

Research on the Path of Integrating Craftsman Spirit into Scientific Collaborative Education of Postgraduates in Forestry Universities under the Background of New Agricultural Science

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Abstract

Under the background of new agricultural science, there is an urgent need for all kinds of new forestry application-oriented talents with skilled practical operation skills and craftsman spirit. The problems and advantages of scientific research collaborative education of postgraduates in forestry universities integrating craftsman spirit is analyzed, and educational paths which aspects are educational concept, work concept, scientific research management organization, guarantee mechanism, tutor system, collaborative training encourage application and participation in scientific research, encouraging the participation in academic conferences, publishing papers and the transformation of academic achievements, and adjusting the practical curriculum system. The effectiveness of integrating craftsman spirit and collaborative scientific research education is improved, and the high-quality compound talents with professional sentiment are cultivated. These measures are improving the employment rate, and teaching quality, and teacher education level.

Keywords

New agricultural science; Craftsmanship spirit; Science research; Collaborative education.

1. Introduction

Scientific research collaborative education is a new educational concept and mode that integrates scientific research and education to cultivate high-tech talents. Premier Li Keqiang has repeatedly stressed at various meetings that vigorously carried forward craftsman spirit, cultivating craftsman culture, abiding professional ethics, advocating excellence and cultivating many 'Chinese craftsmen'. Under the background of new agricultural science, there is an urgent need for all kinds of skilled agricultural and forestry application-oriented talents, whose need not only skilled practical skills but also craftsman spirit. The craftsman spirit refers to the craftsman's spiritual concept of carefully carving products, striving for perfection and pursuing perfection. It is not only the creative spirit and quality spirit of pursuing excellence but also the new demand for the cultivation of applied talents in agriculture and forestry in the new era. Forestry universities are the cradle of cultivating new forestry talents. In the process of cultivating forestry high-quality compound talents, innovative thinking and improve practical operation ability with scientific research cooperation are cultivated. At the same time, the postgraduate' professional sentiment with craftsman spirit is cultivated, and feedback scientific research and teaching, to realize collaborative education.

The research of domestic scholars on the craftsman spirit of postgraduates is the cultivation and realistic path [1, 2], scientific research and innovation path [3]. The disciplines focus on medicine [4], Marxist theory discipline [5], and ideological and political education [6]. The

collaborative education of scientific research focuses on the multi-factor collaborative training model of industry-university-research [7-9], and the improvement of scientific research and innovation ability [10-13]. Forestry universities should actively explore the adaptation of postgraduate craftsman spirit is integrated into the path of scientific research and collaborative education and is deeply rooted in craftsman spirit, done scientific research carefully and strived for excellence to improve the sense of scientific research identity, achievement and acquisition. The students' interest and innovation ability in academic research is continuously improved and craftsman spirit is cultivated based on theoretical and practical teaching, taking the student scientific research management institution as the innovation platform, and declaring or participating in the teacher's scientific research projects as the supporting means, guiding and inspiring innovative thinking. The purpose is cultivating professional applied forestry high-end talents with the awareness of pursuing excellence and exquisite skills in the new era, constantly adjusting the training mode, strengthening production, learning and research, and cultivating and carrying forward the craftsman spirit.

2. The Concept with Craftsman Spirit Scientific Research Collaborative Education

Educating people includes two spiritual levels such as thought and personality, and the professional level such as knowledge and skills, and the promotion of scientific research collaborative education at two levels is the result of scientific research collaborative education. Scientific research collaborative education means that teachers engage in scientific research or scientific research-related activities, improve their scientific research level, integrate scientific research processes and achievements into the teaching process, integrate scientific research and teaching resources, encourage and energize postgraduates to actively apply for postgraduates' scientific research projects and participate in teachers' scientific research projects, organize graduate students to listen to expert research reports, participate in academic conferences forum and other scientific research activities, expand innovative thinking and improve practical ability, ensure the training quality of applied talents, release the vitality of scientific and technological innovation, promote the output of scientific research achievements, cultivate postgraduates' correct ideas, outlook on life and values, improve teachers' awareness of education, improve postgraduates' scientific research ability, and improve the employment rate and employment quality. The collaborative education mode of scientific research breaks the traditional single teaching mode that separates teaching and scientific research and only focuses on knowledge transfer. It advocates promoting education through scientific research and promoting education through scientific research.

The craftsman spirit requires engineering postgraduates in universities to have the concept of excellence and meticulous scientific research literacy and requires universities to refine the path of educating postgraduates so that postgraduates can win with high quality. Forestry universities integrate craftsman spirit, guide scientific research and collaborative education, improve scientific research competitiveness, discipline development potential, and cultivate high-level talents with innovation ability, practical ability and good professional sentiment.

