

Research on the Talent Cultivation Model of School-Enterprise Cooperation of Architecture Major Against the Background of “Internet Plus”*

Guanghu Jin
School of Engineering
Yanbian University
Yanji, China

Guangri Jin**
School of Engineering
Yanbian University
Yanji, China
**Corresponding Author

Abstract—Today, with the informationization of science and technology, the Internet brings convenience and speed to people in many aspects. The Internet has been integrated into every corner of the world. The combination of the Internet and teaching will become an inevitable trend in teaching reform. Studying the "Internet +" school-enterprise cooperation talent training mechanism for architecture majors will help the architecture majors in the Internet era reasonably formulate professional training goals, optimize professional training programs, and improve the comprehensive quality of applied talents. After the university establishes a review platform on this professional website, it allows students to upload their coursework by time period, then accept comments from senior architects of various school-enterprise cooperation units on the online platform, accept corporate culture and design concepts to tap student potential and give full play to the strengths and enthusiasm of students to achieve the purpose of comprehensively training high-quality and highly-skilled talents. Through the "Internet" school-enterprise cooperation between architecture majors and architectural design enterprises, graduates can achieve a successful transition from college students to architectural design enterprise designers during the "no enterprise adaptation period", thereby achieving a virtuous circle of win-win between colleges and enterprises.

Keywords: *Internet plus, school-enterprise cooperation, architecture major*

I. INTRODUCTION

China's social and economic progress has put forward higher expectations and requirements for the development of the construction industry. The rapid development and application of scientific and technological information such as new materials and technologies has brought new and inevitable technological reforms to the construction industry. This also puts forward wider requirements for the quality of

talents for architecture majors in universities. The major of architecture major in colleges and universities is to train professionals with certain practical and application abilities, and its teaching methods mostly adopt practical cases such as study and study and design practice to emphasize practical application and skills training. As many as 149 national professional codes of construction have been updated and updated in just one year in 2019. In addition to changes and updates of national standard atlases and provincial codes, regulations, and atlases, the changes and updates of the knowledge of the construction industry are very huge. The strong practicality and fast-updating nature of the architecture major determines the necessity of combining the architecture major with the "school-enterprise cooperation" model. Therefore, it is necessary to make full use of the university's "school-enterprise cooperation" platform to take advantage of the off-campus practice base to reform the teaching content and teaching methods and supplement and deepen the curriculum content.

II. PURPOSE AND SIGNIFICANCE OF THE STUDY

For architecture majors, the society needs a large number of advanced applied technical talents in the design field. This requires that graduates of architecture not only have strong professional knowledge and skills, but also have good professional qualities. However, the knowledge and practical experience learned by students at the school are far from the requirements of the enterprise. As a result, students need a certain period of "adaptation period" and enterprise training after graduation to enter normal work positions. In addition, although the architecture majors of universities have corresponding off-campus practice bases and promote "college-enterprise cooperation", most universities do not have corresponding supporting policy documents, which make the "formalization" serious. For example, schools or colleges have prevented the recruitment of senior engineers from professional companies to teach professionally by reducing the cost of lectures by external teachers, failing to guarantee the quality of teaching, and for the performance of full-time teachers in schools or colleges. Cooperation did not

*Fund: Research project on higher education teaching reform in Jilin Province, China, "Research on the Construction of the" Internet + "School-Enterprise Cooperative Education Platform for Architecture Majors" (Project No: 1500280080701)

actually exist to improve the quality of talent training. In order to solve the above-mentioned problems, we will use the "Internet +" method to jointly train graduates with advanced application technology in the "zero adaptation period" with school-enterprise cooperation units and establish a win-win platform for school-enterprise cooperation. This is also of great significance for improving the teaching quality of architecture specialty. (See "Fig 1")

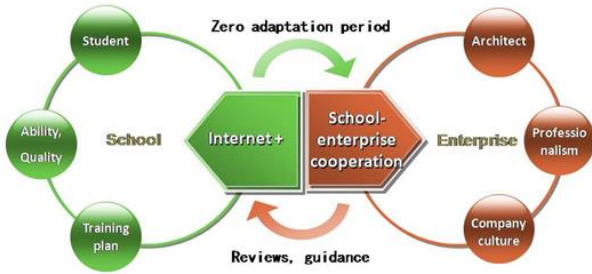


Fig. 1. "Internet +" win-win platform for school-enterprise cooperation.

