Scholar Publishing Group
International Journal of Art Innovation and Development
https://doi.org/10.38007/IJAID.2020.010206
ISSN 2789-7192 Vol. 1, Issue 2: 57-64

Construction and Practice of Talent Cultivation System with Innovation and Entrepreneurship in Plant Protection Specialty

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Keywords: Plant Protection, Innovation, Entrepreneurship, Personnel Training Mode

Abstract: With the transformation of the mode of economic growth and the rapid development of science and technology, the society has put forward new requirements for the quality of talents. It is an inevitable choice for the economic and social development of higher education to cultivate talents with innovative and practical ability. This paper focuses on theoretical research and practical exploration of the theme of cultivating innovative and entrepreneurial talents in plant protection major in agricultural universities. In theory, through the classification theory of colleges and universities, the theory of education stage, the theory of all-round development of people, the theory of education service to the social theory and the experience of the training mode of college students at home and abroad, it provides a reference for the training model of applied talents. Some suggestions on optimizing the training mode of Applied Talents in plant protection specialty in agricultural universities are put forward.

1. Introduction

Under the background of the current industrial restructuring, the problem of structural unemployment of college graduates has become one of the most prominent contradictions in the development of higher education in China. Modern plant protection professions are hungry, and the comprehensive quality of college students in plant protection is not compatible with the needs of the entire market economy system and society. Local plant protection professional training colleges as the backbone of plant protection professionals, should preclude innovation and entrepreneurship training model used to show the characteristics of the local plant protection professional colleges, higher education services play a social function, and promote higher plant protection and Social Economy of China Coordinated development. Combining with the reality of the reform of the teaching system of plant protection majors in colleges and universities, this paper starts with updating the application-oriented talent concept, innovating the training mode, formulating and implementing the application-oriented talent training program that highlights the comprehensive practical ability and innovation and entrepreneurship spirit ; strengthens the teaching infrastructure

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and builds the satisfaction cultivation of comprehensive practical ability and creative entrepreneurship practice teaching system; the reform of the curriculum system, designed to meet the training comprehensive practical ability and curriculum system innovation and entrepreneurship; quality control to improve teaching management system, the establishment of application-oriented people with innovative entrepreneurial training before the In terms of the system, it elaborates a new talent cultivation model construction idea to promote the plant protection profession to better adapt to the new situation of higher education reform and the needs of social development.

2. Training Specifications for Plant Protection Majors in Universities

2.1. Basic Requirements for Knowledge

Master the basic principles of Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory and the "Three Represents" and the scientific development concept ; have a certain basic knowledge of natural sciences, basic knowledge of humanities and social sciences ; master the basic theories of biological sciences and agricultural sciences And knowledge ; master methods and skills for plant pest identification, monitoring and control ; familiarize with relevant guidelines, policies and regulations related to agricultural production and plant protection ; have awareness and basic knowledge of sustainable agricultural development, understand agricultural production and plant protection The scientific frontier and development trend of the discipline.

2.2. The Basic Requirements of the Ability

It has the ability to deal with words, as well as a certain amount of translation and interpretation of foreign materials; be familiar with the use of computers, and the ability to use the network resources correctly; master professional knowledge, have strong practical application skills; have the ability of organization and management, and technical marketing ability.

2.3. The Basic Requirements of Quality

In terms of ideological and moral qualities, we should love the motherland, support the leadership of the Communist Party of China, and master the basic principles of Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory, the "Three Represents" and the important ideas of the scientific development concept ; willing to serve the socialist modernization ; dedication Love the post, have a sense of responsibility ; obey the law, be honest and trustworthy ; have good ideological and moral character, social morality and professional ethics ; cultural quality, hardworking, hardworking, modest, courteous ; have certain cultural accomplishment and writing ability; actively participate in society Practical activities, in line with the needs of social development; have certain communicative competence, can establish friendly interpersonal relationships ; professional quality, have a certain basic knowledge of natural sciences, love natural sciences; have a rigorous scientific attitude, observe, analyze, solve problems Ability. In terms of physical and mental quality, physical and mental health, positive optimism, handling problems and reasoning, not afraid of difficulties, and perseverance. Have a certain sense of movement, love labor, and love life.

