

Research Article

Construction and Practice of Off-Campus Practice Bases for Food Majors in the Context of Innovation and Entrepreneurship

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Abstract

In the context of the vigorous development of innovation and entrepreneurship, the construction of off-campus practice bases for food majors in colleges and universities is of great significance. This paper takes the Institute of Agricultural Products Processing of the Chinese Academy of Tropical Agricultural Sciences as a typical case to deeply analyze the existing problems in the construction of this practice base, including imperfect management mechanisms, insufficient integration of practice content and majors, and the need to strengthen the construction of teaching staff. Then put forward innovative ideas and strategies, covering aspects such as resource integration and optimization, teaching staff construction, curriculum and project innovation, cooperation mechanism innovation, and management and guarantee innovation. Elaborated on practical exploration and reform measures, such as building a collaborative education platform, building a high-level teaching staff team, establishing a characteristic practical curriculum system, comprehensively improving students' practical and innovative abilities, and strengthening the cooperation mechanism of industry, academia, research and learning between schools and institutes. Finally, it emphasizes that off-campus practice bases for food majors are of crucial significance for cultivating students' practical abilities, etc., and looks forward to the future development direction, including further strengthening the connection between practice bases and college professional courses, establishing a more scientific and reasonable evaluation system, and integrating new technology training and other contents. As a typical case, the Institute of Agricultural Products Processing of the Chinese Academy of Tropical Agricultural Sciences, provided experience and models for the development of off-campus practice bases for food majors.

Keywords

Innovation and Entrepreneurship, Food MAJOR, Off-Campus Practice Base for College Students

1. Introduction

At a time when the global economy is developing rapidly, innovation and entrepreneurship have become important driv-

ing forces for promoting economic growth, increasing employment opportunities, and enhancing national competitive-

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ness. Countries actively advocate and vigorously promote innovation and entrepreneurship education, aiming to cultivate high-quality talents with an innovative spirit, entrepreneurial consciousness, and entrepreneurial ability [1, 2]. The Chinese government has introduced a series of policy measures to encourage innovation and entrepreneurship, such as start-up subsidies, tax incentives, and holding innovation and entrepreneurship competitions. As important places for talent cultivation, colleges and universities and scientific research institutions need to respond actively and integrate innovation and entrepreneurship education into professional education [3]. As a traditional industry closely related to people's daily lives, the food industry is facing huge innovation and entrepreneurship opportunities and challenges with the continuous improvement of consumers' demands for food quality, safety, nutrition, and diversification, as well as the continuous innovation and development of food technology [4]. Food major students not only need to master solid professional knowledge and skills, but also need to have comprehensive qualities such as innovative thinking, market insight, and entrepreneurial ability to adapt to the rapid development and changes of the food industry [5]. Off-campus practice bases play a crucial role in food major education. On the one hand, students can apply the theoretical knowledge learned in class to practical operations through off-campus practice, deepen their understanding of theoretical knowledge, and improve their ability to solve practical problems [6]. On the other hand, students can use off-campus practice bases to access cutting-edge technologies in the industry, understand market demands and industry development trends, stimulate innovative thinking, and cultivate innovative abilities [7]. This research aims to explore effective paths for the construction and practice of off-campus practice bases for food majors in the context of innovation and entrepreneurship through in-depth analysis of the typical case of the Institute of Agricultural Products Processing of the Chinese Academy of Tropical Agricultural Sciences, specifically including researching its cooperation mode, construction achievements, and innovative strategies.

2. Problems in the Construction of Off-campus Practice Bases for Food Majors in Colleges and Universities

Off-campus practice bases for food majors in colleges and universities are important carriers for colleges and universities to improve students' practical abilities, innovative abilities, and problem-solving abilities. However, in the actual operation and management process, there are still many problems.

2.1. Imperfect Management Mechanism

There are problems such as unclear responsibilities and poor communication in the management of off-campus practice bases for college students. The management connection

between colleges and universities and research institutes is not tight enough, resulting in some management loopholes in the practice process. For example, in the arrangement of students' practice, sometimes there will be time conflicts between colleges and universities and research institutes, affecting the smooth progress of practice.

2.2. Insufficient Integration of Practice Content and Majors

The rapid development of food processing industry and fast update of food technology set higher requirements for food specialist training in colleges and universities. Because of heavy duties and limit hours in teaching Food Technology, coupled with obsolete teaching contents, outdated laboratory equipment in most colleges and universities, the lessons are centered on simple operations in the module of food production, such as homogenization, heat sterilization and squeezing, which hardly meet the requirements of modern food production in terms of design, development and quality standards, resulting in a gap between theoretical knowledge and social production.

