



Research on the Cultivation Mode of 'Double First-Class' Construction Innovative and Entrepreneurial Talents in Forest Engineering Major

Ying Xin ^a, Yaoxiang Li ^{b,*}, Wei Xue ^c, Wenshu Lin ^d, Weiping Hou ^e and Haiting Di ^f
College of Engineering and Technology, Northeast Forestry University, No.26 Hexing
Road, Xiangfang District, Harbin, China

^axyneu2003@163.com, ^byaoxiangl@yahoo.com, ^c3318281052@qq.com,
^dlinwenshu@126.com, ^e7956909@qq.com, ^f44713580@qq.com

Abstract: Aiming at the construction of universities and disciplines, China has put forward the task and requirement of 'double first-class' construction and proposed to cultivate innovative and entrepreneurial talents. There are some problems in the innovative talent training such as mechanism is not perfect, while teaching content and method is simple. Forest engineering major of Northeast Forestry University carried out innovative talent training engineering including talent training scheme, curriculum system, practice course system, teaching mode and the talent training mechanism. It provides perspectives of research and practice to carry out the innovative talent training reform for colleges and universities.

Keywords: Double First-Class; Cultivation Mode; Innovative and Entrepreneurial; Forest Engineering.

1. Introduction

On November 5, 2015, the State Council issued the 'Overall Plan for Promoting the Construction of World-class Universities and First-class Disciplines', which is the latest form of the policy of Key universities in China. New policy follow 'with Chinese characteristics, world class is over, in order to support innovation driven development strategy, economic and social service oriented', adhere to the first-class performance as the goal, on the basis of the subject, as a lever, driven by reform and support a number of high level and in the lead of the world top or discipline, construction of higher education power. In 2016, China put forward the task and requirement of 'double first-class' construction for the construction of universities and disciplines, and pointed

out the cultivation of top innovative talents again. [1-2]

Forestry Science and Forestry Engineering in Northeast Forestry University were rated as 'Double first-class' construction disciplines, and forest engineering is a secondary discipline subordinate to forestry engineering. Forest Engineering is a comprehensive application major for the purpose of forest resource construction, protection, development and utilization. It plays an important role in the construction of forestry ecological engineering and economic development in China. Forest Engineering has accumulated some experience in talent training based on the development of modern forestry, but there are still some problems in innovative and entrepreneurial talent training. At present, application-oriented personnel training is the main aspect of talent training, and there is no feasible innovation and entrepreneurship talent training mode, and the talent training mechanism is not perfect; The content and method of teaching are simple. In teaching, knowledge inculcation is the main method, while classroom teaching is the main method. In order to let students know the development situation of forest engineering field, fully arouse students' interest and enthusiasm, and cultivate students' innovation ability and entrepreneurial practice ability, it is necessary to change the existing talent training mode. This paper explores and practices the training mode of innovative and entrepreneurial talents from the following aspects.

2. Practice of training Mode of innovative and entrepreneurial talents in forest Engineering

2.1 Optimize the training program for innovative and entrepreneurial forest engineering professionals

According to the construction of 'double first-class' talent training needs, through the professional school localization system research, professional education direction has been clear. combining research industry, graduates and unit of choose and employ persons, such as feedback, according to the new engineering, agricultural concept and the development of the students as the center, around the "double type" positioning of personnel training, establish a "talent cultivation of the students for this, to adapt to the demand for" direction, in accordance with the "wide diameter, thick foundation, strong ability and good application, technology innovation and entrepreneurship" talents training target, optimize forest engineering innovative entrepreneurial talent training scheme.

2.2 Construct a theoretical curriculum system for cultivating innovative and entrepreneurial talents in forest engineering

To cultivate innovative entrepreneurial talent of Forest Engineering major as the goal, a multi-level and systematic curriculum system is built. General courses, basic courses

and professional course, personalized course and entrepreneurship course and innovative entrepreneurial course are carried out, while modular integration of teaching process, curriculum design, curriculum content more comprehensive, innovative entrepreneurial activity curriculum are applied in the teaching process. The theoretical teaching system of the integration of national key disciplines and national characteristic majors, the integration of professional teaching and research practice, and the integration of innovation and entrepreneurship and professional education have been established. By using the 'main battlefield' of classroom teaching, innovation and entrepreneurship education courses are added to organically combine professional learning and innovation and entrepreneurship education learning, so as to realize the effective combination of innovation and entrepreneurship education concept guidance, knowledge transmission and skill improvement.