3. The Plant Protection Professional Experimental Practice Teaching System Construction

In the aspect of practical teaching system, a comprehensive experimental teaching system, including "curriculum experiment, teaching practice, public welfare work, social practice,

professional cognition, scientific research training, production practice, professional practice and graduation practice", is constructed to realize the four-year practice teaching continuous line, practical teaching arrangement and agricultural time. A new system of practice teaching.

The professional practice system mainly includes:

The 1-2 semesters to carry out professional labor, through the planting of crops, field management, harvest and other links, so that students in the process of labor has a perceptual knowledge.

From 3-5 semesters, we will carry out curriculum experiments, curriculum practice, professional practice, social practice, scientific research training and production practice. The curriculum experiment closely follows the teaching content, while strengthening the ability training while digesting knowledge. Curriculum internship is a comprehensive practice which is carried out after each key course of plant protection is finished. It is a comprehensive training for the knowledge and ability of the course. The social practice takes advantage of the cold and summer vacation. The college is organized by the college to organize different social practice teams, and the teachers are led by the teachers. The research and guidance are carried out in the line of production, which mainly embodies the 3 combinations. (1) to combine with enterprises (such as DuPont, Herr and other pesticide companies) to investigate the problems in the prevention and control of plant diseases and insect pests, to guide farmers to use pesticides scientifically and rationally; (2) to combine with the government and guide the local plant protection personnel to investigate and guide the prevention and control of plant diseases and insect pests in the local area; (3) and the practice of young teachers. Under the guidance of research and technical guidance from young teachers to enterprises, rural areas and professional cooperatives, 3 teams were organized every year to investigate the occurrence of pests and diseases of fruit trees, vegetables and field crops and to guide the prevention and control of diseases and pests. Scientific research training, combined with teachers' scientific research projects, will help students enter the lab early, advance into teams, carry out scientific research activities early, and exercise students' scientific research ability in plant protection. In the production practice, the tutor system is carried out, the students are assigned to different teachers, and the teachers are led by the teachers. In the growing season of the crops, the students often lead the students to investigate the occurrence of the disease and insect pests in the first line and make the prevention and control measures.

The 6-7 semesters for professional practice and graduation practice. The professional practice is divided into two stages, one is the spring stage, one is the autumn stage, and each practice stage is 15 days. It is organized by the college to identify and investigate the diseases and insect pests on the line of production. A line of argument. From the May to the seventh semester of the sixth semester, the graduation practice was carried out in October, combined with the occurrence of agricultural diseases and insect pests, and completed the professional training and completed the graduation thesis.

In the eighth semester, according to the extended curriculum module, the corresponding teaching links should be arranged at the same time. In order to ensure the implementation of the experimental practice teaching system and ensure the smooth development of experimental training teaching, the plant protection specialty has strengthened the construction of experimental teaching conditions. First break the existing laboratory pattern, through the integration of resources to establish the insect life science and technology experiment platform, plant pathology experiment platform and the agricultural pharmacy experiment platform 3 experimental platforms, purchase and update the experimental instruments and equipment. To establish and improve the operating mechanism and management methods of the experimental platform, to establish the reward and punishment mechanism for the college students to enter the experimental platform and the performance appraisal of the experimental management personnel, to standardize the use and

construction mechanism of the experimental platform, and to promote the opening and sustainable development of the experimental platform. We should further improve the construction of teaching bases inside and outside schools so as to bring them into play in the training of compound applied talents.