2.3. The Construction of Teaching Staff Needs to Be Strengthened

The quantity and quality of practice instructors affect the practice effect to a certain extent. At present, although there are professional scientific researchers guiding in the practice base, there is still a problem of disproportionate ratio between instructors and students. At the same time, some instructors lack in-depth understanding of innovation and entrepreneurship education for college students and cannot effectively guide students to carry out innovative practice.

3. Innovative Ideas and Strategies for the Construction of Off-campus Practice

3.1. Resource Integration and Optimization

Establish an equipment sharing platform and open advanced food processing, detection and other equipment in the research institute for students of cooperative colleges and universities to use. Regularly maintain and upgrade equipment to ensure equipment performance and accuracy and meet the needs of practical teaching and innovation and entrepreneurship projects. Screen scientific research projects suitable for students to participate in and transform them into practical teaching cases and projects. For example, design scientific research projects such as agricultural product preservation technology and functional food research and development into practical courses that students can participate in, so that students can understand the scientific research process in practice and cultivate innovative thinking.

3.2. Teaching Staff Construction

Build a "double-qualified" teaching team. Strengthen the communication and cooperation between scientific researchers in research institutes and college teachers, and jointly carry out practical teaching and innovation and entrepreneurship guidance. Scientific researchers provide students with practical experience and technical guidance, while college teachers provide theoretical knowledge and teaching method support. Invite technical experts and managers of food enterprises to serve as enterprise instructors for practice bases and provide students with guidance on industry trends, market demands and enterprise management [8]. Enterprise instructors interact and communicate with students through lectures, practical guidance, project cooperation and other methods to improve students' innovation and entrepreneurship consciousness and practical ability.

3.3. Curriculum and Project Innovation

Combine the characteristics of food majors and the needs of innovation and entrepreneurship, and open food innovation and entrepreneurship courses, including food innovation design, food marketing planning, food enterprise management and other contents. Through course learning, cultivate students' innovative and entrepreneurial thinking and ability [9]. Design practical projects with innovation and challenges, and encourage students to cooperate across disciplines and majors to improve students' comprehensive ability and innovation ability [10]. For example, carry out innovative projects for deep processing of agricultural products and innovative projects for food packaging design.

3.4. Cooperation Mechanism Innovation

Unite the forces of colleges and universities, enterprises, governments and other parties to establish a food professional industry-university-research cooperation alliance [11]. Through the alliance, integrate resources from all parties and jointly carry out food professional talent cultivation, scientific research innovation and industrial development. Formulate alliance charters and cooperation mechanisms, clarify the rights and obligations of all parties, and ensure the smooth progress of cooperation. Hold alliance meetings regularly to exchange cooperation experience and solve problems that arise in cooperation. Establish cooperative relationships with foreign colleges and universities and scientific research institutions and carry out international exchanges and cooperation. Introduce advanced foreign food processing technologies and innovation and entrepreneurship education concepts to provide students with international learning and practical opportunities.

3.5. Management and Guarantee Innovation

Establish an information management platform for

off-campus practice bases for food majors to realize the informatization of functions such as practical teaching management, project management, equipment management, and teaching staff management. Through the platform, students can make online reservations for equipment, submit practice reports, and query practice results; teachers can issue practice tasks online, guide students in practice, and evaluate students' grades [12]. Establish and improve the incentive mechanism of the practice base, and commend and reward outstanding students, teachers and enterprise instructors in practical teaching and innovation and entrepreneurship activities. For example, set up excellent practice project awards, innovation and entrepreneurship scholarships, and excellent instructor awards.

4. Practical Exploration and Reform Measures for the Construction of Off-campus Practice

4.1. Establish a Collaborative Education Platform

Establish a close cooperative relationship with colleges and universities and jointly formulate talent training programs. Determine the goals, contents and methods of practical teaching in combination with the characteristics of food majors and the needs of innovation and entrepreneurship. The school and the institute jointly organize teaching activities and share teaching resources to achieve complementary advantages. Establish a school-institute joint training mechanism and select outstanding students to go to the research institute for internships and scientific research training [13]. Provide students with instructors to guide students to participate in scientific research projects and practical activities and improve students' professional qualities and practical abilities. At the same time, provide college teachers with opportunities for scientific research cooperation and practical training in the research institute to improve teachers' scientific research level and practical ability.

