

# The research and practice of innovation talents training ways on modern food science

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**Abstract.** Innovate, is the soul of a country's progress and motivation. In the age of the knowledge economy, the primary of university education task should be training a batch of innovation ability and creative spirit of high-quality personnel. How to implement innovative education, training innovation spirit and innovation ability of student is placed in front of major colleges and universities an important issue. Modern food science is a comprehensive and practical subject and then need a large number of innovation talents. Therefore, this essay from the modern science professional characteristics, focusing on the curriculum system construction, reasonable integration course content, strengthen the practice of teaching and other aspects of modern food science and innovative talents training ways has been research and practice.

## Introduction

The modern food science is a complex system engineering which need the support of many subjects. At present the subject of higher agricultural colleges is almost single in our country which is hard to form a comprehensive subject atmosphere and go against knowledge innovation personnel training. The modern food science is a young subject, it is main training the advanced engineering and technical personnel which have the knowledge with chemical, biology, food engineering and food testing technology, who can in food and related field engaged in food production, quality control, product development scientific research, project design, enterprise management, food trade and marketing etc. The modern food science go integration path is the inevitable demand of modern food industry development, is the inevitable demand of modern food science development and also is the inevitable demand of modern agricultural science and technology development<sup>[1]</sup>. Food science real as an independent professional appear in college, began in the 20th century. Food science in our country gradually developed after new China which was founded. According to incompletely statistics, nearly 200 universities set up food science and engineering undergraduate course in our country, but compare to the food industry which is growing vigorously, still can't meet the demand on the industry talents.

Key state projects for the development of higher education of modern food science and the training of the and is essential to the higher education for modernization, the world and the future, at the same time, it is benefit to promote higher agricultural education, the innovation of modern food science, the cultivation of modern innovative talents of food science and strengthen the development and use of social resources<sup>[2]</sup>.

## 1 Transform the concept of Educational Thought, notify the orientation of running a school and cultivate innovative talents of modern food science

In order to provide the intellectual support, knowledge and talent for the agricultural modernization we must transform the concept of Educational Thought, notify the orientation of running a school and form a modern agricultural high-tech characteristic. We should make a consensus in the five aspects of ideological, concepts, the cultivation of talents, goals and programs,

and make it basic ideas to deepen educational reform of the institute. The institute continuously enhances international, reformation, studying and quality and promotes traditions which is “start at a high point, basis for a thick, rigor, practices and innovation” and characteristics of the Shanghai Jiao Tong University. To establish a ideology of running a school, it should be at the basic of agriculture, from Jilin, for the whole country, face the world. At the aspect of educational thought, the institute focuses on three basics, namely, education for all-around development, lifelong education and innovation in education. The institute tries its best to promote four transforms, namely, from application to investigation, from professional to generalist, from teaching to educating and from imparting to studying, which indicates the promotion of schooling, the enrichment of content and the extending of extension. On the basis of promoting the quality of undergraduate specialties of teaching, the institute actively develops the education of graduate student, pays a close attention to cultivate the innovative talents who have the characteristics of “lenience, compound, opening-up and innovation”<sup>[3]</sup>. At the aspect of cultivating program, the institute takes a clear idea that extending the basis, updating the content, making it a whole, improve the ability and quality, and reduce credit hours, elaborately designs a mode that is adaptable to 21<sup>st</sup> century about the structure of new knowledge and system of courses and explore the mode of cultivating innovative talents of food science.

## **2 Optimizing and integrating the system of course and the content of teaching which can promote the transformation of education**

Adjustment and optimization course offered that can resolve the following problems: the first is to optimize the system of course from training the student’s comprehensive quality then comprehensive and integrated on the course, set up the new system structure of course to reduce the total school curriculum; the second is to reduce the course offered to set apart enough class hours, and strengthen the basic teaching to ensure that students have enough time to learn the basic knowledge and skills, the training of comprehensive ability. So not only make students learn the basic course thoroughly, also for students’ personality development set aside a certain space. Therefore, reduce the class hours of required course and increase the proportion of elective course, set up the deep content of course about the basic course of the subsequent course, related subject and the humanities and social science; the third is to set up the courses of practice and technicality about training students’ innovation ability, joint connection the teachers’ scientific research with the graduation project, production practice and other links, and improve training the students’ abilities of start work; the forth is to broaden the basis and face of specialty, especially the characteristic of food profession, strengthen the teaching of chemistry, mathematics, computer courses and so on, enables the students to master the method and tool of modern application that is the good foundation of students’ employment<sup>[4]</sup>.

