

Research on the Multivariate Synergy and Linkage Integration of Practical Educational Paths in Forestry University Postgraduates under the Background of New Agricultural Science

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Abstract

Under the background of the new era, there is an urgent need for all kinds of practical skilled agricultural and forestry talents who need to have skilled practical skills. The traditional teaching mode can't provide more quantity and high-quality talents. The importance of practical education of postgraduates in forestry universities and the problems existing in the traditional teaching mode under the background of new agricultural science are analyzed, and the optimization path of diversified coordination and linkage integration of the new system of practical education of postgraduates in forestry universities are put forward. The cooperative chain and cooperative network which five aspects are system reconstruction, evaluation system optimization, guarantee mechanism, dynamic mechanism and sharing mechanism are constructed. This provides a new path for the practical education of postgraduates in forestry universities under the background of new agricultural science, so as to meet the talent demand under the background of new agricultural science.

Keywords

New Agricultural Science; Practice education; Cooperative chain; System reconstruction.

1. Introduction

The new agricultural science is a reform of the education system of agriculture and forestry based on the needs of the development of agricultural industrialization in the new era. It is guided by building morality and cultivating people, with the concept of strengthening agriculture and revitalizing forestry through science and education, and with inheritance and innovation, intersection and integration, coordination and sharing as the main ways to grasp learning and teaching, practice and innovation and entrepreneurship, so as to cultivate diversified and innovative farmers in the future high quality agricultural and forestry talents required by the development of forestry modernization. Improving the quality of higher agricultural and forestry education is an important way to win the battle against poverty, implement the rural revitalization strategy, promote the construction of ecological civilization and build a beautiful and happy China. In order to meet the needs of comprehensive agricultural upgrading, comprehensive rural progress, all-round development of farmers, global scientific and technological revolution and industrial reform, it is urgent for China's higher agricultural and forestry education to speed up the construction of new agricultural sciences, cultivate the leader of agricultural modernization, the leader of rural revitalization and the builder of beautiful China. At present, many scholars have carried out research on practical education of postgraduates in agriculture and forestry. Cao xiaoyu and Wu Haibo analyzed the weak practical operation ability, main problems and challenges of postgraduates in agricultural and forestry colleges, and puts forward innovative measures to improve the training quality and

ideas of Postgraduates' training quality [1, 2]. Li Jingsuo analyzed the lack of practice of agricultural postgraduates, and expounds the basic contents and realization ways of constructing the three stages model of practical teaching [3]. Wang Yuzhen proposed to build a master of forestry curriculum system highlighting the cultivation of practical ability, as well as the implementation of professional practice and the construction of professional practice base [4, 5]. Zhang Linping explored and implemented the practical teaching mode of the combination of centralized practice and segmented practice, the combination of on campus practice and off campus practice, and the combination of professional practice and dissertation, and puts forward the Countermeasures for the construction of practical teaching base [6]. Jiang Rui achieved the goal of training high-quality applied talents in agriculture from the professional demand and professional competence oriented talent training objectives, the training methods of the school practice platform and the personalized training process [7]. Hu Junhe put forward the school enterprise village postgraduate training mode to improve the practical comprehensive ability of agricultural postgraduates [8]. Sheng Yongming implemented the cultivation mode of industry university research cooperation to cultivate agricultural postgraduates and four enlightenments to promote industry university research cooperation and cultivate high-level applied talents in agricultural science [9]. Hu Feng proposed that the establishment of enterprise graduate workstation can improve the professional practice ability of postgraduates, which is a new mode of joint training of postgraduates [10]. At present, the research on practical education of postgraduates in agriculture and forestry is less and not deep enough. Under the background of the new era, there is an urgent need for all kinds of practical skilled agricultural and forestry talents. These talents need to have skilled practical skills. Universities must strengthen the links of practical education and improve the contents of practical education in the process of postgraduate training. Through multiple collaboration and linkage integration, this paper constructs a cooperative chain and network, and explores a new path of practical education for postgraduates in Forestry Universities under the background of new agricultural science.

