

# Research on the Long-effective Mechanism of Cooperation between School and Enterprise of urban and Rural Planning Specialty in Application Colleges and Universities

Hongjia Xia <sup>a</sup>, Baojun Wang <sup>b</sup> and Bo Pang <sup>c</sup>

School of Architecture and Civil Engineering, Heilongjiang University of Science & Technology, Harbin 150022, China

<sup>a</sup>123861077@qq.com, <sup>b</sup>303010415@qq.com, <sup>c</sup>88978879@qq.com

**Abstract.** The research based on the characteristics of urban and rural planning and the market demand for talents of urban and rural planning specialty, and put forward that school-enterprise cooperation is the most effective method for the development of urban and rural planning in application-oriented universities, aiming at the current situation and confusion of school-enterprise cooperation of urban and rural planning specialty, in-depth studied on the long-term mechanism of school-enterprise cooperation in the special major of application-oriented colleges and universities from two aspects: the institutional system and dynamic system of school-enterprise cooperation.

**Keywords:** Urban and rural planning; cooperation between school and enterprise; long-effective mechanism; application colleges and universities.

## 1. Preface

In view of the social demand of planning practice, the talent cultivation goal of applied undergraduate urban and rural planning major has been changed to: graduates should have the consciousness and ability of planning innovation, solid professional theory, strong design ability, adapt to the job immediately and solve technical problems fast. However, many graduates still have the phenomenon of mismatch between their own abilities and social positions after employment, and they still need a long period of application skills training. Therefore, the key to the transformation and improvement of urban and rural planning undergraduate education is to transfer the path of running schools to school-enterprise cooperation and the integration of production, learning and research, and to transfer the focus of talent training to the cultivation of application-oriented talents with strong planning and design practical ability. Therefore, school-enterprise cooperation is particularly important for urban and rural planning education. This paper, based on the training objectives of urban and rural planning for application-oriented undergraduate students, probes into the long-term mechanism of establishing school-enterprise cooperation in such institutions.

## 2. The Relationship between School-enterprise Cooperation and the Cultivation of Application-oriented Talents of urban and Rural Planning

### 2.1 The Educational Needs of urban and Rural Planning Specialty

According to the demand of city development and the social professional, the major of urban and rural planning adjusted disciplines denotation, promoted to be the first-level discipline, the cities and villages together included to the research scope, according to different research areas, set up six different branch subjects.

In the process of continuous improvement of the new discipline system, the goal of urban and rural planning undergraduate education is increasingly clear: to expand the basic knowledge as much as possible, involving the social, economic, ecological, technical and other fields related to planning, the relevant planning discipline education need not be deep, but must be broad. Thus it formed the talent characteristics of urban and rural planning major, which is supported by the basic knowledge system of the discipline, grasps the core professional skills, improves the comprehensive

quality of individuals, and gradually accumulates the ability to expand. Therefore, planning education is a whole process, which needs the schools, society and continuing education indispensable. The most important thing of undergraduate education is to lay a solid foundation of academic disciplines, on basic of that can meet the needs of different professional direction, personalized knowledge reserves and skills reserves. While, it is impossible if the core skill professional training of planning ,cultivation of comprehensive quality, extension training is only limited to school education, it must make university-enterprise cooperation into the whole teaching system, makes the subject closely combining with the theory practice, truly realize the integration of production and education training, teaching in the production reality, and manufacturing in the teaching process, making education and production develop in a coordinated way, only then can truly cultivate application-oriented urban and rural planning talents.

## **2.2 The Talent Demand of Cooperative Enterprises**

At present, the institutions carrying out school-enterprise cooperation of the urban and rural planning majors in application-oriented universities are mainly large national or regional planning and design units, real estate development enterprises, urban construction system enterprises, urban construction consulting and research institutions, etc. With the gradually open of the planning market, as well as the drive of the new urbanization, division of urban and rural planning practical work of refinement and fusion penetration will tend to be more obvious, on the one hand, requires more research on large scale space, the space, geography, resources and environment protection certainly will join into the planning, multiple specialties converge; On the other hand, the refinement of urban comprehensive development requires the support of deeper urban design, architectural design and engineering design. On the basis of professional subdivision, the development requires more comprehensive application. Therefore, all kinds of employers have a great demand for urban and rural planning talents. In the past five years, the average ratio of positions and graduates for this major has reached 5:1. At the same time, the graduate examination rate reached 50% ~ 60%, making the high demand of graduate planning talent. Therefore, the most effective way for planning and compilation organizations to improve their competitiveness is to carry out school-enterprise cooperation with universities.