4.2. Build a High-Level Teaching Staff Team

The research institute regularly organizes internal training to improve the teaching ability of scientific researchers according to the needs of practical teaching of food majors. The training content includes teaching methods, curriculum design, student guidance skills and other aspects, helping scientific researchers better impart professional knowledge to students. Encourage scientific researchers to participate in teaching seminars, academic exchange activities, etc., broaden teaching horizons and learn advanced teaching concepts and methods. At the same time, provide scientific researchers with teaching practice opportunities and continuously improve teaching levels through feedback in the actual teaching process. Introduce college

teachers with rich teaching experience and practical backgrounds to serve as part-time teachers in the research institute and bring different teaching styles and professional perspectives to students. College teachers and scientific researchers in the research institute communicate and learn from each other to jointly improve teaching quality. Cooperate with enterprises and invite technical experts and managers of enterprises as practice instructors to provide students with the latest industry trends and practical experience [14]. Practice instructors participate in the teaching and guidance of practical courses to help students understand enterprise needs and improve practical ability and innovation ability.

4.3. Establish a Characteristic Practical Curriculum System

According to the training goals and innovation and entrepreneurship needs of food majors, set up a characteristic practical curriculum system [15]. The course content includes aspects such as food processing technology, food quality control, food innovation design, and food marketing planning, covering all fields of food majors. Practical courses adopt modular teaching, dividing course content into different modules, and each module corresponds to a practical project. Students master corresponding knowledge and skills by completing practical projects. At the same time, practical courses pay attention to the connection with theoretical courses to realize the organic combination of theory and practice. Adopt diversified teaching methods, such as case teaching, project-driven teaching, and problem-oriented teaching [16]. Through actual case analysis, project practice, problem-solving and other methods, stimulate students' learning interests and innovative thinking, and improve students' practical ability and problem-solving ability. Establish a scientific and reasonable assessment and evaluation system to comprehensively evaluate students' practical courses. The assessment content includes practical operation skills, project completion status, teamwork ability, innovation ability and other aspects. The assessment method adopts a combination of process assessment and terminal assessment, focusing on monitoring and evaluating students' practical processes.

4.4. Comprehensively Improve Students' Practical Ability and Innovation Ability

Strengthen the management of practical teaching links to ensure the quality and effect of practical teaching. Formulate practical teaching syllabuses and teaching plans, and clarify the goals, contents and requirements of practical teaching. Provide students with sufficient practical opportunities and conditions to enable students to master professional knowledge and skills in practice. Integrate innovation and entrepreneurship education into practical teaching to cultivate students' innovative consciousness and entrepreneurial ability. Open innovation and entrepreneurship courses, hold innova-

tion and entrepreneurship lectures, competitions and other activities to provide students with platforms and opportunities for innovation and entrepreneurship. Strengthen exchanges and cooperation with foreign colleges and universities and scientific research institutions to provide students with international exchange opportunities. Select outstanding students to go to foreign colleges and universities and scientific research institutions for exchange and study to understand the development trends and cutting-edge technologies of international food majors. At the same time, invite foreign experts to come to the research institute for lectures and exchanges to broaden students' international horizons.

4.5. Strengthen the Cooperation Mechanism of Industry-University-Research-Study in Schools and Institutes

Explore diversified cooperation modes of industry-university-research-study in schools and institutes, such as jointly building laboratories, joint research and development centers, and industrial technology innovation alliances [17]. Through innovation in cooperation modes, realize the effective integration of resources of schools, institutes and enterprises, and improve cooperation efficiency and effectiveness. Establish a cooperation project management mechanism to manage the entire process of cooperation projects. From project selection, declaration, implementation to acceptance, clarify the responsibilities and rights of all parties to ensure the smooth progress of the project. At the same time, strengthen the evaluation and feedback of cooperation projects and continuously improve cooperation modes and project management mechanisms.

5. Conclusion

Off-campus practice bases for food majors in colleges and universities are of great significance for cultivating college students' practical abilities, innovative thinking and entrepreneurial spirit in the context of innovation and entrepreneurship. As a typical case, the Institute of Agricultural Products Processing of the Chinese Academy of Tropical Agricultural Sciences has achieved certain results in providing practical opportunities for college students, improving scientific research capabilities and stimulating innovative thinking. With the continuous deepening of innovation and entrepreneurship education and the continuous increase in society's demand for innovative talents, the construction of off-campus practice bases for college students will face new opportunities and challenges. In the future, we can conduct further exploration and practice from the following aspects: how to further strengthen the connection between practice bases and college professional courses to make practical teaching better serve professional teaching and improve students' professional qualities; how to establish a more scientific and reasonable evaluation system for practice bases to con-

duct comprehensive and objective evaluations of the construction quality and teaching effects of practice bases; with the application of new technologies such as artificial intelligence and big data in the food industry, how to integrate the training of these new technologies into practice bases to enable students to have the ability to adapt to the future development of the food industry.

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Conflicts of Interest

The authors declare no conflicts of interest.

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