2. The Importance of Practical Education of Postgraduates in Forestry Universities under the Background of New Agricultural Science

2.1. The Needs of the New Age

Under the background of the construction of new agricultural sciences, the reform of practical education for postgraduates is a new way and inevitable requirement for the reform of talent training in universities to comply with the development of the new era. In the outline of the national medium and long-term education reform and development plan (2010-2020), it is specially proposed to strengthen the practical education in universities under the new situation. Practical education is one of the important ways to cultivate postgraduates' comprehensive quality and promote the improvement of postgraduates' abilities in all aspects. Through various practical activities, stimulate the enthusiasm and initiative of postgraduates to forge ahead and become talents, enhance their sense of responsibility and historical mission, and devote themselves to study and life with higher enthusiasm, and better learn scientific and cultural knowledge, firmly master various professional skills, and devote ourselves to the construction of modern agriculture and forestry as soon as possible. The practical education of postgraduates in universities is a comprehensive collaborative education process, with the participation of schools, enterprises and society, the optimization and integration of various resources, strengthen the cultivation of postgraduates' ability to apply knowledge and solve practical problems, cooperate with various resource forces to form a joint force, realize the purpose of education, and transport innovative top-notch talents in agriculture and forestry for the construction of modern agriculture and forestry. practical education aims to truly

implement the fundamental task of building morality and cultivating people, promote the improvement of talent training quality in forestry universities, promote the internationalization of China's graduate education with the innovation and reform of educational methods, solve the problems restricting the development of China's graduate education, and accelerate the improvement of the quality of compound application-oriented agricultural and forestry talents. And the major strategic choice to move forward from a big educational country to a powerful educational country. Therefore, it is very important to promote the reform of practical education and training mode. With the development of national education, the expansion of graduate enrollment provides more opportunities for social enterprises or government units to choose talents. During recruitment, master graduates with solid professional knowledge and professional quality are more needed, and master graduates with strong innovation ability and practical ability are given priority, which further leads to increased employment competition pressure. Therefore, in order to improve the social survival ability of postgraduates and the employment rate of graduates, the cultivation of postgraduates' practical ability is pay attention. When carrying out theoretical education and experimental education, we should consciously improve the innovation and practical ability of postgraduates, cultivate their creative thinking and improve their comprehensive quality in an all-round way.

2.2. Optimization of Education Model

The universities are the main places for cultivating talents, where actively carry out innovation and entrepreneurship education, and jointly build a collaborative system with enterprises, industries and governments to promote the diversified development of talents. The advanced level of teachers, teaching methods and scientific research equipment in Chinese universities is less than that in the United States and other developed countries, and have rich theoretical knowledge but lack practical ability. The hard conditions don't meet the requirements of social posts and new agricultural talents. Optimizing the education model requires schools to carry out theoretical education, strengthen the implementation of the second classroom practical education, improve the practical innovation and practical ability of postgraduates, and increase the share of practical teaching in the traditional teaching model. Secondly, the direction of cultivating professional talents in universities should be combined with local economic development and social talent demand posts, and purposefully cultivate postgraduates to become talents matching employers and social enterprises, take the road of characteristic development, refine school running characteristics, take the road of school local interaction and build a practice platform, which is the correct way to reform the talent training mode [11]. In today's society, the employment competition is fierce. The education model is optimized, education linking to employment, and the comparative advantage of postgraduates' competition for employment is increased through practice education.

2.3. Diversified Synergy and Linkage Integration

In the field of education in China, multiple coordination mechanisms such as universities, governments, and enterprises have taken shape. Through universities as the main body, the government leads the operation of the collaborative education mechanism. Government departments guide and encourage the general direction of education, and create policy opportunities for university and all sectors of society to reach cooperation. Social enterprises provide practical guidance for postgraduates, coordinate with the professional training plan of universities, and play a driving and supporting role. Postgraduates take the initiative to learn, combined with their own wishes and actively cooperate with the multiple collaborative ways of participating in the plan. In order to cultivate application-oriented talents with innovative spirit and practical ability, it is very important for universities to deepen the linkage and integration plan on the basis of collaboration. Multi-party linkage builds a coordination chain through the design of practical teaching objectives, teaching content design, practical platform

construction, and industry-university-research integration to achieve the effectiveness of multi-party resource sharing, high-quality cultural integration, and benefit matching and coordination. Collaboration and linkage include multiple and multiple levels. Different universities, different district, city, and provincial governments, and different enterprises in the same area collaborate to form a collaborative network.

