of online learning space development, directly determining the development goals and path selection. Due to their different educational positioning, policy orientations, and societal needs, China and Australia have developed distinct concept orientations. The core concept of online learning spaces in China's higher education is "prioritizing equity and serving large-scale education." my country's higher education system is vast. By 2023, the total number of students enrolled in higher education will reach 46.55 million, with significant disparities in educational resources between regions and institutions. Therefore, the development of online learning spaces has always revolved around the goal of "narrowing the education gap and achieving resource balance." At the national level, through coordinated planning, high-quality course resources are being channeled toward universities in

central and western China and local undergraduate colleges, ensuring that students from different regions have equal access to high-quality learning resources. At the same time, the concept incorporates the principle of "serving national strategies," emphasizing the support of online learning spaces for the development of emerging disciplines such as "new engineering" and "new medicine," helping to align talent development with industry needs. Under this philosophy, space construction places greater emphasis on "standardization" and "coverage" to meet large-scale educational needs. Australian higher education online learning spaces, on the other hand, are centered around "learner-centeredness and a focus on personalized needs." Australian higher education is characterized by "elitism and internationalization," with universities enjoying a high degree of autonomy. International students account for 22% of the student body (2022 data), demonstrating a significant diversity of cultural backgrounds and personalized learning needs. Therefore, its construction philosophy emphasizes "adapting to individual student differences": spatial design is centered around "flexible learning," supporting students in independently selecting resources and learning paths based on their learning pace. Simultaneously, the concept incorporates the principle of "optimizing the learning experience," deeply integrating online learning spaces with classroom and practical teaching, and focusing on enhancing student engagement through spatial interaction. Under this philosophy, spatial construction prioritizes "flexibility" and "precision" to meet the personalized needs of different students[1]. Neither philosophy is superior or inferior; rather, it represents a choice corresponding to different educational scenarios: the Chinese approach is suited to the current state of large-scale, uneven education, while the Australian approach aligns with the needs of small-scale, diversified education.

3. Comparison of Resource Supply Models for Online Learning Spaces in Higher Education in China and Australia

The resource supply model is crucial for the success of online learning spaces—it directly determines the richness of resources, their adaptability to teaching needs, and the efficiency of content updates. Influenced by differences in their education systems, China and Australia have developed two typical approaches: centralized and diversified. China adopts a centralized supply model of "government-led + university collaboration." National coordination is prioritized, integrating high-quality courses nationwide through the "National Higher Education Smart Education Platform," covering everything from general education to practical training. Resource development must comply with national education quality standards and ensure standardized content[2]. Local education departments supplement resources based on regional industrial characteristics, such as adding cross-border e-commerce training content in the eastern region and rural revitalization courses in the central and western regions. Universities will develop their own resources based on national and local resources, but they must integrate them into a unified platform to avoid information silos. This model has clear advantages: broad and balanced resource coverage, allowing students in remote areas to access high-quality resources. However, it also has significant

shortcomings. Centralized planning leads to slow resource updates and difficulty adapting to the needs of niche disciplines or specialized programs. For example, some universities' traditional handicraft programs struggle to find matching content within the unified resource library. Australia is taking a diversified approach of "university autonomy + market participation." Universities have absolute autonomy in resource development and can select developers based on their disciplinary characteristics and teaching objectives. Content does not need to adhere to unified standards; the core is "adapting to the needs of the institution." At the same time, the market plays a prominent role, with many educational technology companies providing customized services. Virtual simulation experiments and interactive courses are common, and resources are updated quickly to keep pace with the forefront of disciplines. The advantages of this model are distinctive resources and strong adaptability; however, problems also exist. Resource quality varies, inter-school sharing is rare, and small universities with limited funding find it difficult to obtain high-quality resources, widening the gap between schools. Ultimately, the difference between the two models is essentially a trade-off between "fairness" and "efficiency": the domestic model prioritizes fairness, while the Australian model prioritizes efficiency.