4. Survey on the Training System of Innovative and Entrepreneurial Talents

4.1 Questionnaire Design

In order to have a deep understanding of the talent training mode of application-oriented universities in the transition period and provide real data support for this research, this paper needs to design a targeted questionnaire to analyze the current situation and existing problems of the training mode of innovative talents in application-oriented universities. The questionnaire designed in this study was mainly conducted by undergraduates from five application-oriented universities in this province.

4.2 Mathematical Statistics

In this paper, SPSS20.0 data statistics software was used to code and input the valid data obtained from the questionnaire, and further reliability and validity test, descriptive statistics, t-test, correlation analysis and regression analysis were carried out. The t-test formula used in this paper is as follows:

$$t = \frac{\overline{X} - \mu}{\frac{\sigma x}{\sqrt{n-1}}} \tag{1}$$

$$t = \frac{\overline{x_1} - \overline{x_2}}{\sqrt{\frac{\sigma_{x_1}^2 + \sigma_{x_2}^2 - 2\gamma\sigma_{X1}\sigma_{X2}}{n-1}}} \tag{2}$$

4.3 Statistics of Questionnaire Survey Results

Table 1. College students are familiar with innovation and entrepreneurship

	Proportion of population
Insight into	18.6%
Probably know	2.9%
Don't know much	13.2%
Don't understand	65.3%

As shown in Table 1, when asked, "How much do you know about innovation and entrepreneurship? Do you have any specific knowledge?" ", 65.3% of vocational college students said "only know entrepreneurship and innovation and entrepreneurship, but not very much"; Secondly, 18.6% of vocational college students said that they had "specific understanding"; 13.2% said that they had "never understood"; among them, 2.9% said that they had "general understanding"; but in addition to the normal innovation and entrepreneurship courses, they had never taken the initiative to participate in the innovation and entrepreneurship training and related lectures organized by the university.

The survey results show that there are still a large number of higher vocational college students for "innovation and entrepreneurship" still have a strong inertia, thinking and concept of a certain

"lag", lack of basic cognition of innovation and entrepreneurship, this problem is worthy of attention.

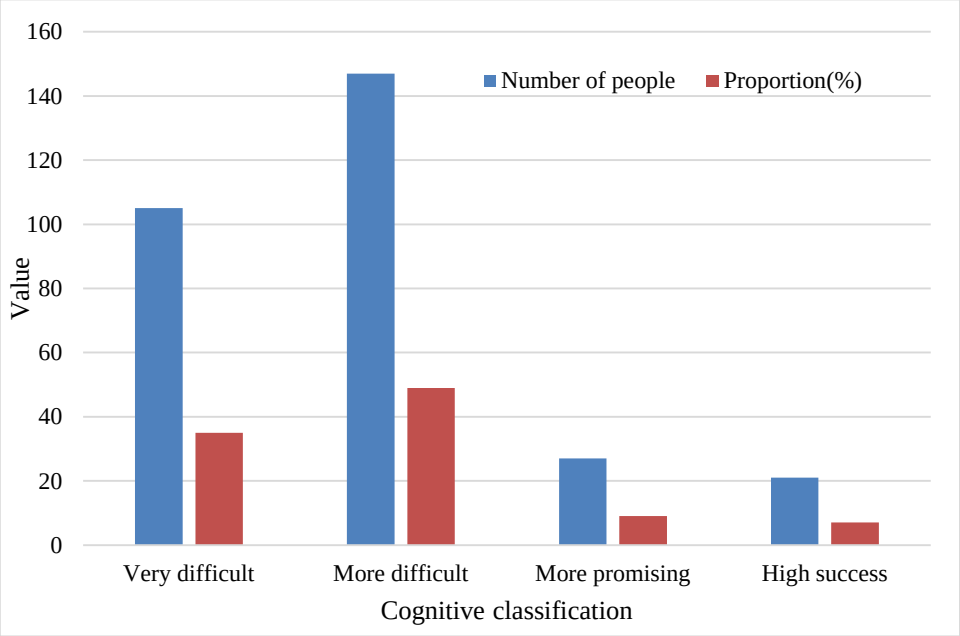

Figure 1. The situation diagram of college students' innovation and entrepreneurship