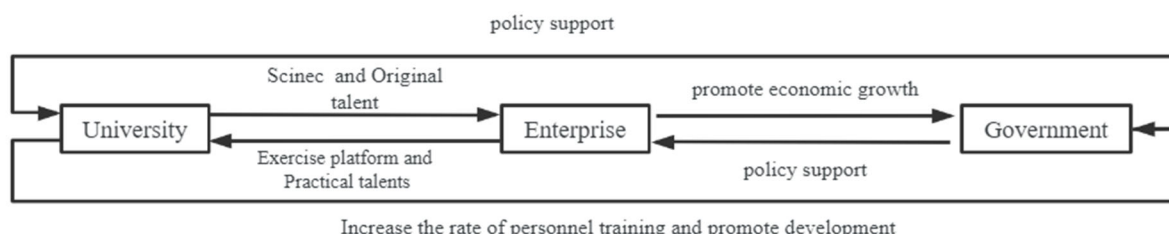


Figure 1. Cokinematic chain

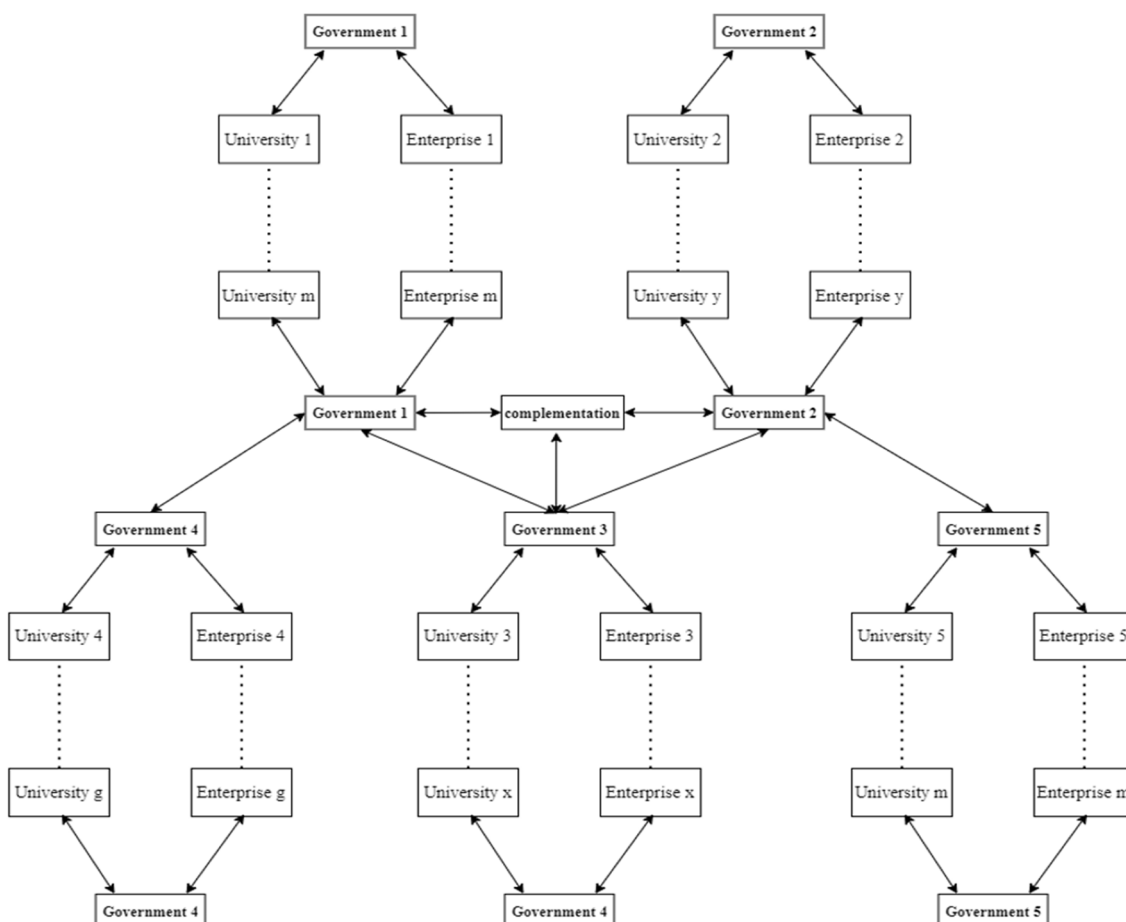


Figure 2. Cooperative network

3. Research on Practicing and Educating People Synergistically

The talents cultivated under the traditional mode of practical teaching can't meet the needs of current social development, and the exploration of new approaches needs the support of new theoretical methods. This article analyzes the teaching mode of practical education in forest universities under the coordination chain through two aspects of multi-factor collaboration and linkage integration.

3.1. Reconstruction of A New System of Practical Education

The construction of the new system is analyzed from three aspects: teacher collaboration, platform collaboration, and content collaboration. Faculty collaboration is first conducted by university teachers to teach postgraduates theoretical knowledge to lay a solid foundation, and the practical teaching content is negotiated by university and the platform provider, and cross-training is mutually proactive. Practical teaching integrates theory and technology in real projects by passing on, helping, leading, and hiring enterprise experts and technical personnel to improve postgraduates' adaptability, problem solving ability, and communication ability. The platform is jointly built by three parties. The school provides a technical service platform, an online communication platform, an enterprise provides equipment resources, a practice base and a special guidance platform, and the government provides policy support and a bridging platform. It makes the synergy chain proceed in an orderly manner, ensuring the continued effectiveness of resource sharing, coordinated development, and multi-party mutual benefit. Content collaboration discusses practical content through university experts, technical experts, and business management experts to jointly establish practical teaching curriculum systems, practical teaching goals, practical teaching methods, teaching content design, and results prediction, etc. And leading postgraduates to become comprehensive talents who dare to make breakthroughs, innovations and practice [2]. This chain system is conducive to postgraduates, social development, and a practical education system that is conducive to the construction of a modern society. On this basis, it can be further deepened into a network system, where two coordination chains are interrelated and combined into a coordination network. There can be multiple projects in an enterprise, corresponding to different majors, different majors can have different universities, and different advantageous resources of different universities can mutually benefit and feed back to the enterprise to provide advanced technical support within a certain range, forming a network of cooperation.

3.2. Optimize the Practical Education Evaluation System