4. Comparison of Key Technology Applications in Online Learning Spaces in Chinese and Australian Higher Education

Technology application is the "functional vehicle" of online learning spaces, directly impacting their interactivity, intelligence, and teaching support capabilities. Due to differing technology application objectives, China and Australia have developed two approaches to technology application: popularization and in-depth application. China's online learning space technology application focuses on "popularizing basic technologies and interconnecting platforms." Given the large number of universities in my country and their wide geographical distribution, technological foundations vary significantly. Therefore, the primary goal of technology application is to achieve full coverage of basic functions: This includes promoting basic technical features such as video on demand, online assignment submission, and interactive messaging between teachers and students, ensuring that all universities can master and apply core technologies [3]. Simultaneously, a high priority is placed on "platform interconnection." By establishing unified technical standards, data sharing between national, local, and university platforms is promoted, enabling "single login, multi-platform access" and eliminating the tedious switching between platforms for students. Furthermore, technology application emphasizes "low-cost adaptation," prioritizing mature, low-cost technical solutions to reduce university construction and maintenance costs. This approach significantly increases technology coverage, but the level of intelligence remains relatively low: technologies like AI and virtual simulation are only used in a few key universities and have yet to be widely adopted. Australia's online learning space technology application focuses on "deep integration of intelligent technologies and scenario-based applications." Australian universities have a strong technological foundation and students have a high

demand for personalized learning. Therefore, their technology applications focus on enhancing intelligent service capabilities. They prioritize the use of AI in learning analytics, analyzing student learning data (such as study time and accuracy) to provide personalized learning recommendations. Simultaneously, they vigorously develop virtual simulation technology to create immersive practice scenarios in disciplines like medicine and engineering, addressing the high costs and high risks of traditional practical teaching. Furthermore, technology applications emphasize scenario-based integration, deeply integrating technology with teaching processes to enhance its practicality. This approach achieves a high degree of intelligence in technology applications, but also a high cost of widespread adoption. Funding constraints hinder the large-scale adoption of high-end technologies in some smaller universities. The difference between the two approaches stems from demand priorities: China prioritizes the availability of online learning spaces, while Australia prioritizes the quality of online learning spaces.

5. Comparison of Support Systems for Online Learning Spaces in Chinese and Australian Higher Education

The support system is the "guarantee mechanism" for the stable operation of online learning spaces, encompassing technical maintenance, teaching guidance, and other aspects, directly impacting the space's efficiency and user experience. Due to their different service orientations, China and Australia have developed two systems: multi-level administrative support and professional service support. China has established an administratively-led, multi-level support system. This system, centered on ensuring the stable operation of space, is divided into three levels: national, local, and university. At the national level, an educational information management agency is established to formulate support policies and technical standards and coordinate cross-regional support resources. Local education departments establish technical support centers to provide technical training and troubleshooting services to universities in their regions. At the university level, the Academic Affairs Office and the Network Center collaborate in a division of labor: the Academic Affairs Office organizes teacher training, while the Network Center handles technical maintenance. This system offers advantages in timely response and comprehensive coverage, enabling rapid resolution of common issues facing universities in space utilization. However, it also suffers from a lack of targeted service delivery. Support staff are often administrative or technical personnel lacking professional backgrounds in education and teaching, making it difficult for them to answer deeper questions from teachers, such as how to utilize space for teaching activities. Australia, on the other hand, has established a service-oriented, professional support system. This system focuses on improving user experience, with universities as the primary actors[4]. It emphasizes the development of professional service teams. Universities establish dedicated "Learning Design Centers," comprised of teams including educational technology experts, subject teachers, and learning consultants, to provide both technical and instructional design support to faculty. Furthermore, a student support hotline and online customer service are established to provide 24-hour access to student questions. Furthermore, the support system emphasizes continuous

optimization, adjusting support content through regular surveys of faculty and student needs. The advantages of this system lie in its professional and targeted services, addressing the individual needs of faculty and students regarding space usage. However, there are significant inter-university disparities: key universities have more professional and resource-rich support teams, while smaller institutions tend to have relatively limited resources. The differences between the two systems reflect the difference between "management mindset" and "service mindset": the Chinese system emphasizes "management efficiency," while the Australian system focuses on "user needs."

