

The Reflection and Practice of Excellent Traditional Agricultural Culture in the Cultivation of Professional Qualities at Agricultural Colleges and Universities

Jiawen Li*, Yijing Ren

Guangxi Vocational University of Agriculture, Nanning 530007, China

*Corresponding author: Jiawen Li, 15578876005@163.com

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Abstract: The excellent traditional agricultural culture is an important cultural heritage of the Chinese nation, encompassing rich agricultural techniques, production methods, as well as ethics and social norms. Agricultural colleges and universities bear the responsibility of both preserving and innovating agricultural culture in the cultivation of professional qualities. This study aims to explore the specific reflection and practice of excellent traditional agricultural culture in the cultivation of professional qualities at agricultural colleges and universities. Through efforts in curriculum design, school-enterprise cooperation, and campus culture construction, the comprehensive enhancement of students' professional ethics, abilities, and spirit is promoted. The research finds that traditional agricultural culture has unique advantages in cultivating students' integrity, diligence, and pragmatism, and plays a crucial role in improving the professional qualities of students at agricultural colleges and universities.

Keywords: Excellent traditional agricultural culture; Professional qualities; Agricultural colleges and universities; Curriculum design

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1. Introduction

The excellent traditional agricultural culture is a crystallization of the long-standing history of the Chinese nation, reflecting the wisdom and creativity of ancient Chinese laborers. In modern society, with the development of agricultural modernization and globalization, traditional agricultural culture faces dual challenges of preservation and innovation. As important institutions for cultivating agricultural professionals, agricultural colleges and universities play a critical role in the cultivation of professional qualities. Studying how excellent traditional agricultural culture is reflected and practiced in the cultivation of professional qualities in agricultural colleges not only helps enrich the content and form of vocational education but also enhances students' professional ethics, abilities, and spirit, thereby training more high-quality talents for China's

agricultural modernization.

2. Overview of excellent traditional agricultural culture

2.1. Historical development of agricultural culture

Agricultural culture, as a significant component of Chinese civilization, can be traced back to the primitive agricultural stage of the Neolithic period, when early ancestors began using simple tools for agricultural production, gradually forming the initial agricultural techniques and production methods. Over time, particularly in the Yellow River and Yangtze River basins, agricultural civilization reached a high level. During the Shang and Zhou dynasties, the use of iron tools and ox plowing significantly boosted agricultural productivity, contributing to major advancements in agricultural technology and the initial formation of social and ethical values. Throughout the feudal period, successive dynasties promoted agricultural development through policies like “promoting agriculture and suppressing commerce,” land equalization systems, and the growth of a commodity economy. Notably, during the Ming and Qing dynasties, advancements in agricultural science and technology—such as the introduction of new crop varieties and the construction of agricultural water conservancy projects—brought agricultural culture to its peak. This culture deeply penetrated all aspects of social life, becoming a vital factor in maintaining social stability and development, showcasing the wisdom and creativity of the Chinese people in agricultural production and social governance ^[1].

2.2. Main content of agricultural culture

Excellent traditional agricultural culture is rich in content, covering various aspects such as agricultural technology, production methods, ethics, and social norms. Agricultural technology and production methods are its core elements. From primitive slash-and-burn farming to modern intensive cultivation, continuous innovation in technology and optimization of production methods have greatly improved agricultural productivity and promoted economic growth. The development of crop varieties, the implementation of crop rotation and fallow systems, and advancements in irrigation technology all demonstrate the wisdom and experience embedded in agricultural culture. Furthermore, agricultural solar terms like the “Beginning of Spring,” “Qingming,” and “Grain in Ear,” along with associated farming activities, summarize valuable experiences regarding the agricultural production cycle, guiding agricultural activities. By aligning agricultural activities with these seasonal markers, farmers ensure that their practices are optimized according to nature’s rhythms.

Ethics and social norms are also key components of agricultural culture, emphasizing the harmonious coexistence between humans and nature while advocating values such as diligence, frugality, integrity, and mutual assistance. These values have played an important role in agricultural production and social ethics, contributing to societal stability and progress. Customs and regulations within villages, clan systems, and the daily habits of farmers are reflections of agricultural culture. Literary works and folklore, such as the depiction of agricultural life in “The Book of Songs” and the agricultural techniques documented in “The Complete Book of Agriculture” have passed down and enriched agricultural culture. These elements not only broaden the cultural scope but also provide valuable resources and insights for modern agricultural education and the cultivation of professional qualities.