III. ESTABLISHMENT OF "INTERNET +" SCHOOL-ENTERPRISE COOPERATION INTERACTIVE PLATFORM

A. "Internet +" student work evaluation platform

Today, with the informationization of science and technology, the Internet brings convenience and speed to people in all aspects, and the Internet has been integrated into every corner of the world. As of June 2019, the number of Chinese Internet users has reached 854 million, and the Internet penetration rate has reached 61.2%. Among them, young Internet users aged 20-29 account for 27.9%; middle-aged Internet users aged 30-49 account for 39.9%. The combination of the Internet and teaching will become an inevitable trend of teaching reform. Therefore, colleges and universities set up a student work review platform on this professional website, allowing students to upload conceptual design, general graphic design, graphic design, elevation design, section design, various analysis drawings, and the final design results display board according to the requirements of the task book. Wait for their coursework, and then accept the comments of senior architects of various school-enterprise cooperation units on the online platform, and then accept corporate culture and design concepts, tap student potential, give full play to student strengths and enthusiasm, and achieve comprehensive training of high-quality and high-skilled talent purpose. At the same time, a more flexible classroom organization is established to strengthen the goal of integrating theoretical teaching with practical teaching.

B. School-enterprise cooperation project interactive platform

Adhere to the core concept of "school-enterprise cooperation, work-study combination", and cooperate with school-enterprise cooperation units to develop "program

design", "architectural design", "construction drawing design" and other professional courses combined with actual projects, and further build and improve the professional The core curriculum teaching resource library enriches multimedia and network technology-assisted teaching content. On this network interaction platform, senior corporate architects can communicate with students according to corporate needs, and formulate specific talent training plans for them. After graduation, they can work directly at corresponding companies, thereby achieving the "zero adaptation period" of corporate talent needs. On the other hand, increase the graduate employment rate of college students.

C. Building a professional online teaching resource library

Teaching resources are very important for the teaching network platform. The establishment of a high-quality online teaching resource library is the guarantee of the quality of online teaching, and is also the basis for the comprehensive implementation of "Internet +" school-enterprise cooperation. Its content includes relevant materials of actual projects and courses developed in cooperation with school-enterprise cooperation units, as well as works uploaded by previous students, evaluation opinions of senior architects of school-enterprise cooperation units, rectified works, and training programs formulated for them. After finishing, it will share and build a network resource library on the network platform and open it to students of this major for reference and reference. It will help students to set up career planning, learning plans and autonomous learning.

IV. "INTERNET +" SCHOOL-ENTERPRISE COOPERATION IMPLEMENTATION CONCEPT

A. Analysis of enterprise talent demand

By visiting relevant design companies, we can understand the current demand for talents in the construction industry, including the design and construction drawing design, construction software design, computer software application, hand-painted expression, oral expression and other competence requirements and quality requirements of architecture professionals, as well as the selection of professional teachers to participate in the National Architectural Annual Conference, etc. The development trend puts forward new requirements for professionals in architecture. On this basis, the optimization and reform of the training plan and training process should be carried out, and the professional level of architecture teachers should also be cultivated and improved, so as to effectively improve the social status of architecture teachers and the application technology required by enterprises.

B. Training of "double teacher structure teachers"

At present, there are many full-time teachers who have rich practical experience and are qualified as national first-class registered architects. These teachers have a high qualification and technical level in the construction industry, and generally work part-time in the architectural design

institute. For design or plan review work, these "double teacher structure teachers" are not only clear about changes and updates of national construction industry codes, but also understand the needs of construction companies. Based on these "double-teacher-structured teachers", it is very beneficial to set up an "architectural design" course group and train young "double-teacher-structured teachers" for curriculum construction and school-enterprise cooperation. For example, using the school's "social practice training" policy, young teachers in the curriculum group are sent to off-campus practice bases for practical skills training in the form of off-the-job learning to train high-quality "new-type dual-teacher structure teachers."

C. "Internet +" school-enterprise cooperation talent training steps

Adhering to the core concept of "school-enterprise cooperation and combination of work and study", and promoting the "Internet +" school-enterprise cooperation in talent training are an effective measure to improve the ability of architecture students in all aspects. Adhere to the core idea of "combining theoretical knowledge at school with senior architect reviews from companies", based on the design idea of "professional Internet + platform, school-enterprise cooperation as sublimation", focus on training applied technical talents and make breakthroughs to form a The training mode of architectural talents for regional urban development. The design idea of "professional Internet + platform as the foundation, and cooperation between schools and enterprises as sublimation" is mainly carried out in the following aspects. (See "Fig 2")

