

Establish Discipline and Specialty Laboratories and Explore the Training of Applied Talents in Local Comprehensive Universities

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Abstract. Experimental teaching is an important part of the teaching system of universities, and the laboratory is an important platform for experimental teaching and scientific research. The level of experimental teaching and laboratory construction in universities is an important symbol of cultivating applied talents and reflecting the comprehensive strength of universities. Tea major is a characteristic specialty of Pu'er University. With the characteristics of Pu'er tea technology and cultural research, the discipline has shown a good momentum of development in local universities in Yunnan Province; in this paper, we take the establishment of tea science laboratory in Pu'er University as an example to explore the key issues of the cultivation of applied talents in local comprehensive universities. Finally, we summarize the practical experience of Pu'er University in this regard, which provides a demonstration for the experimental teaching reform and the cultivation of applied talents in local comprehensive universities.

1 Introduction

With the development of innovation and entrepreneurship education for college students and the launch of the "Double First-Class" construction of universities across the country, universities must not only make great efforts in scientific research and discipline construction, but also pay more attention to education and teaching and the training of discipline applied senior talents [1,2]. Experimental teaching is the focus of undergraduate and graduate teaching, and laboratory construction is the guarantee to complete experimental teaching and scientific research work [1,3]. Experimental teaching and laboratory construction are the top priority in evaluating the teaching quality and talent training of universities. Therefore, universities must attach great importance to the reform of experimental teaching and laboratory construction. Local comprehensive universities are important representatives of local universities, which reflect the level of local higher education to a certain extent, and have a leading and exemplary effect on the reform and development of local higher education [4]. In recent years, Pu'er University, as a local comprehensive university, has made great progress in the reform of experimental teaching

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and the construction and management of discipline and specialty laboratories, studied and explored the training of applied talents, and achieved certain results.

2 The necessity of establishing discipline and specialty laboratories for the training of applied talents in local comprehensive universities

2.1 The establishment of discipline and specialty laboratories plays a leading and radiating role in the training of applied talents in local comprehensive universities

Local comprehensive universities are the main battlefield for cultivating talents. The construction of discipline and professional laboratories in local comprehensive universities can enhance the training quality of applied talents [1,5]. Some key discipline professional laboratories will become an important carrier for cultivating applied talents and make great contributions to the development of local and social economy, science and technology. At the same time, through the construction of discipline and professional laboratories in local comprehensive universities, application-oriented talents can focus on applied basic research, carry out strategic experiments on substantive problems arising in the local and society, and realize knowledge reserve and theoretical support for talent training [2,6]. In addition, in order to better improve the ability of applied talents, the discipline and professional laboratories of local comprehensive universities can provide them with a research site to develop more scientific and technological achievements and their applications in an excellent experimental atmosphere. It should be said that the construction of discipline and professional laboratories in local comprehensive universities is the main carrier for condensing and stabilizing scientific and technological innovation and applied talents, as well as cultivating discipline and technology leaders. Therefore, the construction of discipline laboratories in local comprehensive universities can fully mobilize the awareness of applied talents to explore the knowledge of disciplines, and can carry out discipline related experiments in combination with the current social and market needs. Let the direction of its experimental research more meet the regional economic characteristics and social development needs, and enhance the local characteristics of the location of the discipline laboratory of the local comprehensive university. On the other hand, the role of the discipline laboratories of local comprehensive universities in the research topics of national and local economic construction is very huge. It not only allows applied talents to access basic technical research, but also enables them to carry out the original innovation of application ways on the basis of it, which effectively improves the innovation awareness and application level of applied talents, and lays the foundation for promoting local economic development [2, 7].