3. The connotation and requirements of professional qualities

3.1. Definition of professional qualities

Professional qualities refer to the comprehensive qualities and professional spirit that individuals exhibit in their

professional activities, encompassing aspects such as professional ethics, abilities, and attitudes. Professional qualities not only reflect an individual's level of expertise and skills but also demonstrate their adherence to ethical norms, work attitudes, and professional spirit. The cultivation of professional qualities is not only crucial for an individual's career development and success but also influences the overall level of professionalism within a particular field and contributes to the development of society as a whole. High-level professional qualities are key for professionals to succeed in complex and ever-changing work environments and are essential for enhancing career competitiveness ^[2].

3.2. The particularity of professional qualities cultivation in agricultural colleges and universities

The cultivation of professional qualities in agricultural colleges and universities has its particularities, primarily due to the unique demands of agricultural disciplines and the specific challenges of the agricultural work environment. Agricultural students need to acquire solid agricultural knowledge and skills, but in addition to mastering professional knowledge, they must also develop strong adaptability and problem-solving abilities to respond to challenges posed by seasonal changes and varying environmental conditions.

Moreover, the cultivation of professional qualities in agricultural colleges should place significant emphasis on the development of students' professional ethics and spirit. Agricultural production is closely related to the natural environment and emphasizes the harmonious coexistence between humans and nature. The unique characteristics of agricultural production, which often involves harsh working conditions, require students to cultivate a spirit of hard work and resilience, as well as a strong sense of professional commitment.

4. The reflection of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges

4.1. Cultivation of professional ethics

Excellent traditional agricultural culture contains rich connotations of professional ethics, especially in aspects such as integrity, dedication, and a sense of responsibility, which have a profound influence on the cultivation of professional ethics for students in agricultural colleges. The principle of "integrity as the foundation" emphasized in agricultural culture is reflected in various aspects of agricultural production and trade. Farmers highly value trust and credibility in their daily production activities, forming a strong professional ethic of honesty and integrity. This tradition provides important insights for the cultivation of professional ethics in modern agricultural students. By learning and inheriting this cultural essence, students can develop a strong sense of integrity in their careers, adhere to professional standards, and maintain professional ethics, thus gaining the trust and respect of society ^[3].

Dedication is another important element of professional ethics embedded in agricultural culture. In traditional agricultural societies, farmers rely on hard work and meticulous cultivation for their livelihoods, forming a strong sense of dedication to their work. This spirit is fully reflected in the cultivation of professional ethics in agricultural colleges. Through fieldwork and hands-on agricultural tasks, students not only experience the hard work and wisdom of farmers but also cultivate a strong work ethic and understand the importance of dedication. Dedication not only improves students' enthusiasm and initiative in their work but also strengthens their sense of responsibility and mission in their chosen profession.

Responsibility is a critical component of professional ethics, which is particularly evident in traditional agricultural culture. Farmers are responsible not only for their labor outcomes but also for the natural environment and their communities. This sense of responsibility holds great practical significance for the

cultivation of professional ethics in agricultural colleges. By participating in agricultural environmental protection projects and community service activities, students can deeply understand the importance of responsibility and apply it in their future work. Cultivating a sense of responsibility in students helps them take on social responsibilities in their careers and contribute to the sustainable development of agriculture.

4.2. Enhancement of professional abilities

Excellent traditional agricultural culture plays a significant role in enhancing the professional abilities of students in agricultural colleges. The culture is rich with agricultural knowledge and experience, which can be passed on to students through classroom teaching and practical activities, helping them master advanced agricultural production techniques. By learning about traditional crop cultivation techniques, pest control methods, and soil management strategies, students can apply this knowledge in their future work to improve agricultural production efficiency and quality, thus enhancing their professional abilities.

Furthermore, traditional agricultural culture emphasizes hands-on practice, which has a major impact on the cultivation of professional abilities in agricultural students. Farmers in agricultural culture accumulate a wealth of practical experience and skills through long-term production practices. Agricultural colleges can offer practical courses, organize field internships, and establish farm laboratories to provide students with opportunities to engage in agricultural production firsthand, thereby enhancing their practical skills and problem-solving abilities. Through these practical activities, students can integrate theoretical knowledge with real-world applications, identify and solve problems in practice, and thus improve their professional capabilities.

