



Exploration of the Training Mode of the Innovation and Entrepreneurship of the Environmental Design Major Under the Background of Industry-Education Integration

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Abstract. The emergence of integration of industry and education not only provides new ideas for innovation and entrepreneurship in Colleges and universities, but also becomes the trend of innovation and entrepreneurship development in Colleges and universities. Relying on the platform of integration of industry and education, strengthening the training of innovative and entrepreneurial talents can not only inject vitality into the national innovation and development, but also into the sustainable development of society. Based on the background of integration of industry and education, this paper analyzes the practical significance and current situation of innovative and entrepreneurial talent training, and explores the practical strategy of talent training around the environmental design specialty. It is hoped that practical, exploratory and comprehensive talents with innovative and entrepreneurial abilities can be trained to contribute to the sustainable development of the local economy.

Keywords: integration of industry and education · environmental design · innovation and entrepreneurship · and talent training

1 The Practical Significance of Cultivating Innovative and Entrepreneurial Talents in Colleges and Universities Under the Background of the Integration of Industry and Education

The integration of industry and education is a form of the integration of industry and teaching. In the teaching process, students can contact the industry and conduct teaching in the production, so as to realize the participation of enterprises in talent training and professional teaching in enterprise operation. Under the background of the integration of industry and education, it is of great significance to construct the training system of innovative and entrepreneurial talents [1].

First, stimulate students' creativity. The integration of industry and education can provide students with practical opportunities, introduce enterprise practice projects, students can integrate knowledge into practice under the guidance of teachers, achieve

the teaching purpose of learning for application, and creative thinking is also invisibly improved.

Second, promote regional economic development. Under the environment of integration of industry and education, colleges and universities cooperate with local enterprises to build a training system for innovative and entrepreneurial talents, so as to build a good platform for students to understand the development situation of regional industries and the needs of industrial development, so that students can understand the development trend of local industries in advance, which has a good guiding role for their innovation and entrepreneurship [2]. Promote regional economic development, and then promote the development of local industries, but also for students to accumulate experience in innovation and entrepreneurship.

Third, it is conducive to achieve the goal of building an innovative country. China is at a critical stage of economic development. The production and development of enterprises are all with innovation as the main line, and new industries and traditional industries have a large demand for innovative talents. From the perspective of integrating sufficient production and education, the construction of an innovative and entrepreneurial talent training system will help to enhance college students' awareness of innovation and entrepreneurship, improve the quality of innovative talent training, and provide a steady stream of power for national development [3].

2 The Status Quo of Cultivating Innovative and Entrepreneurial Talents in Environmental Design Under the Background of Industry-Education Integration

In the background of the integration of industry and education, the problems in the training mode of innovative and entrepreneurial talents in Chinese universities have not yet been solved. Design majors will be more prominent if these problems cannot be solved as soon as possible, which will affect the development and employment of students and hinder the development of majors.

2.1 Lack of Perfect Training Mechanism for Innovative and Entrepreneurial Talents

The cultivation of innovative and entrepreneurial talents in colleges and universities needs a scientific and reasonable teaching system, such as curriculum planning, setting, practice, activities, and a well-equipped practice platform [4]. However, from the point of view of the current training system of innovative and entrepreneurial talents in Colleges and universities in China, not only the curriculum system lacks standardization and rationality, but also the knowledge content is relatively backward, which does not meet the requirements of the current training mode of innovative and entrepreneurial talents, and there are often inconsistencies between teaching content and life practice. Colleges and universities lack cooperative resources such as social institutions or enterprises, and need to follow up as soon as possible in the construction of innovation and entrepreneurship practice platform, as shown in Fig. 1.

A university environmental design professional practice teaching platform			
Serial number	Base Name	Cooperation Unit	Establishment time
1	Environmental Design Professional Practice Teaching Base of Dongguan City Meiya Decoration Design Engineering Co.	Dongguan City Meiya Decoration Design & Engineering Co.	September 2019
2	Dongguan Interior Architecture Design Association Environmental Professional Practice Teaching Base	Dongguan Interior Architecture Design Association	August 2020

Fig. 1. Data of the practice teaching platform of the environmental design major in a university