3. Problems and Advantages of Craftsman Spirit and Scientific Research Collaborative Education

3.1. Based on the Craftsman Spirit, Deeply Analyzing the Problems Existing in Scientific Research Collaborative Education

At present, there are problems in the four levels of consciousness, system, ability and evaluation mechanism of scientific research education, and teachers don't have a clear positioning of

scientific research work, lack of recognition of the value of scientific research education, and have not formed the consciousness of scientific research collaborative education. The schools' assessment system of emphasizing scientific research and neglecting education makes teachers ignore the importance of collaborative education through scientific research, only pay attention to the results of scientific research activities, don't pay attention to the process of scientific research activities, and ignore the education and cultivation of ideology and morality. Teachers are lack guidance ability, and unwilling to guide or only sign up for all kinds of high-level competitions. There is no specific guidance process, and all rely on graduate students' self-development. The effect evaluation mechanism is divorced, and the alienation evaluation mechanism of evaluating teachers with scientific research achievements and professional titles weakens the requirements for the output of teaching achievements.

3.2. Planting Artisan Mindfulness Rooting Artisan Spirit Concept, Clarifying the Advantages of Scientific Research Collaborative Education

Integrating craftsman spirit to carry out scientific research and collaborative education is to do scientific research with the concept of meticulous and excellence, excellent creative spirit and detailed quality spirit, so as to improve postgraduates' sense of identity, achievement and acquisition on the scientific research path. With rich practical experience and theoretical accumulation, teachers can improve the level of scientific research practice and promote the quality of teaching. The advantages of the craftsman spirit in scientific research and collaborative education are mainly reflected in three aspects, which are teacher level, graduate level and teaching resources level. So that it is enable to postgraduates master the academic trends of the frontier of the discipline, promote the interaction between theory and practice, enrich classroom teaching contents in combination with frontier cases of scientific research, deepen and expand teachers' theoretical knowledge system, constantly improve teaching methods and improve teachers' classroom teaching ability, and postgraduates can easily understand and accept teaching contents, Enhance graduate students' ability of independent thinking and independent learning, and cultivate innovative thinking; Take charge of and participate in scientific research projects, develop the habit of scientific research thinking of putting forward, analyzing and solving problems, stimulate scientific research interest, enhance the deep understanding of theoretical knowledge, constantly optimize the knowledge structure and improve the ability of inquiry, speculation and practice, enrich teaching resources, form networked teaching resources such as case base and database, scientific research achievements and cases, and the comprehensiveness and universality of knowledge involved in the process of subject research, so as to cultivate graduate students' independent exploration ability, practical innovation ability and critical thinking ability.

4. The Path of Scientific Research and Collaborative Education Integrating Craftsman Spirit

4.1. Deeply Dig the Path of Scientific Research Collaborative Education Integrating Craftsman Spirit

Scientific research collaborative education integrating craftsman spirit can improve graduate students' innovation ability, practical ability and professional sentiment. According to their development characteristics, scientific and effective scientific research collaborative education path can stimulate scientific and technological innovation potential and cultivate application-oriented high-quality excellent technical students in the new era.

(1) The educational concept of keeping pace with the times of scientific research and collaborative education integrating craftsman spirit is established . The path of scientific research collaborative education integrating craftsman spirit focuses on ingenuity, strong

technology and all-round development, strengthens the integration of theory with practice, cultivates a realistic and pragmatic scientific attitude and rigorous and pragmatic scientific research spirit, and establishes a united and mutually beneficial scientific research team.

(2) The concept of scientific research collaborative education integrating craftsman spirit should be paid to. Scientific research collaborative education integrating craftsman spirit must cultivate targeted and scientific teams, cultivate postgraduates with craftsman spirit, jointly carry out scientific research projects by utilizing competition, community, innovation and entrepreneurship, project application and patent application, pay attention to the perspective of scientific and technological innovation of postgraduates, promote the cultivation of innovation spirit of postgraduates and stimulate the innovation consciousness of postgraduates.

(3) The perfect organization of postgraduate scientific research management institutions is constructed. For scientific research collaborative education integrating craftsman spirit, it is necessary to establish a perfect graduate scientific research management organization, promote the process of scientific research collaborative education of craftsman spirit, build an excellent scientific research platform, and a team of professional teachers to lead graduate students in scientific research and learn professional knowledge, attract more graduate students to master scientific knowledge, transform scientific knowledge into scientific research ability, and stimulate graduate students' innovation inspiration. At the same time, it sharpens the will of postgraduates, exercises the quality of perseverance, cultivates a scientific and rigorous academic attitude and a pragmatic and realistic spiritual quality.

(4) The guarantee mechanism for graduate scientific research is built and improved. Based on the perspective of scientific and technological innovation of craftsman spirit, establish scientific research management institutions and perfect guarantee mechanism, strengthen theoretical research, formulate perfect rules and regulations, and pay attention to the transformation of scientific research achievements.