Additionally, traditional agricultural culture values innovation and technological improvement, which actively contributes to the enhancement of students' professional abilities in agricultural colleges. Throughout history, farmers have been adept at summarizing their experiences and introducing innovations and improvements in agricultural techniques. Agricultural colleges can encourage students to engage in innovation and entrepreneurship education, developing new technologies and products based on traditional agricultural methods. Through participation in technological innovation competitions, research projects, and entrepreneurial practice activities, students can cultivate innovative thinking and abilities, thereby contributing to the development of modern agriculture ^[4].

4.3. Shaping of professional spirit

Excellent traditional agricultural culture plays an essential role in shaping the professional spirit of students in agricultural colleges. The concept of "Heaven rewards diligence" found in agricultural culture has a profound impact on students' professional spirit. This concept emphasizes that hard work and effort are the foundations of success, inspiring students to maintain a positive attitude and work diligently throughout their careers. By learning and passing down this concept, students can develop a diligent and practical work ethic, fostering a deep passion and commitment to their profession, which in turn helps them continuously achieve progress in their work.

The spirit of teamwork emphasized in traditional agricultural culture is also significant in shaping the professional spirit of students in agricultural colleges. In agricultural production, farmers often collaborate to complete various tasks, and this cooperative spirit is equally important in modern professional environments. Agricultural colleges can foster teamwork through group projects, collective labor, and collaborative research activities. Through these activities, students learn to work effectively with others, strengthen their sense of collective honor and responsibility, and enhance team cooperation, thereby shaping a strong professional spirit.

Lastly, the resilience embodied in traditional agricultural culture profoundly influences the shaping of

students' professional spirit in agricultural colleges. Farmers often face natural disasters and challenging environments in the course of production, but they persist with resilience, overcoming difficulties to continue their work. This resilient spirit is equally important in modern professional environments. Agricultural colleges can cultivate resilience and stress management skills in students by assigning challenging tasks and exposing them to demanding environments. Through such training, students learn to remain calm and determined in the face of professional challenges, developing a resilient professional spirit that lays a solid foundation for their career development.

5. The practice of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges

5.1. Curriculum design and teaching methods

In terms of curriculum design, agricultural colleges can organically integrate excellent traditional agricultural culture into professional courses. For instance, in foundational courses like agricultural science and agronomy principles, content related to the history of agricultural culture, traditional agricultural techniques, and experiences can be added, allowing students to learn and understand traditional agricultural wisdom while acquiring modern agricultural knowledge. By incorporating specialized lectures, case studies, and historical literature reviews, students can gain a comprehensive understanding of the rich connotations and practical applications of agricultural culture, enhancing their cultural literacy and professional competence^[5]. This integrated curriculum design helps cultivate students' innovative thinking and ability to integrate interdisciplinary knowledge, thereby improving their overall professional qualities.

In teaching methods, a variety of approaches can be used to stimulate students' interest and initiative in learning. For example, a project-based learning model can be employed, where real-world issues from traditional agricultural culture are set as project tasks, encouraging students to solve these problems through teamwork, field investigations, and experimental research. In the process, students not only acquire practical skills in agricultural production but also develop critical thinking and problem-solving abilities. Additionally, interactive teaching, scenario simulations, and role-playing methods can help students better understand and grasp the essence of agricultural culture, thereby enhancing their professional skills and comprehensive qualities.

Practical teaching is also an indispensable part of curriculum design. Agricultural colleges can establish on-campus and off-campus training bases, allowing students to engage in practical operations in real agricultural production environments. For example, organizing students to participate in crop cultivation, pest control, and soil improvement activities provides them with firsthand experience in various aspects of agricultural production. In this practical process, students not only apply what they have learned in class to real-world situations but also experience the charm of traditional agricultural culture, deepening their understanding and appreciation of agriculture. Such practical teaching helps to develop students' hands-on abilities and operational skills, improving their professional qualities and expertise.

