

## **Preliminary Exploration on the Cultivation Program of Innovative and Entrepreneurial Talents in Horticulture Major under the Background of "Internet +" Era**

**Yi Liu<sup>1,a</sup>, Huiqing Liu<sup>1,a</sup>, Fahui Liang<sup>1,b\*</sup> and Yanyu Shi<sup>1,a</sup>**

<sup>1</sup> College of Horticulture and Landscape, Tianjin Agricultural University, Tianjin 300384, China

\*Corresponding author

**Keywords:** Horticulture, Innovation and entrepreneurship, Personnel training, Explore.

**Abstract:** The spirit of innovation and entrepreneurship is deepening education reform, which focuses on exploring the cultivation program of innovative and entrepreneurial talents in horticulture major under the background of Internet. We are committed to cultivating high-quality university talents who are keep up with the new era, possess innovative quality, entrepreneurial ability and have patriotism.

### **1. Introduction**

The major of horticulture is mainly about flowers, vegetables and fruit trees. In the course setting, it mainly focuses on a series of teaching programs such as cultivation management, breeding and practical application of different horticultural plants. Innovation and entrepreneurship are the main driving force for the further development of horticulture, the demand of The Times, and the hope for the rise of the country [1]. However, at present, the students cultivated by higher education are not only weak in professional knowledge, unable to combine theoretical knowledge with practice, lacking in social needs, unclear in industrial development trend, and lacking in innovative and entrepreneurial spirit.

At present, China's horticulture industry constantly adjusts the variety structure and carries out new product layout according to the market trend [2]. Keeping up with the trend of The Times, clarifying social needs and developing innovative and entrepreneurial undertakings are the new requirements for college students. Therefore, the teaching of horticulture should focus on cultivating innovative and entrepreneurial talents, cultivating both compound and applied creative talents, developing the potential creativity of cultivated objects, and cultivating students' innovative and entrepreneurial spirit from the aspects of discipline construction, professional application and innovative development. In order to continuously develop the potential value of horticultural plants and conform to the future trend of international economic development, schools should devote themselves to the education of innovation and entrepreneurship throughout the whole process of talent training.

### **2. Grasp the Curriculum; Inclusive**

The choice of teaching content should be highly in line with The Times. The main courses of horticulture are horticultural plant conservation, flower art, facility horticulture, horticultural plant breeding, etc., so that students can master the knowledge of breeding, cultivation, pest control, facilities and management, postharvest conservation, landscape design and so on.

Effective use of Internet resources to increase communication channels with the outside world [3]. Try to contact some countries with higher level of horticulture development, so that students' knowledge level and international standards, stimulate innovative thinking, promote international exchanges. In the Internet information age, computer ability is indispensable, Internet of things technology is developing rapidly, artificial intelligence is the inevitable trend of horticulture in the future [4]. Mastering relevant computer skills can help students explore more profound unknown

areas, open the door to the new world, realize innovative ideas that were difficult to realize in the past with the power of science and technology, and create a new development direction of horticulture.

At the same time, using Internet resources to select high-quality scientific and educational films for watching horticulture, especially BBC bilingual scientific and educational films, students can gradually accept integrated English teaching, and students can use the form of image animation to remember boring and difficult knowledge points. This approach makes it easier to expose students to international research. In addition, online platforms such as moocs and superstars have gathered a huge amount of excellent course resources, which can make up for the weakness of teachers in some schools and broaden teaching ideas.

In addition to mastering the basic professional knowledge of this field, horticulture major should also master the cutting-edge science and technology, device theory, personnel management mode, market operation system, economic development and other social conditions in the field of modern ornamental horticulture [5-6]. With the increasingly obvious globalization of trade and culture, the horticulture technology of various countries keeps exchanging, and the horticulture field of the world gathers into a colorful basket of flowers. Therefore, the study of professional knowledge should not be limited to the domestic, should strengthen the foreign horticulture production mode and production philosophy and the local practice of the combination of the way.

### **3. Strengthen Teachers, Optimize Structure, Attach Importance to Practice and Exercise Ability**

Teachers should analyze the main points and matters needing attention in the form of case study, and carry out theoretical knowledge teaching in real life. The teaching mode can take the form of "flipped classroom", which is student-led, allowing students to choose the content they are interested in, prepare relevant materials and share knowledge in class.