In addition to the above advantages, the construction of discipline laboratories in local comprehensive universities can also bring together a large number of top-notch scientific and technological innovation talents, so that their relevant talents can develop more innovative technologies and application ways through high-level experimental research, which not only meets the current high-speed development of science and technology and related applications, but also drives the development of a number of innovative application-oriented talents. To achieve such a dual effect, we need an advanced discipline and professional laboratory of a local comprehensive university, and provide the latest experimental and scientific research environment for its innovative and applied talents. Under the guidance of an excellent, stable and loose experimental environment, it can attract many innovative and applied talents to participate in its experimental team, and

make its scientific research innovation and applied talent team complement each other through a reasonable structure [8]. The research of his team in the discipline laboratory of a local comprehensive university can be carried out with a high starting point and high level of research, which will drive a group of young backbones with innovative consciousness and development potential, and bring many applied talents to the fore in this group. In essence, the construction of discipline laboratories in local comprehensive universities can effectively improve the training quality of applied talents and deliver more innovative applied talents to the society.

2.2 The establishment of discipline and professional laboratories can promote the development of local comprehensive universities to cultivate applied talents

By combining the characteristics of universities and local areas, the establishment of discipline specialized laboratories in local comprehensive universities can enable them to serve and promote discipline construction, improve the transformation and development of local comprehensive universities and cultivate applied talents[3,6]. After being listed as the first batch of Pilot Universities for transformation and development in Yunnan Province in 2014, Pu'er University has actively established tea science professional laboratories, built applied technology universities, and served the local economic and social development. According to the transformation and development plan of Pu'er University, the discipline of tea is a key characteristic discipline among the six major groups of university disciplines under the transformation and development of Pu'er University, and an important entry point for Pu'er University to cultivate applied talents in the discipline of tea and serve the local economic and social development.

Since 2015, in order to better cultivate applied talents in tea science and promote the local economic and social development of Pu'er, Pu'er University, relying on tea majors, has established a tea professional laboratory in Yunnan Jinfu Tea Industry Co., Ltd. and Pu'er Puzhen Tea Industry Co., Ltd., which has become an important starting point for local tea enterprises in Pu'er to improve quality, efficiency and brand building, and has improved the core competitiveness of tea enterprises with its powerful measures. It has laid a solid foundation for the development of the enterprise and injected the power of "science and technology" and "culture". To a certain extent, it has cultivated a large number of applied senior talents in tea science, promoted the development of local Pu'er tea industry, and displayed the enduring charm of Pu'er tea as a leader in tea.

In order to achieve the development goal of the tea industry and establish a professional laboratory of tea, the action plan for the development of the tea industry in Yunnan Province proposed the hundreds of millions action for the cultivation of tea professionals, focusing on the cultivation of 100 professional and technical talents with senior titles, 1000 business backbones with intermediate titles, and 10000 practical and technical talents, so as to provide strong talent support for industrial transformation and upgrading. Therefore, the establishment of tea science professional laboratory is the foundation for further consolidating the construction of key disciplines of tea science, effectively promoting the comprehensive promotion of the transformation and development of the school, and serving the cultivation of high-level applied talents in tea science.

3 The guarantee of establishing discipline and specialty laboratories and cultivating applied talents in local comprehensive universities

At present, there are some problems in the experimental teaching and laboratory construction of local comprehensive universities, such as the lack of innovation in talent training programs and the outdated experimental teaching content; teachers lack innovative spirit and students lack enthusiasm and initiative [9,10]. Therefore, the establishment of discipline and professional laboratories and the training of applied talents in local comprehensive universities need a certain guarantee.

1. A strong teaching staff is the basic guarantee for establishing discipline and professional laboratories and cultivating applied talents in local comprehensive universities [11, 12]. The core of the construction of key discipline professional laboratories and the cultivation of applied talents is to have a high-quality teaching staff. The cultivation of innovative spirit and application is a top-down process. Experimental series teachers are teachers that cannot be ignored in local comprehensive universities. The College of agriculture and forestry of Pu'er University has 28 teachers and 19 teachers participated in the project construction, including 3 professors (15.8%), 7 associate professors (36.8%), 7 lecturers (36.8%), 6 doctors (31.6%), 12 Masters (63.2%), and 13 under the age of 45 (68.4%). Basically formed a teaching team that combines the elderly, middle-aged and young people, mainly middle-aged and senior high school, and has a reasonable educational background, age and professional title structure. In the long-term development process, this team has formed a work style of dedication, joy and dedication, and has the overall teaching and research strength to engage in tea and related disciplines. The high-quality teaching staff provides a strong talent guarantee for the establishment of discipline and professional laboratories and the training of applied talents in local comprehensive universities.