5.2. School-enterprise cooperation and social practice

School-enterprise cooperation is one of the key ways for agricultural colleges to enhance students' professional qualities. By establishing close partnerships with agricultural enterprises, agricultural colleges can provide students with more internship and employment opportunities. For example, by collaborating with agricultural technology companies, agricultural product processing firms, and agricultural cooperatives, colleges can offer joint training programs and internship plans, allowing students to gain practical experience in a real business environment. During this process, students can not only learn about the operational models and management

methods of agricultural enterprises but also acquire advanced agricultural technologies and production experience, thereby enhancing their professional abilities and adaptability. The deepening of school-enterprise cooperation facilitates the integration of production, education, and research, improving the quality and level of talent cultivation in agricultural colleges.

Social practice activities are also a crucial means of cultivating students' professional qualities. Agricultural colleges can organize students to participate in various forms of social practice activities, such as rural surveys, agricultural technology promotion, and agricultural poverty alleviation projects. These activities help students gain a deeper understanding of rural realities and the current state of agricultural development while fostering a sense of social responsibility and service. During social practice, students can apply their knowledge to solve problems faced by farmers, enhancing their practical skills and social adaptability. Moreover, by engaging in social practice, students build close relationships with farmers, strengthening their passion for and commitment to agricultural careers.

Furthermore, agricultural colleges can stimulate students' innovation and entrepreneurial enthusiasm through agricultural technology competitions, innovation contests, and other activities. For example, organizing students to participate in agricultural technology innovation competitions encourages them to combine the wisdom of traditional agricultural culture with modern technological means to develop new agricultural techniques and products. During this process, students not only showcase their innovation capabilities and professional knowledge but also broaden their horizons through competition and exchange, improving their comprehensive qualities. Through these school-enterprise cooperation and social practice activities, agricultural colleges can effectively enhance students' professional qualities and cultivate more high-quality talents for agricultural modernization.

5.3. Campus culture construction

Campus culture construction plays an important role in the cultivation of professional qualities in agricultural colleges. By creating a campus culture atmosphere centered around excellent traditional agricultural culture, agricultural colleges can foster a sense of cultural identity and belonging among students. For example, organizing agricultural culture festivals, cultural lectures, and exhibitions can allow students to understand and experience the charm of agricultural culture through participation. By involving students in traditional agricultural activities such as rice planting, harvesting, and agricultural product processing, they can experience real-life scenarios of agricultural culture, enhancing their sense of identity and pride in traditional culture. These activities not only enrich campus cultural life but also help to cultivate students' professional ethics and spirit.

In campus culture construction, agricultural colleges can also establish agricultural culture exhibitions and heritage bases to provide platforms for students to learn and study traditional agricultural culture. For instance, setting up agricultural culture museums or agricultural technology parks to showcase traditional farming tools, crop varieties, and production methods allows students to gain a visual understanding of the history and development of agricultural culture. In these exhibitions and heritage bases, students can conduct field investigations and research, learn traditional agricultural techniques, and understand the core values of agricultural culture. This hands-on learning approach helps students deeply grasp the essence of agricultural culture, improving their professional skills and overall competence ^[6].

Moreover, agricultural colleges can promote innovation and development in agricultural culture through research projects. Encouraging teachers and students to collaborate on agricultural culture research projects helps explore the intersection of traditional agricultural culture and modern agricultural technology, leading to the development of new agricultural techniques and products. For example, researching the improvement and

promotion of traditional crop varieties, or exploring pathways for the development of organic and ecological agriculture. Through this process, students not only enhance their research abilities and innovation consciousness but also gain a deeper appreciation of the rich heritage and modern value of agricultural culture. These research activities allow agricultural colleges to continuously enrich and develop agricultural culture, contributing to the cultivation of students' professional qualities and the advancement of agricultural modernization.

6. Conclusion

This study, through analyzing the specific reflection and practice of excellent traditional agricultural culture in the cultivation of professional qualities in agricultural colleges, reveals its unique advantages in fostering professional ethics, enhancing professional abilities, and shaping professional spirit. Through practical activities such as curriculum design, school-enterprise cooperation, and campus culture construction, the comprehensive development of students' professional qualities has been effectively promoted, providing new insights and methods for vocational education in agricultural colleges. Future research should further explore the application of traditional agricultural culture in modern agricultural education, developing more teaching resources and methods that meet the needs of modern agriculture, thereby promoting the overall development and progress of agricultural education.

Disclosure statement

The authors declare no conflict of interest.

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