6. Comparison of Evaluation Mechanisms for Online Learning Spaces in Chinese and Australian Higher Education

The evaluation mechanism serves as the guiding principle for the development of online learning spaces, guiding development direction and resource allocation through the establishment of evaluation indicators. Due to their different evaluation approaches, China and Australia have developed two mechanisms: quantitative effectiveness evaluation and multi-faceted effectiveness evaluation. China adopts a "construction effectiveness-oriented quantitative evaluation mechanism." This mechanism focuses on measuring the scale of space construction and utilization, with evaluation indicators primarily based on quantitative data, including resource development indicators, platform utilization indicators, and coverage indicators. Administrative departments are primarily responsible for evaluation, with national and local education departments regularly conducting assessments of online learning space development and linking the results to university resource allocation and performance appraisals. This mechanism offers the advantage of clear and easy-to-use indicators, enabling rapid measurement of the "hard results" of space development and encouraging universities to prioritize space development. However, this mechanism also suffers from a relatively narrow evaluation dimension. It places too much emphasis on quantitative data such as online time and resource downloads, while neglecting qualitative indicators such as whether students' actual learning outcomes have improved and whether the user experience is good. This can easily lead universities into the trap of focusing solely on scale and neglecting practical application. For example, some universities simply increase the number of resources to boost data, without considering whether these resources truly help students learn effectively.

Australia, on the other hand, adopts a multifaceted evaluation approach centered on learning outcomes. This evaluation mechanism focuses on whether online learning spaces truly support learning. Indicators include both quantifiable and qualitative aspects, such as student pass rates, improvements in practical skills, teacher and student satisfaction ratings of the spaces, and innovative examples of faculty using the spaces for blended learning and personalized tutoring. While the evaluation is primarily conducted by universities, third-party professional organizations may also be involved to avoid subjectivity. Furthermore, rather than relying on a single, definitive evaluation, regular feedback from teachers and students is collected, with evaluation indicators dynamically adjusted based on demand. The

advantage of this mechanism is that it provides a more comprehensive evaluation, precisely guiding universities to focus on improving teaching quality through space. However, it is indeed cumbersome to implement. Qualitative indicators like "student learning experience" are difficult to quantify, the evaluation cycle is long, and the human and material costs are high. The professional expertise required of the evaluation team is also higher than in China, making it difficult to simply assemble a few people[5].

The difference between these two evaluation mechanisms is essentially the difference between "emphasis on construction" and "emphasis on application": the Chinese system focuses more on "how well the space is built," while the Australian system is more concerned with "how well the space is used."

7. Conclusion

This article compares the development practices of online learning spaces in higher education in China and Australia, identifying differences across five dimensions: development concepts, resource provision, technological application, support systems, and evaluation mechanisms. This article also provides concrete insights for optimizing online learning spaces in higher education in my country. In terms of practical characteristics, the core advantages of online learning spaces in my country lie in "scale and balance"—relying on government coordination to achieve widespread resource coverage, rapidly promote the popularization of digital education, and effectively narrow regional and inter-school educational disparities. Australia's core advantages lie in "personalization and precision"—focusing on learner needs, leveraging diversified resource provision, intelligent technology applications, and professional support services to deeply integrate learning spaces with instruction, significantly improving the learning experience and teaching quality. These two models are neither superior nor inferior; rather, they represent "adaptive choices" based on the scale, system, and needs of their respective educational institutions, providing exemplary references for developing online learning spaces in diverse national contexts. For my country, the future development of online learning spaces requires a shift from scale to quality, while retaining its own strengths and drawing on Australia's experience. First, the concept should balance fairness and individuality, ensuring resource

balance while allowing universities to develop personalized spaces based on their disciplinary characteristics. Second, resource supply should incorporate market dynamics. Beyond government coordination, support should be provided for collaboration between universities and educational technology companies to accelerate resource renewal and enhance adaptability. Third, technological application should promote deep integration, expanding technologies like AI and virtual simulation from pilot programs in key universities to widespread adoption, while prioritizing the integration of technology with teaching scenarios. Fourth, the support system should strengthen professional services, cultivate a support team that understands both technology and teaching, and address the underlying challenges faced by teachers in instructional design. Fifth, the evaluation mechanism should shift to a diversified approach, incorporating qualitative indicators such as learning outcomes and teacher and student satisfaction, avoiding a focus on construction over application. Future research could further focus on the impact of online learning spaces in China and Australia on the cultivation of students' innovative abilities, using empirical data for comparison to provide more precise guidance for optimizing development paths.

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