The evaluation system is divided into postgraduate evaluation system, teacher evaluation system, employer evaluation system, and comprehensive evaluation system according to different cooperators. The evaluation system is the feedback of the effectiveness and initiative of the coordination chain and the coordination network.

In practical education, postgraduates are the main body of education and training, and it is the purpose of practical education to lead postgraduates to develop in all directions and cultivate postgraduates' practical ability. The postgraduate evaluation system is the embodiment of the practical training effect. The postgraduate evaluation system is divided into two parts, one is the evaluation of postgraduates' practical performance, and the other is the evaluation of practical teaching from the perspective of postgraduates. Practical performance appraisal can follow the traditional scoring and appraisal system, with a 100-point system of appraisal scoring such as attendance, practical activity, practical technical difficulty, practical completion, and satisfaction with practical results, and is divided into 5 levels according to different scores, the last three The number of grades accounted for more than 70%, which is defined as the practice teaching effect is not ideal, and it needs to be adjusted according to the specific situation and can be proposed to revise the practice teaching plan; the evaluation of practice teaching from the perspective of postgraduates can use 360° performance weight assessment, and postgraduates are Teachers, practical technical teachers, practical project content, practical project and other related matters are evaluated by weight, and the scores are divided into 4 levels. The latter two levels account for more than 50%, which are defined as unqualified teacher quality and plan feasibility. Need to adjust.

Teachers are the backbone of practical teaching, providing theoretical and technical support for postgraduates' teaching and guiding postgraduates to provide practical directions. The

teacher evaluation system is divided into two aspects: postgraduate achievement evaluation and enterprise school practice plan evaluation. The evaluation of postgraduate achievement is divided into two parts: the degree of theoretical study before practice and the result of postgraduate practice. The evaluation is divided into 5 levels. The evaluation of enterprise-school practice plans is based on the postgraduates' level of technical and theoretical integration, the degree of correspondence between professional knowledge and practical projects, the feasibility of practical content, and the display of postgraduates' practical results. The latter three levels account for more than 70%, which are defined as unsatisfactory practical teaching effects and need to be adjusted according to specific conditions and can be proposed to revise the practical teaching plan.