2.2 Talent Training is Inconsistent with the Needs of Enterprises

Employment is an important link of talent training in colleges and universities, which is a systematic engineering linked with the links of discipline and major setting, enrollment and training. In the formulation of training programs and the adjustment of professional construction, we should pay attention to the social requirements on graduates' knowledge, ability, quality and other aspects, so as to lay a solid foundation for the realization of high-quality employment [5]. In order to more efficiently understand the opinions and suggestions of employers on the employment work of colleges and universities, and optimize education and teaching more targeted, the employment guidance center has carried out relevant research. Employers believe that the talent training of colleges and universities should strengthen professional practical ability, reaching 62.5%, social responsibility for 44.84%, management ability for 41.87%, innovation ability for 25.60%, teamwork spirit for 22.42%, and others for 0.99%. Professional practice ability, management ability and innovation ability need to be reflected in talent training [6] (Fig. 2).

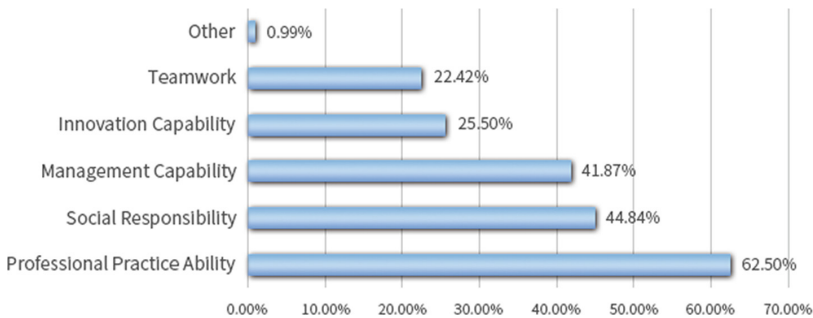


Fig. 2. The statistical chart of the skills that the employer thinks that the talent training should be strengthened in a university

2.3 Unbalanced Structure of the Teacher Team

As the main body of teaching, teachers have always occupied the main position in the training of innovative and entrepreneurial talents, so the teaching level of teachers will also affect the effect and quality of talent training. At present, some universities are faced with the lack of theoretical experience and practical operation level. Generally, the teacher team of colleges and universities is relatively simple, mainly explained in the teaching materials, and taught according to the content of the teaching materials. Teachers without practical experience do not meet the needs of talent training under the background of the integration of industry and education [7]. In this regard, colleges and universities need to hire expert teachers and enterprise teachers to teach and explain. Expert teachers and enterprise teachers themselves have very rich experience and insights, and can give students scientific guidance and help in innovation and entrepreneurship.

3 Training Strategies for Innovative and Entrepreneurial Talents Majoring in Environmental Design Under the Background of Industry-Education Integration

Innovation and entrepreneurship education is the cultivation of innovation consciousness and innovation spirit based on the systematic thinking, team leadership, decision-making ability and professional skills cultivated by general education and professional education. Under the background of the integration of industry and education, the training mode of innovation and entrepreneurship talents in local universities is a whole-process cultivation with innovation and entrepreneurship education as the core and multiple coordination. The schematic diagram of the training system is shown in Fig. 3.

Multiple collaboration refers to the introduction of cooperative enterprises, brother universities and local governments by local universities in the process of innovative and entrepreneurial talents training, the construction of school-enterprise cooperation, school-school cooperation and school-local cooperation mechanism, improving the ability of cultivating innovative and entrepreneurial talents in local universities, and realizing a win-win situation among multiple stakeholders. The whole process training means that innovation and entrepreneurship education runs through the whole process of students' learning career, and innovation and entrepreneurship education should be integrated into the process of education from course to practice, from management to service to serve the fundamental purpose of talent training [8].

3.1 Introduction of Entrepreneurship Education Mode

Innovation and entrepreneurship courses will be included in the talent training program to improve students' awareness of innovation and entrepreneurship. Entrepreneurship education mode can be introduced, and students can understand the entrepreneurship process and methods and cultivate their entrepreneurial thinking and ability by offering entrepreneurship courses and organizing entrepreneurship practices. Enrich the discipline connotation. Environmental design major can enrich the connotation of disciplines,