2. Make use of the good advantages of local location to provide an important guarantee for the establishment of discipline and professional laboratories and the training of applied talents in local comprehensive universities [1,6]. Pu'er University is located in "the source of tea in the world, the tea city of China, and the capital of Pu'er tea". Pu'er City is the main tea producing area in Yunnan Province. As of 2017, according to the work report of the Pu'er municipal government in 2018, the area of tea gardens in Pu'er City has reached 1.65 million mu. The national modern agricultural industrial park has been settled in Pu'er, and Simao district has been listed as the only tea industry chain integration demonstration area in the province. Tea technology and tea culture resources such as tea cultivation, tea breeding, tea processing, tea art performance, and national tea customs are extremely rich. The profound accumulation of tea science and technology and tea culture in Pu'er City provides a unique resource reserve for Pu'er University to establish a tea science professional laboratory and cultivate applied talents in local comprehensive universities. In addition, Pu'er's regional advantage of "one city connects three countries, one river connects five neighbors" also provides regional convenience for the application-oriented talents of tea major trained by the key tea major laboratories to go abroad, serve the development of tea industry in South and Southeast Asian countries, and promote the friendly cooperation between China and ASEAN countries.

3. The school running conditions of local comprehensive universities are the cornerstone of establishing discipline and professional laboratories and cultivating applied talents of local comprehensive universities [3, 11]. According to the general idea of adjusting the professional layout of universities in Yunnan Province, Pu'er University has realized the transformation from a normal university to a comprehensive university, from a theoretical type to a practical application type, and actively transformed, developed and built a "National University". In recent years, with the rapid development of society and science and technology, as well as the continuous expansion of the scale of applied talent training, the school has invested more than 10 million to transform and upgrade the laboratory of tea cultivation, the laboratory of tea breeding, the laboratory of tea processing, the tea evaluation room, the tea culture room, the "school factory" of tea leaf processing,

the plant protection laboratory, the tea planting training base in the school and other experimental training places, The area of professional laboratories and the number of instruments and equipment have been greatly improved. In addition, there is also a provincial practical teaching base in Xishuangbanna Tropical Botanical Garden, China. The teaching and practical training area of the College of agriculture and forestry is 10000 square meters, with a total asset of more than 10 million yuan, which has laid a solid foundation for the construction of key professional laboratories of tea. In addition, the Pu'er innovation and entrepreneurship building and the Southwest Yunnan experimental training building built by the university are the cornerstone of building discipline and professional laboratories to cultivate applied talents in local comprehensive universities.

4 Practical measures to establish discipline and specialty laboratories and cultivate applied talents in local comprehensive universities

With the characteristics of Pu'er tea science, technology and cultural research, the discipline of tea in Pu'er University has shown a good momentum of development in local universities in Yunnan Province. The specialty of tea is a characteristic specialty focused by Pu'er University, which has established the training goal of cultivating applied senior talents in the discipline of tea in local comprehensive universities, and has accumulated some practical experience in the reform of experimental teaching and the construction of discipline specialty laboratories. It has certain reference value for the teaching reform of local comprehensive universities and the training of applied talents.