After the theory course, the teacher should lead the students to practice in the field, and then summarize the internship experience with the teacher and local staff to discuss the detailed plan. Organize students to visit various large-scale horticultural activities and exhibitions, such as Beijing garden expo, Luoyang peony festival, Shanghai flower expo, etc. Students can also choose to go to each big gardening company in places such as trainee, further understanding of consumer demand and the difficulties of the production enterprises, understand local policies, and learn from technicians garden plants cultivation techniques and production management mode, to master the advanced instruments and equipment use, train the ability of entrepreneurship, for further improve the book knowledge, stimulate creative thinking. At the same time, focus on practical ability. Allowing students to make mistakes, finding loopholes in the mistakes and improving their ability of independent learning and comprehensive thinking in the mistakes will help strengthen students' willpower and avoid giving up due to frustration in future scientific research or practical work.

In view of the insufficient production and practice ability of some teachers, excellent talents in the horticulture industry are invited to set up a talent pool of excellent innovation and entrepreneurship mentors on the Internet for students to choose freely from multiple directions[7-8]. Encourage students to study and think independently, stimulate innovative thinking, have the courage to ask questions, communicate ideas with tutors timely, guide students to find solutions through innovative thinking, and help students to implement. In the process of solving difficulties, we can set up a special group to discuss the problem, or even invite people from other directions to discuss together, so as to improve the talent's teamwork ability and communication ability.

On the basis of completing the required courses, the credit system should be improved to encourage the mutual conversion between the credits for innovation and entrepreneurship and the credits for class hours, so as to realize the graduation standard of students based on credit accumulation. According to the direction they are interested in, such as Internet promotion of horticulture, students can choose relevant majors such as network platform construction or information engineering to conduct personalized training for students and develop diversified

innovative and entrepreneurial talents.

#### **4. Innovation and Release of Vitality**

The association for innovation and entrepreneurship development was established to encourage students to participate in innovation and entrepreneurship competition and scientific research innovation competition, etc., and to use the theoretical knowledge and practical experience learned to write project plans, make report and presentation documents, and prepare defense contents. The school regularly arranges a certain number of innovation and entrepreneurship projects, and strives for more award places and bonuses for different grades. Meanwhile, the competition of flower arrangement, bonsai and garden design will be held to stimulate students' innovative consciousness and skills, and learn excellent innovative ideas from others' works. The winning works can be modified to elaborate different modification schemes.

#### **5. Conclusion**

By constructing and optimizing the Horticultural creative talent cultivation system, we can fully arouse the enthusiasm of students , fully stimulate Horticultural students' innovation consciousness, exploit the Horticultural students entrepreneurial potential, comprehensive; y promote the development of Horticultural innovation entrepreneurship to better serve the country's revitalization strategy.

#### **Acknowledgements**

This research was supported by Tianjin agricultural university teaching key cultivation project, Tianjin agricultural university undergraduate education teaching research and reform of (2018-b-08);Major social science project of Tianjin education commission:Research and development project of integrated practical school-based curriculum based on agricultural Internet of things.

#### **References**

- [1] Yunyi Yu, Yanping Fan (2014). Discussion and Practice of Innovation and Entrepreneurship Education in Horticulture Professional Flower Teaching. Times Education, no.1, pp.32-32.
- [2] Lin Ren (2019). Practical Teaching Design and Assessment Reform of Horticulture specialty. Journal of Taiyuan Urban Polytechnic, vol.210, no.01, pp.148-149.
- [3] QingHai Gao (2019). Construction of "Innovation and Entrepreneurship" Talent Training System for Horticulture Major in Agricultural and Forestry Colleges -- A Case Study of Horticulture Major in Anhui University of Science and Technology [J]. Anhui Agricultural Sciences, no.7, pp.280-282.
- [4] Diying Xiang, Bao Di, Lixia Wang(2018).Discussion on Practical Teaching Reform of Ornamental Horticulture for Horticulture Professionals. Higher Education Journal, vol.74, no.02, pp.125-127.
- [5] Guiping Li, Qingsong Ba, Huijun Zhang, et al (2018). Exploration on Improving students' Innovation and Entrepreneurship Ability in Practical Teaching of Horticulture. Journal of Biology, vol.204, no.04, pp.131-133.
- [6] Hua Wang, Meng Ju, Yu Jiang, et al (2018). Exploration on the Teaching System Reform of "Mass Entrepreneurship and Innovation" for Ornamental Horticulture Specialty. Anhui Agricultural Science, no.02, pp.228-229.
- [7] Li Fan, Hui Gao, Min Xie, et al (2015). A Preliminary Study on English-Chinese Bilingual Teaching Model for Ornamental Horticulture. Journal of Inner Mongolia agricultural university (social science edition), no.03, pp.85-87.

[8] JinTeng Cui, Kezhong Zhang, Yuehua li(2015).Molecular Biology Laboratory Construction and Teaching Reform for Graduate Students Majoring in Garden Plants and Ornamental Horticulture. Education & Teaching Forum, no, 08, pp.244-246.