The enterprise evaluation system is divided into internal and external evaluation tables. The internal evaluation of the strength of the company's development and advancement by the talents and technology provided by the school, and the external evaluation of the postgraduates' training results from the perspective of the technical teaching staff of the enterprise. Consistent with the teacher evaluation system, when the unqualified rate exceeds 70%, it is defined as the practice teaching effect is not ideal, and it needs to be adjusted according to the specific situation and can propose to revise the practice teaching plan.

When there are more than two types of failures in the three system evaluation tables, it indicates that the coordination chain and the coordination network have poor effectiveness and low initiative, and the plan needs to be revised. If necessary, entrust a third-party organization with higher qualifications to carry out dynamic real-time evaluation, and improve the objectivity of evaluation conclusions through the diversity of evaluation subjects.

3.3. Guarantee the Construction of A New System

Under the background of new agricultural science, the traditional model of practical education is lagging behind, and new models are being explored. There are low government leadership, weak corporate collaboration awareness, low teaching effectiveness in universities, and imperfect supervision systems. Therefore, it is very important to establish a new safeguard system.

Establish a sound system guarantee mechanism. The construction of a collaborative chain of industry, academia and research, and the Internet are a new method of practicing education, and a whole set of multi-stakeholders. In order to ensure the performance of the rights and obligations of each subject, it should be established and perfected without legal regulations. Institutional system and operating mechanism. Give full play to the functional role of the government and related departments, mobilize the enthusiasm of collaborative education through targeted policy guidance and technical assistance, promote the operation of the collaborative chain, and ensure the integration and coordination of industry and education, and joint education through specific and standardized institutional mechanisms. Orderly development.

Strengthen the dynamic mechanism of cooperative education. Under the conditions of a socialist market economy, it is necessary to safeguard their own interests and expand their demands. In the process of constructing the coordination chain, it is necessary to fully take into account the demands of various interests and satisfy the interests of the main body, integrate the social resources of all parties, and promote the motivation of educating people. As a "community of shared destiny" for educating people through the cooperation chain and the Internet, we should establish the concept of cooperation and win-win in the process of the integration of industry and education and collaborative education, proceed from the overall situation, dilute part of the rights and interests, and balance the interests with the goal of educating people and serving the country. Appeal, form value recognition, and jointly increase the motivation of educating people [3].

Deepen the resource platform sharing mechanism. Although some universities have carried out school-enterprise cooperation and established a resource platform sharing mechanism, the shared resources are very limited, which can meet the needs of talent training under the background of today's new engineering. While cultivating talents, universities should actively cooperate with local economic development and local social needs, so that postgraduates' professional direction can be in line with the development of local enterprises to a certain extent, and identify regional resource advantages and industry advantages, and expand cooperation fields and scales. Continuously deepen the resource platform sharing mechanism, and enhance the vitality of running schools with a diversified high-quality resource platform. Adjust professional settings and talent training programs as needed, further promote the construction of a platform for integration of production and education, and effectively improve the quality of talent supply. Enterprises should open up the project construction platform and production process platform to the greatest extent, provide more diversified resource conditions for the integration of production and education, and provide strong support for the transformation of scientific and technological achievements in universities and postgraduate internship training.

4. Result

Practical education is an important way for universities to cultivate comprehensive high-quality talents. The exploration of the path of practical education under the background of new engineering is a process of continuous advancement. This paper initially builds a practical education collaboration chain through multiple coordination and linkage integration, which is led by the government, the participation of enterprises, the main body of universities, and postgraduates take the initiative to build a new education system, optimize evaluation models, and build a guarantee mechanism to achieve multi-party resource sharing and high-quality cultural integration. , Effectiveness of benefit matching and coordination. When the coordination chain matures, deepen the inter-chain structure to form a coordination network, and further promote the effective development of practical education.

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