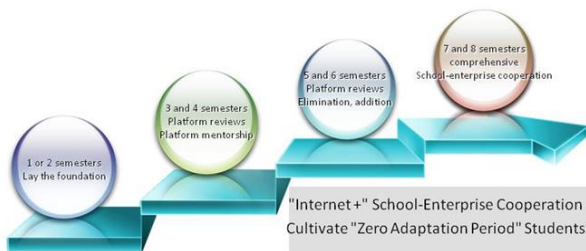


Fig. 2. "Internet +" School-Enterprise Cooperation Training Process

In the first and second semesters, through the study of the theoretical courses of architecture majors such as "Principles of Architectural Design" and "History of Chinese Architecture", as well as the practical basic courses of architecture majors such as "Architectural Drawing", "Preliminary Architecture", and "Fine Arts" + "The school-enterprise cooperation personnel training has laid a solid foundation.

In the 3rd and 4th semesters, students upload the coursework of "Architecture Design 1", "Architecture Design 2", "Architecture Painting" and other practical courses to the "Internet +" network platform. The architect selects key training objects after reviewing and interacting with students, and establishes a tutoring relationship with

students on the "Internet +" school-enterprise cooperation platform.

In the 5th and 6th semesters, students upload the coursework of "Architecture Design 3", "Architecture Design 4", "Interior Design", "Public Urban Space Design" and other practical courses to the "Internet +" network platform. Teachers and senior architects of the "dual teacher structure" comment and interact with students to eliminate and supplement key training objects, and formulate and implement specific "Internet +" school-enterprise cooperation talent training programs for talents required by enterprises.

In the 7th and 8th semesters, the key training target is to deepen students through the "1 + 1" mode of "Architecture Design 1" and "Architecture Design 2" practical courses (48 hours, 16 hours at school, 32 hours at the enterprise) Understand the corporate culture and corporate needs, understand the design process and design methods of architectural design companies, and upload the results to the "Internet +" network platform in time to accept the comments of "double teacher structure" teachers and corporate senior architects; The two courses of "Graduation Practice" and "Graduation Design" were carried out and perfected in the school-enterprise cooperation unit, and the majors accepted the feedback from senior architects of corresponding enterprises to optimize the professional undergraduate training plan.

D. Construction of "Internet +" school-enterprise cooperation network teaching resource database

On the basis of the physical reference room, the major builds an online teaching resource library, enabling students to access the information through the Internet anytime, anywhere, which will greatly improve learning efficiency. The online teaching resource library includes relevant materials related to actual projects developed in cooperation with school-enterprise cooperation units, works uploaded by previous students, evaluation opinions of senior architects of school-enterprise cooperation units, rectified works, and training plans formulated for them as well as information on the latest codes, regulations and national standard atlases related to industry construction.

V. CONCLUSION

In today's society where the Internet penetration rate is very high, through the "Internet +" school-enterprise cooperation model, improving the quality of students' practical and application abilities is the development trend of teaching reform in architecture, which will have a positive impact on students and enterprises. A successful school-enterprise cooperation model helps to improve students 'practical ability, give play to their initiative, and promote graduates' "zero adaptation period" to achieve a natural change from school students to corporate employees. At the same time, participating companies also save time and expenses in talent training through school-enterprise cooperation, improve enterprise productivity, and thereby

achieve a virtuous circle of win-win between universities and enterprises.

REFERENCES

- [1] Guanghu Jin, Talking about the Vocational Education of Architecture, Chinese and Foreign Architecture, 2015 (9).
- [2] Guanghu Jin, Exploration on the talent training mechanism of school-enterprise cooperation in architecture, Jiangxi Building Materials, 2017 (6).
- [3] Guanghu Jin, Talking about the Application of School-enterprise Cooperation in the Course of "Building Structure" in Colleges and Universities, Chinese and Foreign Architecture, 2017 (8).
- [4] Na Li, Research on the Construction of School-enterprise Cooperation Mechanism under the Background of "Internet +", Chinese and Foreign Entrepreneurs, 2017 (17).
- [5] Jia Wei, Research on the Talent Cultivation Model of School-Enterprise Cooperation in Applied Undergraduate Colleges under the Background of "Internet +", Journal of Jilin Province Institute of Education, 2018 (1).
- [6] Saijuan Li, Research on the Innovation and Practice of the School-enterprise Cooperation Operation Mode of Higher Vocational Education under the Background of Internet +, Journal of Changsha Civil Vocational and Technical College, 2018 (12).