As shown in Figure 1, when asked "what do you think of the current situation of innovation and entrepreneurship" in the questionnaire, nearly half of college students answered "it is rather difficult", accounting for 49% of the total number of respondents. Some students think the situation is "very grim", accounting for 35% of the total. However, only 9% and 7% of the surveyed students thought that the innovation and entrepreneurship situation of vocational college students was more hopeful. As can be seen from the chart, the vast majority of college students think it is "relatively difficult" or "very difficult" to create and start a business. The author thinks this accords with the actual situation of our country at present.

5. The Plant Protection Innovation Entrepreneurship Spirit System Construction

5.1. Update the Concept of Modern Talent Cultivation and Cultivate Applied Talents with Innovative Entrepreneurship

For a long time, the College of Plant Protection of Agricultural University has been adhering to the school-running idea of “taking the road of innovation, taking the road of running a school with special characteristics, taking the road of quality education, and taking the road of scientific management”, closely focusing on the overall goal of serving agriculture, rural areas and farmers, and meeting market demand. Guided by, establish a modern talent training concept, rely on the local, and build a talent training system that serves local economic and social development. Strengthen quality awareness, characteristic awareness, crisis awareness and competition awareness, and establish an educational philosophy that is consistent with the development of the times. It will not only master the extensive knowledge of advanced science and culture, but also have the ability to develop and innovate, practice and entrepreneurial ability, and will be "being a person", "doing things", and "learning" to meet the needs of local economic and cultural construction with innovative entrepreneurship. Applied Talents.

5.2. Innovative Training Mode, Formulate and Implement an Application-oriented Talent Training Program that Highlights Comprehensive Practical Ability and Innovative Entrepreneurship

Improve the quality of personnel training, start from the design quality of training programs, follow the social needs-oriented school-running philosophy, and cultivate the application-oriented talents that adapt to local economic and cultural construction, taking into account the long-term development of students and the practical needs of employment. Teaching plans to expand the grounds of professional teaching programs, quality Development plan, the entire process of comprehensive training plan innovative entrepreneurship training program three-part, integrated personnel training; quality education and innovation and entrepreneurship education ideological education throughout the various Linking efforts to build the knowledge, ability and quality structure needed for students to adapt to social development changes ; incorporating the second classroom activities into the talent training program, carefully designing extracurricular activities to foster innovation and entrepreneurship, and concentrating on cultivating students' awareness of innovation and entrepreneurship and innovation and entrepreneurship To improve students' comprehensive practical ability.

5.3. Reform Curriculum, Design Curricula to Meet the Application-oriented Talents Comprehensive Practical Ability and Creative Entrepreneurship

Change the systemic and completeness of the past excessive pursuit of subject theory knowledge, emphasize theory, practice lightly, neglect the disadvantages of students' innovation consciousness and practical ability training, and strive to build a curriculum structure model of "quality-based, competency-based", integrating Optimize teaching content and system. Reform the traditional curriculum, integrate the school orientation and talent training objectives into the curriculum. The curriculum system is constructed according to the basic theory and basic knowledge modules, general skills and professional skills modules, innovative entrepreneurship and ability modules.

5.4. Strengthening Young Teachers' Training, Training a Number of Both Amphibious Types of Teachers in the Classroom, But Also with a Wealth of Practical Experience

The overall quality of teachers determines the level of running schools and the quality of personnel training. While taking a variety of forms to actively introduce high-quality talents and teachers to study famous universities, 1~2 young and middle-aged teachers are selected every year to go to the local plant protection and planting stations to study, to make up for their lack of theory and light practice, and to bring up a lot of academic level, which can both engage in classroom teaching and produce rich production. The practical experience of the amphibious team of teachers. To guide teachers to set up a new concept of education, quality and talent, take the teachers' professional ethics and teaching quality as an important basis for the assessment and appointment of teachers, to improve the system of teachers' promotion, appointment, assessment, reward and training, to guide and motivate teachers to forge ahead from the policy and to reform the teachers in the teaching and teaching. The talents and talents of teaching research, professional construction, curriculum construction, teaching material construction and laboratory construction are transferred to the training of students' comprehensive practical ability and the spirit of innovation and Entrepreneurship.