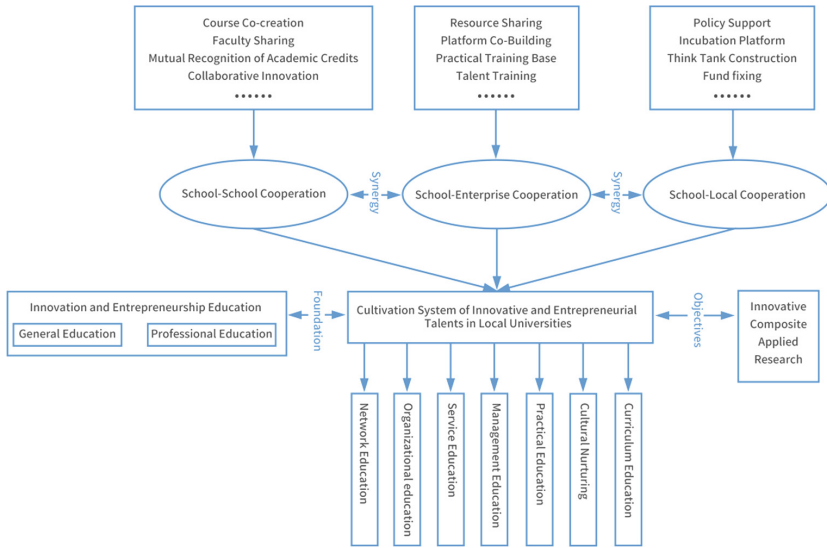


Fig. 3. Training mode of professional innovative and entrepreneurial talents in environmental design under the background of industry-education integration

increase relevant courses and practical projects, such as architectural design, landscape planning, etc., so that students can master more skills and knowledge.

In the curriculum system, the basic courses of entrepreneurship, Career Development and career guidance, including entrepreneurship, with 2 credits, 2 h per week, 2 credits in total, and the second and fifth semester, with 2 sections per week and 40 h. Combination of curriculum setting and practical teaching: Environmental design major needs to pay attention to the diversification of curriculum setting and the provision of practical opportunities [5]. To balance the proportion of theory and practice and optimize the talent training mechanism, in addition to basic theoretical courses, practical courses, such as design workshops, field visits, innovation and entrepreneurship practice, so as to enhance students’ practical ability and innovative and entrepreneurial thinking (Fig. 4).

The special practice teaching process schedule for environmental design majors																	
Course Category	Course Nature	Serial number	Course Name	Score	Total hours in class	Volume Outline	In-class credit hours allocation		Weekly Credit Hours Semester Distribution							Appraisal Method	
							Classroom Teaching	In-class practice	1	2	3	4	5	6	7		
Intensive practical teaching sessions	Specialized practice	01	Design Workshop	1.0	1	week			1								
		02	Outdoor sketching practice	2.0	2	week			2								
		03	Engineering Drafting Course Practice	2.0	2	week				2							
		04	Three-dimensional space design practice I-II	4.0	4	week					2	2					
		05	Innovation and Entrepreneurship Practice	2.0	2	week							2				
		06	Professional visit practice	2.0	2	week								2			
		07	Research and study ability special training / environmental design integrated project practice / industry research	8.0	16	week											16

Fig. 4. Table of special practice teaching process for environmental design major

Studio Name	Design Projects	Design Projects	Commissioning Company	Time
1	Professor Kim Il Yong's Studio	Interior Design	Star Art Decoration	2022
2	Professor Kim Il Yong's Studio	Interior Design	Dalian Ming Ming Hui Architectural Decoration Engineering Co.	2023
3	Enclosure Design Research Office	Landscape Design	Guangdong Pinxin Garden Construction Engineering Co.	2022
4	Enclosure Design Research Office	Interior Design	Trondavision Design Co.	2021
5	Lingnan Overseas Chinese Arts and Culture Center	Interior Design	Guangdong Weimei Ceramics Co.	2022

Fig. 5. of design projects undertaken by environmental design studio.

3.2 Establish an Industry-Study Cooperation Mechanism

Environmental design major can establish an industry-university cooperation mechanism with relevant enterprises and institutions, expose students to real projects and actual needs, and exercise their practical ability and innovation ability. Environmental design professional set up many studio, led by professor, young teachers, actively negotiate cooperation projects, effect is the “studio” teaching mode greatly promoted the environmental professional curriculum system to innovative entrepreneurship education, provide support for students innovation entrepreneurship training activities and help, let the students learn from experience, complete innovation entrepreneurship training project and competition. Here are the enterprise projects undertaken by the studio in recent years (Figs. 5 and 6).