## **3. Current Situation and Confusion of School-enterprise Cooperation in urban and Rural Planning Specialty**

### **3.1 The Objectives of School-enterprise Cooperation are not Clear Enough**

Since enterprises are completely different from universities in nature and system, the purpose of enterprises is to create economic benefits, while the purpose of universities is to cultivate talents. Therefore, although the school positions the cooperative enterprise as the "internship base", it does not consider the return of the design institution as the profit subject in the school-enterprise cooperation, and the reality of "zero return" on the enterprise affects the enthusiasm and initiative of the enterprise to participate in the cooperation. On the other hand, enterprises arrange internship for schools, but they only treat students as cheap labor, and students cannot learn really useful knowledge and practical skills in the internship, which affects the in-depth promotion of school cooperation.

### **3.2 The Construction of Double-teacher Type Staff Lags behind**

School-enterprise cooperation requires both sides to build a high-quality teaching staff with dual quality. Many local colleges and universities in transformation and development have realized this problem and taken a variety of measures to build a dual quality teaching team, but the current situation is not optimistic. The teaching staff of urban and rural planning major in local colleges and universities are mainly theoretical teaching and lack of engineering practice. Moreover, they are limited in their ability to jointly conduct applied scientific research with industries and enterprises

and serve local social and economic development. In the aspect of design organization, although designers have strong practical ability, most of them have insufficient theoretical foundation and lack the basic skills and methods of teaching in colleges and universities. The weakness of the construction of double-teacher staff seriously restricts the depth and breadth of school-enterprise cooperation and affects the quality of the cultivation of application-oriented talents.

### **3.3 Universities Lack a Curriculum System that Meets the Needs of Enterprises**

With the promotion of urban and rural planning as a first-level discipline, local colleges and universities are actively promoting the adjustment of the curriculum system, and the steering committee of urban and rural planning has issued special guidance documents. Local colleges should clarify the system structure of professional knowledge and establish the relationship between it and urban and rural planning. In teaching, teachers should summarize and analyze the knowledge and clarify the principles, so that students can master its preliminary application in urban and rural planning, so as to lay a good professional foundation for school-enterprise cooperation. However, in reality, the curriculum adjustment of many local colleges and universities is haphazard, and the curriculum system is difficult to ensure its stability under the condition of insufficient teachers. At the same time, since the design enterprise does not participate in the formulation of talent cultivation program, even if the relevant enterprise experts are invited to the school for guidance in the teaching process, the teaching can only be conducted in accordance with the existing curriculum teaching system, and the initiative and creativity of experts cannot be maximized.

### **3.4 Imperfect School-enterprise Cooperation Mechanism**

Institutional and institutional building is an important institutional guarantee for the benign development of cooperation. There are many subjects and fields involved, so it is necessary to work out practical operation plans and strengthen the construction of institutions and mechanisms in the process of cooperation. At present, the main obstacles of the school-enterprise cooperation in urban and rural planning major of local universities are as follows:

The mode of cooperation is single. The mode of school-enterprise cooperation still remains in the aspects of school-enterprise cooperation, such as "co-construction of internship base" and "order-type" training. Enterprises provide internship sites for students, while schools arrange enterprises to come to school to participate in talent training;

The cooperation level is not deep. From the cooperation practice of many schools, the cooperation is more "intentional" and lacks the cooperation content in the deep level. The main body of school-enterprise cooperation is divided into different systems, and there is no mechanism for in-depth communication between each other. In the process of cooperation, there is still a situation of independence, which restricts the deepening of cooperation.

## **4. Research on the Long-term Mechanism of School-enterprise Cooperation in urban and Rural Planning**

### **4.1 School-enterprise Cooperation Institutional System**

#### **4.1.1 Organizational Structure of School-enterprise Cooperation in urban and Rural Planning of Local Colleges and Universities**

1. Government leading. At present, it affirms the colleges and universities that offer urban and rural planning and relevant design institutions are willing to further deepen the cooperation, but in this process, the government needs to give strong support and establish the corresponding government-led cooperation and management mechanism. Local governments at all levels should formulate specific implementation regulations of the higher education law according to the local conditions, and clarify the responsibilities and obligations of schools, enterprises and research institutions in vocational education by law. Government departments should act as promoters, process supervisors, coordinators and results evaluators of school-enterprise cooperation, so as to

build a scientific innovation platform for school-enterprise cooperation, so as to ensure smooth cooperation between both sides. This is because the school-enterprise cooperation mode must be established on the basis of laws and regulations, so as to achieve the cooperation between the both sides, education departments and industry organizations, teachers and students and other aspects of the coordination, to deepen the "school-enterprise cooperation" escort.

