

Innovative Project-Based “Trinity” Professional Degree Graduate Joint Cultivation Bases

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Keywords: Trinity, Innovative project, Professional degree graduate, Joint cultivation base.

Abstract. For the current situation and analysis of professional degree graduate joint training base construction, following the basic thought of “enterprise is the main body of technological innovation, training high-level talents by cooperative innovation of universities and enterprises”, the construction model of professional degree graduate joint cultivate base based on innovation project “Trinity” was proposed. The effective combination of the graduate science and technology innovation projects, graduate education innovation project, and enterprise technical innovation project and synergy innovation between graduate student and supervisor could be realized, which is of great significance to improve the quality of personnel training.

Introduction

Professional degree is a kind of degree to meet the certain social professional requirement. Cultivating high-level applied specialized talents with higher professional ability and quality can be creatively engaged in practical work [1]. The goal of the professional degree graduate joint training base construction is the basic requirement for professional degree graduate practice ability training. It is also the important guarantee to promote education idea, deepen the education mode reform, and improve the quality of cultivating [1]. It is of great significance to give full play in aspects as talent, technology, and environment resources advantage of universities and enterprises, to provide good practice opportunities for graduate students, and to cultivate high-level talents.

The aim of professional degree graduate education is to train high-level application-type specialization talents, who master solid theory and broad professional knowledge with strong ability to solve practical problems and good professional quality. Professionalism, specialization, applicability, and practicality are the basic attributes of professional degree graduate education [2]. Professional practice is one of important teaching segments, and joint training base as the main professional practice place is both the talents cultivation platform and the important carrier for the combination of production and study. Practice from both at home and abroad shows that building joint cultivation base cooperation by university and enterprises is not only an effective way to realize the goal, but also the developing direction of professional degree graduate education.

Present Situation and Analysis of Professional Degree Graduate Joint Cultivation Base

At present in China, the main characteristics of university-enterprise cooperation include as follows: Dual main body focus on theory teaching by universities and practice train in by enterprises; Dual tutorial system jointly directed by the tutors from university and enterprise; The training process exhibit linear model, namely the course first, then the practice training, or practice training first, or “sandwich” (course+ practice+ course) [3]. Joint training base provides graduate students with diverse learning environment and practical experience, and plays a positive role in professional degree graduate education. However, it also exists obvious shortage, leading the basic attributes of professional degree graduate education out of standing: 1) Specialization is not outstanding as the

insufficient recognition of both sides, inadequate investment for base construction, cooperation between university and enterprise; 2) Practicality is not prominent as tutors and graduate students lack of necessary communication, double tutor guiding role, especially the enthusiasm of enterprise tutor has not been fully played [4]; 3) Application property is not outstanding, course learning and practical training of graduate student act as “two skin” state; 4) Professional is not outstanding, under the protection of intellectual property rights and the consideration of safety, graduate students rarely carries on the practice in enterprise actual jobs. The reasons why the basic attributes of professional degree graduate student is not prominent mainly include two aspects: one is that win-win cooperation between colleges and enterprises biases, two subject demands between colleges and enterprises are different: schools to improve the quality of training talents for the purpose of seeking cooperation with enterprises, and enterprises to realize the technology innovation, improve the economic benefit as the goal [5].

The Framework of Professional Degree Graduate Joint Cultivation Base

“Innovate the construction model and build the long-term mechanism” is the basic thought for professional degree graduate joint cultivation base. According to the social demand and talent cultivation, the universities should stick innovation, make actual effect, and explore various joint cultivation mechanism. During the process of professional degree graduate training, the enthusiasm, initiative and creativity of enterprise should be fully exhibited, establishing collaborative education model. Based on base construction, their respective advantages, construction of talents cultivation, scientific research, achievements transfer, social services, cultural transmission should be fully played [1]. But in the graduate cultivate base construction there exists two main body, the two sides has not clear right and it is difficult to achieve unity, how to get the focus and cooperation carrier is very important.

The universities are the main body of the talent training, and the enterprises act as a cooperative unit. Enterprises are the main body of technological innovation, and universities can participate. Although they focus on the talent training and technology innovation respectively, many intersections between them exist. A lot of successful cases relying on technology innovation and personnel training have been provided. As a specialized degree graduate student professional practice place, the basic function of joint training base is to train the practice innovation ability. The innovative ability based on professional practice training is the existing basis and development orientation of joint cultivation base. Joint training base mostly rely on enterprise, thanks to the fine environment of scientific and technological innovation, the main line of technology innovation, to form the innovation team, cooperative technology innovation and personnel training. Therefore, the construction of joint cultivation bases based on innovative projects is an important approach to the deep cooperation of the universities and enterprises.

The Characteristics of “Trinity” Professional Degree Graduate Joint Cultivation Base

Cooperative cultivation of universities and enterprises occurred in the United States after the 2nd World War, and a typical case of “Silicon Valley Model” at Stanford University acted as the cooperation with industry. Its goal was to train applied and development talents, its outstanding characteristic was to combine actual problems with technical research, achieving the reunification of curriculum, scientific research, and practice. This model in talent training idea, training process, teacher guidance mode can be used for professional degree graduate education in our country [6]. The training mode based on the project gives us a beneficial enlightenment.