6. Conclusion

With the continuous investment of educational resources, the plant protection specialty of colleges and universities has been continuously developed and improved, and the training objectives of education and teaching concepts have been established. A scientific and rational talent training model has been established, the teaching content has been reorganized and innovative teaching methods have been improved, and teaching and practice have been improved. Conditions, focus on practical teaching to achieve practical results, improve the quality of personnel training. However, when the teaching reform is not completed, the professional teaching reform has a long way to go when it is only carried out. The plant protection profession in colleges and universities still has to keep up with the pace of the times in order to continuously push the teaching reform deeper.

Funding

This article is not supported by any foundation.

Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1]Chen B. Exploration and Practice on the New Mode of High-quality Innovative and Entrepreneurship Personnel Training. Value Engineering, 2012.

[2]Sun D L, He H, Lo J X, et al. Research on Information Technology Innovation and Three-Dimensional Entrepreneurship Diversified Personnel Training Practice Teaching System. Applied Mechanics & Materials, 2014, 519-520:1634-1637.

[3]Liu J G, Lin X Y. The Research and Practice of Innovation and Entrepreneurship Personnel Training Mode for Mathematics Major. Journal of Huaihua University, 2017.

[4]Chen X, Xiong L, Sun Q. Research and Practice on Innovation and Entrepreneurship Education System in Vocational Colleges// International Conference on Management, Education and Social Science. 2017. https://doi.org/10.2991/icmess-17.2017.152

[5]Zhang X, Guo J R, Ying L I, et al. Exploration and Practice on Making the Education of Innovation and Entrepreneurship in Veterinary Medicine Specialty. Animal Husbandry & Feed Science, 2013.

[6]Liu X, Zhao Y L. Research on the Dynamic Planning and Controlling System of Innovation and Entrepreneurship Personnel Training——From the Perspective of"Knowledge Connector ". Theory & Practice of Education, 2016.

[7]Zhang Y, Ge Y. Construction and Exploration of Advanced Applied Talents Training Model based on Innovation and Entrepreneurship Practice of Life Science. Guangdong Chemical Industry, 2017.

[8]Ma R. Problems and Countermeasures on Personnel Training of Innovation Entrepreneurship in Colleges and Universities// International Conference on Education, Management and

Computing Technology. 2017. https://doi.org/10.2991/icemct-17.2017.319

[9] Jun-Xia M A, Wang Y X, Hao L Q. Construction of the Applied Talents Training System of Innovation and Entrepreneurship Education in Engineering Management Specialty. Value Engineering, 2017.

[10] Chen S. Construction of Evaluation Index System of Innovation and Entrepreneurship in Local Colleges and Universities. Journal of Biological Chemistry, 2016, 275(27):20748-53.

[11] Chao-Ping M A. Reform and Practice of Innovation and Entrepreneurship Education for College Students from the Perspective of Application Oriented Personnel Training. Journal of Hubei Correspondence University, 2015.

[12] Zhao X H. The Construction and Improvement of the Training Mode of Innovation and Entrepreneurship in Colleges and Universities. Education Teaching Forum, 2018.

[13] Wang X L. Research on Personnel Training Oriented by Entrepreneurship and Based on Innovation. Education Modernization, 2018.

[14] Guo J. Trinity platform and collaborative innovation: construction and practice of educational platform of innovation and entrepreneurship of undergraduates in Guangdong Pharmaceutical University. Education of Chinese Medicine, 2018.