1. Build a number of discipline and professional experiment and training rooms to improve the teaching conditions of tea major. Through the implementation of the project, the school has built key disciplines of tea science, and further built seven perfect experimental training rooms of tea science, including experimental training room of tea cultivation, experimental training room of tea breeding, experimental training room of tea processing, experimental training room of tea evaluation, experimental training room of analysis of physical and chemical components of tea, experimental training room of deep processing and comprehensive utilization of tea, and experimental training room of tea art and tea ceremony, and build a tea processing "school factory", an on campus tea planting base and a public service platform for the tea industry. Through the construction of the experimental training room, the experimental training teaching conditions of tea science specialty have been significantly improved, the teaching facilities have been comprehensively improved, the professional technical level and scientific research ability of students and teachers have been significantly improved, the teaching quality has been improved, and finally the training quality of applied senior talents in tea science has been improved.

2. Optimize the structure of teaching staff and improve the technical support ability of professional applied talents. In view of the problem of "unbalanced professional development direction" in the development of tea science in the school, we will base ourselves on the existing foundation obtained in the research of Pu'er tea technology and culture in the school, strive to integrate resources inside and outside the school, and adopt the method of "combining full-time and part-time work, and combining school and place" to establish and improve the employment mechanism. We will introduce Xiao Shiyang, Huang Guishu, heshihua, Yang Zhongyue and other domestic famous tea and tea culture experts and scholars as well as several "big country craftsmen" from Pu'er City came to the school to teach and give lectures, constantly optimizing the composition of the teaching staff of tea and enhancing the strength of running the school. Through the construction of

key disciplines and professional laboratories of tea science, the teaching resources of the school of agriculture and forestry and the school of biology and chemistry will be integrated, and the construction results can be shared with agronomy, gardening, food and other majors, so as to strengthen the construction of mentor teams in various research fields, so that the professional title structure, academic background structure, academic relationship structure and scientific research ability of teachers in various disciplines of tea science will reach a new height. It enables the steady development of tea science in our school. At the same time, it realizes resource sharing, enhances the strength of the professional group, significantly enhances the strength of the agricultural, forestry and biodiversity professional group, and cultivates a large number of compound professional application-oriented talents.

3. Promote the development of teaching and scientific research, and ensure the efficient operation of establishing discipline and professional laboratories to cultivate applied talents in local comprehensive universities. On the one hand, improve professional influence through the construction of excellent courses. Curriculum construction is the top priority of professional construction. The College of agriculture and forestry will take the implementation of this project as an opportunity to actively apply for some school level excellent courses and provincial excellent course on the basis of the characteristic courses of Pu'er tea culture and chemistry. Through the construction of excellent courses, it will improve the education and teaching quality of tea discipline and promote the connotation development of tea major and applied talent training. On the other hand, by consolidating the foundation, a number of high-level innovation teams and scientific research platforms have been built. Through project construction, the College of agriculture and forestry of our university has comprehensively promoted the ability of tea science to undertake major project research, especially the ability of tea science to serve local economic and social development, gave full play to the role of Pu'er tea science, technology and cultural research in the economic and social development of Pu'er City and Yunnan Pu'er tea district, and built a provincial innovation team, a provincial innovation and entrepreneurship base, and two scientific research platforms above the municipal level. It provides a solid driving force for the training of applied talents in tea science.

4. Promote the reform of the applied talent training system, so that the talent training program highlights the characteristics of "modularity, modernization and internationalization". According to the requirements of transformation and development, the construction of Guomen University and the construction and development of the undergraduate qualification evaluation of the Ministry of education, our university has carried out the reform of discipline and specialty construction in accordance with the three modules of "application-oriented specialty, international specialty and advantageous characteristic specialty" in the construction of discipline and specialty laboratory, and has innovated and formulated the teaching and talent training system in combination with the characteristics and needs of specialty construction and development, and has reformulated the talent training plan of Pu'er University. According to the needs of economic and social development in Southwest Yunnan, South Asia and Southeast Asia, cultivate high-quality applied technical talents. In addition, the university has signed strategic cooperation agreements with Central University for nationalities, Yunnan University, etc., to jointly cultivate applied talents, and jointly carry out project application and scientific research platform construction. Sign a strategic cooperation framework agreement with nine counties and one district of Pu'er City to cultivate scarce applied talents for local economic and social development, and carry out joint scientific and technological research to jointly promote local economic and social development. It has signed agreements with InterContinental Hotel Management Group, Ltd., Yunnan Longsheng Group Co., Ltd. and other enterprises, as well as scientific research institutions such as Xishuangbanna Tropical