To improve the quality of graduate education and strengthen the innovative ability cultivation, most universities have set up graduate science and technology innovation fund to encourage and support graduate students in technology innovation research. In view of the basic attributes of

professional degree graduate education, the innovation projects should fully embody practical characteristics [7].

To promote the graduate education reform and rapid development, some universities have set up graduate education innovation project including curriculum construction, teaching material construction, teaching reform, practice ability cultivation, and cultivation mechanism reform. The practice ability training acts as the important part of professional degree graduate education, which is of special significance to promote the base construction and improve the efficiency of base operation.

Enterprise technical innovation projects have been set up to improve the independent innovation ability and the core competitiveness. Its main characteristic is the combination of technology and economy, emphasizing the commercial application of new technology, and creating economic benefits. The technical innovation activity is an economic process, only if the enterprise is the main body, it is really possible to adhere to the market orientation and reflect the market demand. As the main body of technological innovation, the enterprise is also the main body of research and development investment, the main body of technological innovation and the application of innovation. Through the graduate student joint training base, the technological innovation system using enterprise as the main body can be set up.

Based on the characteristics of graduate science and technology innovation project, education innovation project and enterprise technology innovation project, we propose “Trinity” graduate joint training base construction mode. In the case of the project, the graduate science and technology innovation project should be based on the enterprise technology innovation demand and closely relative to the enterprise technology innovation project. Graduate education innovation project based on the joint training base construction. The technical innovation project of the enterprise tutor provides the basis and material for the graduate science and technology innovation project and the education innovation project. In the case of the subject, the graduate students are both the host of the science and technology innovation project and the participants in the education innovation project and the enterprise technical innovation project. The tutor from university preside the education innovation program, as well as the director of the technology innovation project and the participant in the technical innovation project. The tutor from enterprise is the director of the enterprise technical innovation project, and also the director of the graduate science and technology innovation project and the participant of the education innovation innovation project. Whether innovation projects or subject, “Co-Win Cooperation” pattern form. This model is conducive to the comprehensive development of the integration of university and enterprises.

Implementation and Evaluation of “Trinity” Professional Degree Graduate Joint Cultivation Base

The construction model of the “Trinity” is carried out in the implementation of the project. In line with the principle of “determination, implementation, completion, acceptance”, the whole process of the implementation of the project is controlled. Follow the principle of “enterprise is the main body of technological innovation, university-enterprise cooperation and synergy innovation train high-level talents”, according to the general requirements of enterprise technology innovation and basic content, the innovation platform can be build. First of all, the enterprise gives priority to determine technical innovation projects, the tutor from university and graduate students participate. The graduate science and technology innovation projects can be used enterprise technical innovation project as related subject. Education innovation projects have held on to enterprise technology innovation projects and graduate students of science and technology innovation project implementation environment elements. Once the project is determined, special attention should be paid to the different stages.

The joint training base construction using innovative projects as the carrier breaks the traditional mode, realizing the combination of the project team cooperation. Compared with the dual main body cooperation, the resource integration is stronger, deeper, closer, and more independent. Through the establishment of university-enterprise cooperation, technology innovation and cooperative

mechanism of talent training highlight the main body status of enterprises technology innovation, the implementation of innovative projects to achieve the dual purpose of technological innovation and personnel training, implements the result on both sides of the fundamental demands. College teachers and graduate students participate in the enterprise technology innovation, enterprise technical personnel involve in talent training, which effectively improve the practice teaching effect and achieve mutual benefit and win-win results. For individuals, the participation in enterprise technology innovation can obtain a large number of technical information. The tutor from enterprise involves in training and can provide plenty of fresh material. The graduate students complete professional practice in the practical project, experience “learning in practice and practice in learning” repeated cycle, and realize the role transformation of students and staff.

Summary

Innovation project as the carrier of the “Trinity” professional degree graduate joint training base construction persists that the enterprise technology innovation is the main body, the organic combination of technology innovation and personnel training can be achieved through the cooperation of university-enterprise collaborative innovation and training high-level talents. It is of great significance to improve the depth and breadth of cooperation and realize the organic coadhesion of talent cultivation and demand.

It is necessary to further expand and deepen the effective form of joint training base as the cooperation of universities and enterprises. Chinese Ministry of Education emphasizes to build a long-term mechanism, regulate base management, innovate training mode, and construct “double tutors” team, strengthen leading, promote the combination between production and study. Enterprises are the main body of technological innovation, and the cooperation and innovation of universities-enterprises is an important way to cultivate high-level talents. Based on the basic thought, with innovation projects as the carrier, to establish “Trinity” graduate training base, it is of great significance to improve the personnel training quality and promote enterprise development.

Acknowledgement

This research was financially supported by Shandong Provincial Graduate Education Innovation Project of China (No. SDYY15082, SDYY14080).

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