3.3 Construction of Teachers

Based on the background of the integration of industry and education, universities can contact the enterprises and industries corresponding to the art majors, or cooperate with other universities to strengthen the professional construction, scientific research construction and faculty construction through the sharing of human resources and environmental resources. Environmental design major needs a strong team of teachers, who should have rich practical experience and teaching experience. Therefore, it is necessary to strengthen the construction of teachers' staff and improve their teaching ability and practical operation ability [9].

Starting from the construction of innovative and entrepreneurial talent training mechanism, establish high-quality, high-level adaptive teachers to meet the needs of innovative talents training. Firstly, by contacting industries and enterprises, inviting experts to serve as expert part-time teachers, or educational institutions to make speeches to guide the

Studio Name	Design Projects	Establishment time
1	Professor Kim Il Yong's Studio	2020
2	Enclosure Design Research Office	2021
3	"Resilient" Landscape Institute	2019
4	Lingnan Overseas Chinese Arts and Culture Center	2022

Fig. 6. Creation of Environmental Studio (2020–2022)

training of innovation and entrepreneurial talents, guide professional teachers to infiltrate the awareness of entrepreneurship in the teaching of art majors, and publicize the preferential policies of the government in combination with professional courses, and carry out class meeting activities to cultivate students’ interest in innovation and entrepreneurship; Thirdly, improve the entrepreneurial guidance ability of teachers of various disciplines. Both counselors and subject teachers should understand the entrepreneurial market situation, understand the basic entrepreneurial process, and have a keen sense of market observation, so as to provide scientific advice and guidance for students’ innovation and entrepreneurship.

The cultivation of innovative and entrepreneurial talents under the new economic model is based on the deep integration of general education, professional education and innovative and entrepreneurial education. The fundamental goal is to cultivate compound, applied and research-oriented talents with innovative spirit, entrepreneurial awareness and innovative and entrepreneurial ability by optimizing the training mechanism of environmental design professionals, expanding the teaching staff and docking corporate culture cases, so as to provide guarantee for the training mode of talents in Colleges and universities and export more entrepreneurial talents with comprehensive strength.

References

1. Hu Ping, Duan Jun, Xia Dongsheng. Research and practice of cultivating innovative and entrepreneurial talents through school-enterprise cooperation and integration of industry and education —— Take Shaanxi Industrial Vocational and Technical College as an example [J]. Vocational education in Machinery, 2017 (08): 39-41.
2. Wang Tingrong. Exploration of the cultivation of innovative and entrepreneurial Talents through the Integration of industry and education —— Take Qiandongnan Vocational and Technical College for Nationalities as an example [J]. Light textile Industry and Technology, 2017,46 (02): 59-60 + 43.

3. Zhang Xueyan, Ma Yongjie, Wang Xiaomin, et al. Exploration of the training mode of the integration of industry and education based on the cultivation of innovation and entrepreneurship ability [J]. *Education and Teaching Forum*, 2020 (05): 312-314.
4. Wezzi. Practice of Innovation and Entrepreneurship Education in Universities under the Integration of industry and education —— Theory and Practice of Innovation and Entrepreneurship Education in Universities in the New Era [J]. *Scientific and Technology Management Research*, 2021,41 (18): 241.
5. Yang Xiaoting, Zhang Baosheng, Jiang Hongmei. Exploration of the development status and path of innovation and entrepreneurship education in colleges and universities under the background of the integration of industry and education [J]. *Journal of Heilongjiang College of Teacher Development*, 2021,40 (08): 7-9.
6. Wu Wei, Guan Jun, Zhou Dong. The Construction of innovative and entrepreneurial talent training system in entrepreneurial universities is based on the practice of deep integration of industry and education platform [J]. *Journal of Sichuan Vocational and Technical College*, 2021, 31 (01): 45-51.
7. Lili Wang. Cultivation of college students' innovation and entrepreneurship ability under the background of deep integration of industry and education [J]. *Employment and Security*, 2021 (13): 88-8937
8. Wang Gaoyuan, Yang Xuechun, Hu Yiming. The construction path of teaching team in the second classroom of innovation and entrepreneurship in application-oriented universities under the background of the integration of industry and education [J]. *Modern commerce and Industry* 2021,42 (34): 129-131.
9. Yu Mengmeng, Xue Leping, Wang Jing, et al., Research on the Training mode of innovative and Entrepreneurial Talents in local universities under the background of industry and education integration [J]. *Vd standardization*, 2021 (01): 143-144.

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