Botanical Garden and Puer Tea Research Institute of the Chinese Academy of Sciences to jointly cultivate applied professional and technical talents. The training results are obvious, and the employment rate of graduates reaches 100%.

5 Achievements and benefits of establishing discipline and specialty laboratories and cultivating applied talents in local comprehensive universities

The construction of discipline and specialty laboratories in universities is the main way to cultivate applied talents for local comprehensive universities [13]. As an advantageous and key characteristic discipline of Pu'er University, tea science is responsible for highlighting the school's characteristics, improving local tea science and technology, developing local tea industry, serving local economic and social development, and inheriting and carrying forward tea culture in Southwest Yunnan by establishing a tea science professional laboratory to cultivate applied senior talents in tea science. The following achievements and benefits have been achieved through the establishment of discipline and professional laboratories to cultivate tea application-oriented talents.

First, through the establishment of a tea culture room and a tea major experimental training room, we created a fine course of Pu'er tea culture, carried out experiments and practical courses of tea cultivation and tea breeding, met the development needs of the cluster construction of tea disciplines and majors, ensured the smooth development and quality improvement of the basic teaching of the overall tea major cluster, and carried out the practical training of tea evaluators. It ensures the ability of cultivating tea professionals to recognize, recognize and evaluate tea, and provides necessary instruments and equipment and places for practice and training for the teaching of tea evaluation. In addition, the construction of the experimental training room for deep processing and comprehensive utilization of tea has strengthened the integration of modern bioengineering technology and tea science, based on innovation and in-depth development of tea products, so as to explore the way of tea quality improvement, efficiency increase and comprehensive utilization, and meet the needs of application-oriented talent training through various ways.

Second, the establishment of tea science professional laboratories to cultivate applied talents in local comprehensive universities has promoted the development of tea industry in Southwest Yunnan and promoted the prosperity and stability of border ethnic areas. Based on the goal of establishing a professional laboratory of tea science and cultivating applied talents of tea science, Pu'er University has comprehensively strengthened the strength of tea science, launched scientific and technological achievements in the tea industry, and actively realized the transformation and application. At the same time, it has better collected and sorted out local ethnic tea customs in Southwest Yunnan, promoted a number of exquisite ethnic tea art works, and comprehensively displayed the characteristics and charm of tea culture of ethnic minorities in Southwest Yunnan. And promote the tea industry to improve quality and efficiency, and promote mutual understanding, recognition and respect among all ethnic groups through the publicity and promotion of tea culture, so as to promote the social prosperity and stability of the southwest border region, and produce a large number of relevant applied talents.

Third, through the establishment of tea professional laboratories, we have cultivated applied talents in tea, created key disciplines in tea, and cultivated provincial-level specialty. It has comprehensively improved the teaching staff of tea science, established a number of high-level scientific research platforms, undertaken a number of high-level scientific research projects, formed a number of high-level landmark scientific research achievements, consolidated the school running foundation of key disciplines of tea science, and

highlighted the local characteristics of tea science, thus comprehensively improving the training ability and innovation ability of applied talents of tea science.

6 Conclusion

Innovation and application are not only the driving force of future social development, but also a key to promote the development of market economy. Therefore, cultivating innovative and applied talents in local comprehensive universities is the core to meet the needs of social development and promote national development. Through the construction of discipline and professional laboratory, it can not only cultivate the practical ability of applied talents, but also improve the teaching quality of universities, and has a great role in promoting the discipline construction of universities.

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