Pay attention to integrate the traditional basis of professional course, industriously the different knowledge of disciplines background and content blend into the curriculum, make the major limits to fuzzy, deepen science across and penetration, emphasize the base of education about food science, special features and frontier courses. Pay attention to the feature and forward looking about teaching content, emphasize training the spirit of innovation and practice ability of the students. We have made a blueprint of cultivating innovative talents of food science who has “lenience, compound, opening-up and innovation”. In the integral of the courses, we pay attention to the integrity, the relevant, the join of the contents, the reduce of repeat, improve the tantalizations in order to cover the increasing knowledge with the limit courses and teach students according to their aptitude and personal cultivating of the students.

## **3 To strengthen practice teaching, pay attention to innovation ability training**

Practice teaching is the most important quality of university education component. Food science is a comprehensive and practical subject. In the practical teaching process, the college provides

students with more perfect experiment practice environment, determined the students' independent self-discipline self management atmosphere, students self management and discussion of the defense in practice is food type of practice teaching basic characteristics. Self management let students in a constantly begin gradually the dark, develop strict scientific attitude, independent working ability and each other cooperation spirit, appreciates the scientific and rigorous gradual<sup>[5]</sup>. Experiment teaching method should reflect the transfer of three aspects: from emphasizing simple experimental transferred to strengthen the basic technology and method, from a local unit mainly to transfer the module design, and comprehensive system experiment, from a single experiment in experiment form transferred to lecture, laboratory experiments under internal and external diversified forms.

Strengthening the cultivation of the students' practical ability mainly through the following aspects to achieve. (1) course design (2) experiment teaching. Integrated experiment system, reform the experiment teaching content and methods, and construct a new experimental teaching system. New training scheme designs experiment teaching into three levels: the first level to test the experiment is given priority to, the second level to comprehensive experiments is given priority to, in order to deepen the teaching course the important theory as the center, strengthen the students' foundation of experimental skills, the third level to openness and innovative experiment is given priority to, student project themselves, and the emphasis on development of students' innovation ability, make them get the fundamental ability engaged in this discipline . On this basis, optimize and integrate relevant experiment course, in order to ensure the smooth implementation of the scheme. (3) practice. Now established stable practice base with changchun Guang Ze milk, Hua Zheng meat factory, changchun Hao Yue group, this factory production process several typical, combined with professional foundation courses and professional class closely, help to improve the practice teaching quality and effect, at the same time, arrange social practice course and production practice synchronously, let the students in practice to think, to experience and feel relationship of Professional knowledge and social needs.

#### **4 Reform the teaching methods and teaching means**

After several years effort, food professional offer professional foundation courses and professional course, fully using modern teaching means, made a set of traditional teaching blackboard writing, graph, slide show, projection is equal to a suit, with pictures, combining static, and content, material is rich, the perfect various forms and interesting strong multimedia courseware. Use of multimedia technology's effect of figure, words, sound, picture, to improve the teaching effect ,at the same time, can impart more teaching content,inspire students' interest in study, and make students more easy to accept and understanding, and increases students time to think about . Therefore, not only can improve the quality of teaching, but also to the cultivation of the students' comprehensive ability.

#### **5 Summary**

Through the research and practice of the modern food science innovation talents training ways, provides students with an innovative personnel training platform. Satisfy the requirements of today's food talent training mode reform, insists the theory research combined with food higher education . Establish a "high starting point, thick foundation, strict requirements and strong practice, pursues innovation" characteristical modern food science innovation talents training mode, rich prospective and innovative, contribute to higher agricultural education for comprehensive reform and development.

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