

Study on the Construction of Personnel Training System with Flexible Dynamic for Road and Bridge Engineering Specialty in Cold Area

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Abstract: Road and Bridge Engineering Specialty is a comprehensive and practical major. In the course system of higher vocational education, it mainly takes the project of Road and Bridge Engineering as the main teaching line to carry out the teaching of Road and Bridge Engineering related technology and theory, so as to meet the needs of the society for the personnel of Road and Bridge Engineering. But in fact, in the teaching of Road and Bridge Engineering in higher vocational colleges, the teaching of Road and Bridge Engineering is universal, but the teaching content of Road and Bridge Engineering development in special areas is insufficient, which leads to the cold areas in the society and the shortage of construction talents in the extreme environment. In addition, the seasonal influence of road and bridge construction in cold area is great. Based on this, this paper puts forward the concept of flexible and dynamic personnel training, which aims to realize the cultivation of road and bridge engineering technical talents for cold areas and ensure the overall and coordinated development of our economy.

Keywords: Cold Areas; Road and Bridge Engineering Technology; The Personnel Training of Flexible Dynamic; Teaching System

The project of Road and bridge engineering is an indispensable link in China's traffic engineering projects, higher vocational colleges as an important training base for technical applied talents, making the plan of talent training based on the demand of marketization and professionalization is an important content to ensure the sustainable development of Road and bridge engineering project, promote the employment rate of higher vocational students, and promote the harmonious and stable development of society. Because of the complex terrain of our country, some special areas of road and bridge engineering construction site for technology, professional knowledge and literacy of talents put forward new requirements, for which in the higher vocational professional precision reform, pay attention to these special areas, special environment of road and bridge engineering and technical professionals training is necessary and important. And the construction of flexible dynamic talent training system is conducive to taking into account the comprehensive and universal development of road and bridge engineering and technical professionals.

1. Present situation of talent training in road and bridge engineering and technology

In recent years, with the continuous development of transportation industry in China, the construction of public transport hub in China has become more and more refined. This makes the professionals of road and bridge engineering in higher vocational colleges appear a large number of gaps. Therefore, more and more higher vocational colleges begin to set up this major and carry out the training of road and bridge talents, but because of the slow start of this major, the current market demand goal is not obvious, which leads to the unclear situation of higher vocational colleges in terms of talent training ideas and training methods. Therefore, it brings follow-up problems to the construction and maintenance management of road and bridge engineering projects. For example, the lack

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of special environment of professionals training with road and bridge engineering, cultivate a large number of design, testing talent team, talent supply and talent demand do not match, for the harmonious and stable development of society.

2. Characteristics of talent training system under the flexible dynamic

As we all know, the market is ever-changing, the kind of talent needed in the market, talent skills are also constantly changing with the transformation and upgrading of various industries. Therefore, as a fertile soil for the cultivation of applied technical talents, the curriculum system of higher vocational colleges in the major of road and bridge engineering and technology has a certain time difference with the market demand, which leads to the employment situation of construction enterprises worse. Therefore, under the influence of the new period, it is of great significance to put forward the flexible, classified and dynamic talent development and training system to alleviate the sustainable development of the professionals in road and bridge engineering and technology. At present, a flexible and dynamic talent training system is constructed. First, it can adjust the talent training mode continuously with the market-oriented change of project "road and bridge engineering". For example, for the technical specialty of road and bridge engineering in cold area, because of the severe natural conditions in this area and the increase of extreme conditions encountered in construction, it is necessary for students to be able to grasp the changing trend of construction conditions in cold area, so that they can be prepared in the construction and measurement of road and bridge engineering, avoid deviation in later construction and affect the whole progress of the project. Second, the talent training system of flexible dynamic is an important measure to realize the sustainable development of higher vocational majors. Road and bridge engineering technology under the support of information technology can achieve continuous improvement and development, for example, in the construction of road and bridge projects in cold areas, the use of engineering survey tools are mainly level, and in intelligent engineering construction, road and bridge engineering survey is mainly with the help of more high-tech equipment tools such as drones. Therefore, higher vocational colleges must be able to introduce the latest teaching contents in the course of course setting, so as to ensure that the trained technical personnel of road and bridge engineering can meet the construction requirements on the spot. In fact, for higher vocational colleges, the change of teaching content is not achieved overnight, in higher vocational colleges road bridge engineering and technology professional setup and enrollment began, has carried out a preliminary planning and design for the training direction of this group of students. With the help of the talent training system of flexible dynamic, we can realize the precise change when the market changes, when the development strategy of higher vocational colleges changes, the dynamic development of talent training system, curriculum content changes, so that the new and old talent training activities can be effectively linked.