2. Local colleges and universities specializing in urban and rural planning should set up special organizations for school-enterprise cooperation. Cooperation between universities and enterprises still faces many challenges in China. Local colleges and universities that offer urban and rural planning usually arrange temporary full-time teachers or professional teachers in charge of internships to discuss cooperation with design agencies, and then arrange students to take advantage of the internship period to practice at the corresponding design agencies. On the one hand, it increases the workload of full-time teachers, on the other hand, it is difficult to guarantee the fixed working personnel in cooperation with enterprises, which makes it difficult for such cooperation to develop for a long time. If the negotiation, implementation, supervision and tracking of school-enterprise cooperation can be coordinated by a special organization, fully responsible for the docking of professional school-enterprise cooperation, and establish corresponding guidance and supervision rules and regulations, In this way, enterprises can not only feel the sincerity of in-depth cooperation between colleges and universities, but also make the cooperation between colleges and enterprises really deep and lasting.

#### **4.1.2 The Organizational System of School-enterprise Cooperation in urban and Rural Planning**

Sounding university-enterprise cooperation policy is the best guarantee of urban and rural planning major, to further promote the professional development of university-enterprise cooperation must actively promote the related legal system, the design and construction of the legal. From the national level, in response to the current university-enterprise cooperation facing the urgent situation, needs to be from the national level to clear the university-enterprise cooperation both parties' rights, obligations and responsibility, etc., in order to ensure and maintain long-term and stable relations of cooperation between colleges and enterprises. Thus, a law on cooperation between schools and enterprises is urgently needed.

### **4.2 Dynamic System of School-enterprise Cooperation**

#### **4.2.1 Provide Preferential Policies and Benefits for Participating Enterprises**

Under the condition of market economy, to obtain more returns and maximize their own interests is the biggest motivation for enterprises as economic participants. It is not only the unilateral responsibility of colleges and universities to train applied talents for the society, but also to give full play to the "visible hand" of the government for macro-control. Through the formulation of preferential policies to attract enterprises actively participate in school-enterprise cooperation, accelerate the process of school-enterprise collaborative education. Such as the shantytown reconstruction project, the government can provide cooperation platform and policy support, encourage design institutions and universities to carry out project research, and establish a special fund management committee jointly supervised by schools and enterprises, which will supervise the flow and use of funds and provide fund guarantee for school-enterprise cooperation.

#### **4.2.2 Establish a Resource Sharing Mechanism for School-enterprise Cooperation**

The deepening of cooperation is based on the maximum sharing of resources. On the one hand, colleges and universities can contribute to the development of enterprises in a variety of ways. For example, select excellent teachers to provide theoretical guidance to design agency technicians; give full play to the strength of university research teams to provide research support for the planning and design projects undertaken by design institutions; On the other hand, design institutions should make full use of their own advantages in capital, equipment and sites to provide guarantee and support for the cultivation of applied talents. Enterprises can provide internship and training sites for students, so that students can go deep into the design enterprises for internship and

study, and help students to find problems and solve problems in the internship to complete the design project they participate in. At the same time, enterprises can select excellent backbone technical personnel to carry out technical support training for teachers and students in colleges and universities, help teachers and students understand the latest technical information, introduce the latest technological achievements in the production field for teachers and students, and make up for the shortcomings of teaching in colleges and universities that emphasize theory rather than practice.

#### **4.2.3 Establish a Preferential Talent Selection System for Enterprises**

The competition among design enterprises is increasingly fierce, and the improvement of their core competitive strength should be based on innovation and talents. In university-enterprise cooperation, design enterprise actively participate in the development of college talent training scheme, the teaching content arrangement, course of setting up the class, practice teaching tasks, one of the important power is to cultivate talents for design institutions, especially with strong ability comprehensive quality and innovation spirit to create advanced applied talents. Colleges and universities shall open the green light to the design institutions participating in the cooperation and establish the preferential talent selection system. On the one hand, colleges and universities should set up employment and recruitment seminars for cooperative design institutions, so that enterprises and students can conduct employment consultation face to face, so as to facilitate the selection of outstanding graduates needed for the development of enterprises and enhance the market competitiveness of enterprises. On the other hand, colleges and universities should provide employment guidance to students who are about to graduate, so as to enhance students' sense of cultural identity to enterprises and provide more employment options for outstanding students after graduation.

### **Acknowledgements**

This research was financially supported by the Heilongjiang province education science planning topic. Research and practice on the "five-in-one" school-enterprise cooperation mode of urban and rural planning major based on the concept of collaborative innovation.

### **References**

- [1]. Gao furong. Reflections on the reconstruction of the undergraduate course system under the first-level discipline of urban and rural planning [C], 2011 China urban planning papers, (9451-9460).
- [2]. Jian yan. Research on the problems, causes and countermeasures of "school-enterprise cooperation" -- a case study of Chongqing education management school [D]. Wuhan: school of education, central China normal university, 2014.
- [3]. Duan dee. Research and Exploration of Basic Urban and Rural Planning teaching in China-Xi'an University of Architecture and Technology for example [D].Xi'an: Xi'an University of Architecture and Technology,2015.
- [4]. Chen Xing. Impetus Research on Industry-education Integration of Applied Colleges and Universities [D].Chongqing: Xina University,2017.