

Construction of Training Program for Industrial Innovation and Entrepreneurship Talents -----Take the Bioengineering Major of Heilongjiang Bayi Agricultural University as an Example

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Abstract

Review Article

Training plan is the implementation plan and basic basis for colleges and universities to achieve the goal of talent training and ensure the quality of education and teaching. From the orientation of training objectives, the construction of curriculum system, the adjustment and optimization of professional curriculum structure, the cultivation program of industrial innovation and entrepreneurship talents in bioengineering major of Heilongjiang Bayi Agricultural University was constructed.

Keywords: Innovation, entrepreneurship, biology major, cultivating talents, training.

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INTRODUCTION

The talent training program of industrial innovation and entrepreneurship talents plays a guiding and guiding role in the professional teaching of colleges and universities, and also reflects the characteristics and philosophy of running a college. In concrete teaching, talent training programs should be combined with the characteristics of The Times and market demand for continuous improvement and adjustment, so as to adapt to the needs of Chinese society for talent. At the same time, in the process of formulating the talent training programs, the positioning and objectives of talent training should be implemented into the program, and the professional characteristics and social needs should be combined to reflect the adaptability and foresight of the training program [1]. As an important discipline in China's higher education, the bioengineering major should combine the local talent demand and the demand of China's social development in the process of formulating the talent training program, so as to provide more innovative and entrepreneurial modern talents to China [2, 3].

This paper is oriented by the demand of local economic development for industrial applied talents of bioengineering major, combined with the development

trend of higher education in China and the requirements of regional social and economic development, and closely combined with the requirements and actual situation of the transformation and development of Heilongjiang Bayi Agricultural University. This paper discusses how to construct the training program of industrial innovative and entrepreneurial talents in bioengineering specialty from the aspects of orientation of training objectives, construction of curriculum system, adjustment and optimization of professional curriculum structure. Combined with the research and learning experiences of enterprises, industries and related universities in recent years, through in-depth discussion, scientific positioning of training objectives, reasonable setting and optimization of curriculum system, we have preliminarily formulated the talent training program for bioengineering major of grade 2020 in our university.

1. Orientation and objectives of bioengineering personnel training

1.1 Orientation of personnel training

To cultivate moral, intellectual, physical and aesthetic development, master modern bioengineering technology and industrialization and other professional knowledge; capable of researching and developing new products and new processes in biopharmaceuticals; be

able to solve technical problems in production; to adapt to the development of China's biological industry, compound talents as their own responsibility; develop "trapped knowledge encourages action; and the spirit of "Beidahuang" keep pace with The Times, develop and innovate, and provide society with excellent graduates and high-quality scientific and technological services.

In the new era, with the continuous deepening reform of China's education system, local institutions of higher learning should combine their own characteristics and advantages in running schools, take the local economic development and talent demand as the basis, conduct accurate positioning in personnel training, and then form their own unique educational advantages [4]. At the same time, colleges and universities teaching and ability training as the core, thought that service for the purpose of local economy, optimizing the biological engineering construction of the talent training scheme, through field investigation and comparative analysis, combining with the industry's requirements for personnel quality and ability, and can build innovation, high quality and application, the optimum diameter, solid foundation of innovative entrepreneurial talent cultivation system [5].

1.2 Personnel training objectives

This major will cultivate students with correct political and professional quality, correct outlook on life, values and world outlook, basic knowledge of biology and engineering, basic theories and skills of biotechnology and its industrialization, better teamwork, international vision, lifelong learning and self-improvement ability. High quality professionals who can work in production management, engineering design, product research and development in bioengineering-related fields, with a sense of innovation and sustainable development, and with the ability to solve complex bioengineering problems.

In the process of training and positioning of subject talents, universities should actively invite experienced industry experts and technical backbone of enterprises to actively participate in the formulation of talent training programs and objectives, and constantly optimize and adjust training programs based on the requirements of enterprises for talents. At the same time, colleges and universities should combine the characteristics of the profession and the development trend of the industry to define the objective of talent training, namely to cultivate innovative talents with benign psychological quality, humanistic quality, moral quality and professional quality, familiar with the relevant knowledge and theory of bioengineering, and strong professional practical ability and application ability.

2. Optimization and adjustment of the curriculum structure of biological engineering specialty

The compulsory courses of bioengineering major mainly include genetic engineering, protein engineering, enzyme engineering, cell engineering, principle of chemical engineering, engineering drawing, biological products, four major chemistry and professional introduction. The innovation and entrepreneurship talent training program is different from the previous talent training program, which optimizes and adjusts the required courses appropriately. First of all, in order to promote students to better understand the nature of the content and employment trend of the bioengineering major, and enhance students' enthusiasm for learning professional knowledge, the course of introduction to the major was added. Secondly, in order to cultivate and exercise students' innovative consciousness and ability, a design course was added. Finally, in order to make the teaching more closely related to the actual production of enterprises, a course on biological products was added.

Colleges and universities set up professional direction courses that can embody the biological engineering professional direction and characteristic of talents cultivation, to the local economy and social development and the demand for talents as the foundation, pay attention to strengthening the curriculum system and curriculum, the relationship between biological engineering industry and will to the teaching of the latest scientific research achievements, encourage students to understand and grasp the professional knowledge and the latest trends [5]. Taking biological products as an example, in the specific teaching, the application prospect, development trend, equipment operation, production process and product design of biological products should be taken as the teaching focus, and then the teaching direction of professional courses should be clarified.

In order to expand and enhance students' knowledge horizon, colleges and universities should set up optional courses for students to choose freely, and optimize the quality of talent training for bioengineering majors in the form of module courses. The first module, improving course module, which mainly includes network technology and application, biochemistry special topic, bioinformatics course. The second module, the biopharmaceutical module, which mainly includes microbial drugs, biologic drug dosage forms, biopharmaceutical technology, biologic drug design, pharmacology and drug production quality management standard courses. The third module, the biotechnology module, which mainly includes stem cell technology and application, virology and immunology principle and technology courses.

At the same time, colleges and universities should start from students' career development and personal interest, encourage students to choose freely

from the above modules, and cultivate students' innovation ability and professional knowledge, so as to broaden students' professional horizon and lay a solid foundation for their future career development [6].

The practical course is an important course to promote innovative and entrepreneurial talents. Practical compulsory courses mainly include scientific and technological activities, social investigation, English practice, computer practice, employment education, entrepreneurship education, basic course practice, graduation thesis, graduation practice, professional practice and professional practical training. Practice compulsory course is a key component of the training program for innovative and entrepreneurial talents in bioengineering major, which plays a key role in promoting students' innovative ability, spirit and consciousness. At the same time, by offering practical courses, students can also be helped to adapt to society in advance, perceive society, and cultivate their scientific research ability and social adaptability [8, 9].

3. Looking forward

In China's social and economic situation, colleges and universities should combine their own specific conditions, according to the characteristics of biological engineering, scientific formulation of innovative entrepreneurial talent training scheme, and continuous improvement and adjustment in concrete practice, strengthen the experience in practice, optimize the professional curriculum system, serve to deliver more modern and high-quality talents for the country [10].

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