3. The construction channel of personnel training system with flexible dynamic for road and bridge engineering and technology in cold area

3.1 Design thinking of flexible dynamic course system for road and bridge engineering in cold area

The construction of flexible dynamic curriculum system is the direction of guiding the road bridge engineering and technology specialty to keep in line with the market and develop towards the professionalization. At present, we should set up a curriculum system with flexible and dynamic characteristics of talent training. First, it requires higher vocational colleges to be able to communicate with the road and bridge related enterprises as an exchange, to carry out market research in the road and bridge industry in cold areas, and to invite experts to put forward suggestions and suggestions for the road and bridge engineering technology courses in cold areas. Only in view of the current situation of each post, the future trend has a comprehensive understanding, can the curriculum system set more in line with the actual needs, in the development of dynamic adjustment has the right direction. Secondly, it is necessary to construct the teaching database of road and bridge engineering and technology efficiently, and through the support of big data technology and cloud computing technology, to analyze the basic ability and accomplishment of road and bridge engineering practitioners in cold areas, so as to provide reference standards for the curriculum system setting of road and bridge engineering and technology specialty in higher vocational colleges at the present stage. More importantly, through the construction of teaching database, we can also analyze the advantages and disadvantages of the talent training mode being adopted in higher vocational colleges, so as to give the right remedy to the case, formulate a scientific and efficient feedback system for talent training, so that road and bridge engineering and technology professionals can really achieve dynamic teaching, dynamic training.

3.2 Design ways of flexible dynamic course system for road and bridge engineering in cold area

To realize the construction of flexible and dynamic personnel training system, it is necessary to strengthen the construction of professional courses, to ensure that students can master most of the learning modules in the three years of higher vocational

education, and to complete the road and bridge engineering technology learning in cold areas. First, the construction of integrated curriculum system of theory teaching and practice teaching. Road and bridge engineering and technology is a practical specialty, master the cold area of road and bridge engineering technology must be based on the natural conditions of cold areas, construction environment and so on. Therefore, through the combination of theory and practice of integrated teaching curriculum system construction, through the school-enterprise cooperation model, apprenticeship talent training model, so that students can feel the characteristics of road and bridge construction in cold areas, grasp the particularity of road and bridge construction in cold areas. Second, strengthen the proportion of ideological, political and moral education of road and bridge engineering and technology specialty. On the basis of general professional knowledge, the engineering and technical talents of road and bridge in cold area should have a stronger sense of responsibility, be able to adapt to the severe construction environment in cold area, complete their own professional work, and mobilize their own innovative consciousness to complete the innovation and creation of related work. Only students with strong ideological and political morality can have the ideological consciousness of serving the society and serving the people.

4. Conclusion

To sum up, it can be found that the construction of flexible and dynamic personnel training system can realize the compatible development of road and bridge engineering technology teaching activities. Through the way of school-enterprise docking, grasp the talent gap of road and bridge and engineering technology, based on the premise of students' self-consciousness, formulate a dynamic talent training system. In this way, the technical knowledge of road and bridge engineering in cold area is transferred to higher vocational students flexibly, and the real dynamic talent training mode is achieved, which can better serve the economic construction of all levels and regions of society.

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