(5) The new tutor system for postgraduates is found. While completing the courses of the training plan, expanding the professional theoretical knowledge, contacting the frontier issues of the discipline, participating in the tutor's topics, conducting basic data collection, mastering the scientific research methods and indeed thinking ability, guiding the graduate students to participate in special lectures and academic salons, guiding the graduate students to carry out analysis in combination with theoretical knowledge, and gradually arranging relatively indeed scientific research tasks for analysis application and problem-solving all-round scientific research exercise to promote the interaction between teaching and scientific research.

(6) The mechanism for collaborative training of postgraduates. The latest scientific research achievements and methods into the teaching process is to pay attention to introducing, forming a new mechanism integrating scientific research, teaching and academic discussion. And it is paying attention to the independence, innovation and cooperation of academic research, guide postgraduates to think and interact with the latest research achievements and cases, stimulate graduate students' learning enthusiasm and scientific research motivation, and improve the teaching level and quality, promote the effective integration of teaching and scientific research.

(7) The postgraduates are encouraged to apply for and participate in scientific research projects. Postgraduates are encouraged to actively participate in scientific research and innovation activities and teachers' scientific research topics. With the help of teachers, postgraduates choose their topics, fill in the fund application form, complete the whole process of literature review, experimental scheme design, material purchase, experimental process, data processing, writing scientific research papers and research reports independently, and receive systematic scientific research training.

(8) The post graduates are encouraged to participate in various academic conferences. Through attending academic conferences, postgraduates are exposed to frontier achievements and cases

of pre disciplines, accept scientific and technological brainstorming, stimulate scientific research interest and continuously improve scientific research and innovation ability.

(9) Publication of papers and academic achievements are transformed. The postgraduates are encouraged to publish or convert achievements in scientific research activities into patents, improve postgraduates' sense of achievement, value and acquisition in scientific research activities, and promote postgraduates' scientific research motivation.

(10) The experimental courses are finished. The leading idea is taking the mutual promotion of teaching and research, integrating and optimizing the original curriculum system and high-quality teaching resources, paying attention to the transformation of scientific research achievements into teaching resources, and the progressive and cross integration of disciplines. The experimental course highlights the professional characteristics and increases the links of design experiment and course practice teaching, actively improving, and innovating experimental methods, and enhancing graduate students' thinking ability, practical ability and innovation ability. The experimental course teaching and practical teaching of the training program system should be constantly adjusted and improved.

4.2. Deepen the Craftsman Spirit and Build An Evaluation Mechanism of Scientific Research Collaborative Education Path with the Path Price System

The evaluation system of scientific research collaborative education is the evaluation standard and system guarantee for college teachers to practice scientific research education, improving the evaluation and assessment system, strengthening teachers' guidance, building a scientific research platform, and strengthening the design of evaluation system, operation mode and mechanism construction based on the principle of classified evaluation.

The valuation and assessment system are respectively improving by the teacher level and graduate level, and cooperating with the core departments of teacher evaluation, reforming the exchange of scientific research and education, and leading the harmonious development of scientific research and education, and adopting the method of combining itinerary and finality, paying attention to the diversification of assessment methods and the standardization of assessment indicators, and combining quantitative assessment with the qualitative assessment to ensure that the assessment is comprehensive, objective and reasonable.

And it is strengthening teachers' guidance, improving the effect of scientific research and education of college teachers, giving full play to the guiding role of professional teachers, and realizing all-round and multi-angle education, and building a rich scientific research platform, increasing the grasp of scientific research and education of college teachers, inviting industry experts to make academic reports, improving scientific research awards, and establishing and supporting graduate scientific research associations.

5. Result

As a way of educating people in the new era, scientific research collaborative education integrating craftsman spirit closely follows the pace of the times, focuses on the path of scientific research collaborative education of craftsman spirit of forestry science postgraduates in forestry universities, analyzes the existing problems and advantages of scientific research collaborative education, and puts forward from the perspectives of educational concept, work concept, scientific research management organization, guarantee mechanism, tutor system, collaborative training, encourage application and participation in scientific research, encourage participation in academic conferences, publish papers and transform academic achievements, adjust the practical curriculum system, improve the evaluation mechanism, enhance the effectiveness of integrating craftsman spirit and collaborative scientific research and education,

and take the integration of scientific research and teaching as the engine, the three-dimensional collaborative education mode of multi-level collaborative innovation is a breakthrough in cultivating high-quality compound talents and creating a first-class undergraduate teaching reform, so that postgraduates can integrate into their jobs in the best state and the shortest time after graduation, improve the employment rate, improve the teaching quality and improve the level of teacher education.

Acknowledgments

This work was financially supported by Agriculture and Forestry Working Committee of China Academic Degree and Postgraduate Education Society Fund(2021-NLZX-YB77), Southwest Forestry University Education Fund (YB202104, 202018).

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