2.3 Constructing a practical teaching system for innovative and entrepreneurial talents in forest engineering

Establish the platform contains the basic teaching, basic experiment teaching platform, professional innovation and engineering training platform, innovation and entrepreneurship training platform for practice teaching platform, building forest science and technology, wood quality monitoring and testing technology, forestry equipment engineering, in traffic engineering, forest management and forestry and forest products logistics information engineering direction of five practice system, the implementation of "basic experiment course assignments - comprehensive curriculum design - university-enterprise joint training - professional practice and graduation design" the practice of the training process, build distinct and gradually progressive practical teaching system, Independent development of forest engineering virtual simulation experiment teaching platform innovation project, from shallow to deep to cultivate students' innovative practice ability. With diversified resources, students are guided to participate in tutor's scientific research activities, the combination of scientific research and teaching, entrepreneurship general training, innovation and entrepreneurship competition, etc., to explore the personalized training mode of "multi-level, multi-specification and individualized teaching according to students' aptitude", so as to meet students' needs for success.

2.4 Reform on the teaching mode of cultivating innovative and entrepreneurial talents in forest engineering

Promote the reform of teaching methods, the realization of knowledge from the traditional 'force-feeding' education method to the heuristic teaching, discussion-based teaching, inquiry teaching, teaching with scientific research project, on-the-spot

investigation type teaching and diversified teaching methods, shift 'teaching, learning and doing' be in harmony an organic whole, break teacher-centered classroom teaching mode, stimulate students' active thinking, focus on training students' creative thinking and imagination. It promotes the deep integration of modern information technology and education and teaching, introduces virtual simulation teaching in wood production technology and management, forest industry planning and other courses, and adopts on-site object teaching in the course of crane control technology. Starting from the historical background of 'Internet +', we should use Internet thinking to innovate the teaching mode, make full use of technologies and platforms such as micro class, MOOC and flipped classroom, change the learning mode, and improve the ability of innovative and entrepreneurial talents to adapt to the society.

2.5 Establish an evaluation mechanism for innovative and entrepreneurial talents in forest engineering

Established and optimized to enhance the innovation ability as the goal of multidimensional evaluation mechanism, according to the principle of scientific and diversified, embarks from the cultivation process and results of two direction, by adopting the combination of quantitative and qualitative methods, introducing multiple evaluation methods, the comprehensive examination of students' knowledge, ability and quality, and strive to do whole process of creative talent cultivation and comprehensive scientific and reasonable evaluation.

3. Conclusion

The 'double first class' cultivation mode of innovative and entrepreneurial talents in forest engineering is of great value in promotion and application. To promote professional development through discipline construction, reform the mode and method of theoretical teaching and practical teaching, promote students' mastery and understanding of new knowledge and new technology, and meet the needs of modern forestry for compound innovative talents. Based on the platform of academic disciplines, building innovative entrepreneurial talent training mode, improve the ability of students to solve practical problems, improve the students' interest in this professional inquiry, to our country forest engineering students creative ability with exemplary role, for the national forest demonstration engineering and related professional talent training pattern to provide reference, promote the further construction of quality project of higher education, actively promote the 'double top' subject construction.

Acknowledgements

This paper was financially supported by Teaching Reform of Heilong Jiang Province (SJGY20180011).

References

- [1]Zhao Qing, Li Lijun. Discussion on the construction of mechanical Engineering discipline in characteristic colleges under the background of "Double first-class"[J],Journal of Higher Education, 2017,8:142-143.
- [2]Wang Qiao ,Fu Wenjia. Some thoughts on higher Education and the Construction of "Double first class" in Liaoning Province[J],Chinese market, 2018,5:261-262.
- [3]Lin Jianhui,Zhao Yandong,Liang Hao. Research on the Construction Scheme of forestry Electrification and Automation Secondary Discipline Take Beijing Forestry University as an example[J], Forestry education in China, 2018,3:16-20.
- [4]Wang Wenzhong. How to cultivate college students' ability of innovation and entrepreneurship under the new situation[J], Employment of College Students in China (Comprehensive version), 2016,9:7-9.
- [5]Luo Zuqiang. Strategies for effective teaching[J], Guangdong Education (Teaching and Research Edition), 2018,2:87-88.
- [6]Jiang Hui, Yin Huiguang, Xu Xiaochang. Research on the Training Mode of Personalized Innovation and Entrepreneurship talents in Colleges and universities[J],2017,6:141-146.