Journal of Frontiers in Multidisciplinary Research

Research on the Reform of "Rural Education" for Horticulture Majors under the Background of Rural Revitalization : Taking the Course "Protected Horticulture" as an Example

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Article Info

E-ISSN: 3050-9726
P-ISSN: 3050-9718
Impact Factor (RSIF): 7.34
Volume: 07
Issue: 01
Received: 20-01-2026
Accepted: 22-02-2026
Published: 24-03-2026
Page No: 215-218

Abstract
Against the background of fully promoting the strategy of rural revitalization, the focus of work concerning agriculture, rural areas and farmers has shifted to the modernization of agriculture and rural areas. As a core part of rural characteristic industries and efficient agriculture, the horticultural industry serves as an important support for increasing farmers' income, optimizing rural industrial structure and achieving ecological livability. As an essence of excellent traditional Chinese culture, farming-reading education is an important approach for agriculture-related universities to foster virtue through education and cultivate talents who understand and love agriculture. Horticulture is closely connected with key fields of rural revitalization such as protected horticulture, production and circulation of horticultural products, and construction of rural horticultural landscapes. Carrying out the reform of farming-reading education is of great significance for strengthening students' affection for their hometown, improving their practical and innovative abilities, and serving the upgrading of the rural horticultural industry. Taking Protected Horticulture, a core course of horticulture, as the carrier, this paper combines the demand for talents in rural revitalization, sorts out the current situation and practical challenges of curriculum construction, and explores the reform path from the perspectives of reshaping educational concepts, optimizing curriculum system, innovating practical teaching and reforming evaluation mechanism, so as to provide references for the implementation of farming-reading education and the innovation of talent training mode in horticulture majors in agriculture-related universities.

Keywords: Rural Revitalization; Rural Education; Horticulture Major; Protected Horticulture; Teaching Reform

1. Introduction

Since the full implementation of the rural revitalization strategy, industrial revitalization has been regarded as the top priority, which puts forward new requirements for modern horticultural talents. Such talents are required to master professional skills including protected horticultural engineering technology, horticultural crop cultivation and management, and green and efficient production. More importantly, they should have the sense of responsibility and affection to take root in rural areas, serve agriculture, rural areas and farmers, and inherit local horticultural culture. Horticultural industry covers protected cultivation, leisure horticulture, horticultural product processing, rural horticultural landscape and other forms, which is a key starting point for the development of rural characteristic industries, the improvement of courtyard economy and the construction of beautiful villages.

The Work Plan for Strengthening and Improving Farming-Reading Education in Agriculture-Related Universities issued by the Ministry of Education clearly stipulates that agriculture-related universities should integrate farming-reading education into the whole process of talent training, so as to strengthen students' labor spirit, practical ability and affection for agriculture, rural areas and farmers. As a core compulsory course for horticulture majors, Protected Horticulture focuses on facility structure design, environmental control, efficient cultivation, intensive production and other contents. It directly serves the development of rural protected horticulture industry and is an ideal carrier for carrying out farming-reading education

At present, the course Protected Horticulture in some universities has problems such as emphasizing theory over practice, being out of line with rural industries, lacking farming-reading elements, and insufficient cultivation of students' local affection. It is difficult to meet the demand of rural revitalization for interdisciplinary, applied and agriculture-loving horticultural talents. In view of this, this paper takes the course Protected Horticulture as the starting point to explore the reform path of farming-reading education for horticulture majors, so as to cultivate high-quality professional talents who understand horticulture, love rural areas and can promote rural development.

2. Background and Research Significance

2.1. Core Demands of Rural Revitalization for Horticulture Talents

Rural industrial revitalization relies on a scaled, standardized, and intelligent protected horticulture industry, rural ecological revitalization needs the empowerment of horticultural greening, courtyard horticulture, and leisure sightseeing horticulture, and rural cultural revitalization requires the inheritance of traditional horticultural techniques and local horticultural landscapes. Against this background, three types of horticultural talents are urgently needed in rural areas: first, production-oriented talents proficient in modern protected horticulture technologies; second, management-oriented talents capable of connecting with the market and promoting the value-added of horticultural products; third, service-oriented talents who love rural areas and are willing to work at the grassroots level.

2.2. Value of Integrating Farming-Reading Education into Horticulture Major

Farming-Reading Education is centered on the idea of "practicing through farming, comprehending truth through learning", which organically integrates labor practice, knowledge acquisition, rural culture and sense of responsibility. Integrating Farming-Reading Education into the horticulture major can:

Cultivate students' affection for understanding and caring about agriculture, and strengthen their career ambition to serve rural revitalization;

Enhance practical and operational abilities, and realize the in-depth integration of theoretical knowledge and horticultural production practice;

Inherit traditional horticultural techniques and rural local culture, thus supporting rural cultural revitalization;

Improve students' ability to solve practical problems in rural protected horticulture and promote the technological upgrading of the industry.

2.3. Necessity of Carrying Out Farming-Reading Reform in the Course "Protected Horticulture"

As the core course connecting horticultural theory and rural production, "Protected Horticulture" covers core rural protected horticultural technologies such as greenhouse design, soilless culture, intelligent environmental control, and green prevention and control of plant diseases and insect pests, which is highly consistent with the talent training needs of rural revitalization. Therefore, taking this course as the starting point to carry out the reform of farming-reading education can directly break down the barrier between talent training and rural industrial needs, enable students to master technologies through farming and reading, and love the countryside through practice, thus providing solid talent guarantee for the high-quality development of the rural horticultural industry.

3. Curriculum Construction Foundation and Related Challenges of the Course "Protected Horticulture"

3.1. Curriculum Construction Foundation

Protected Horticulture is a core compulsory course for undergraduate students majoring in horticulture (including directions such as horticulture, protected horticulture, and horticultural education). It is offered to junior students with 2 to 3 credits, and is a landmark course integrating engineering technology and cultivation technology in horticulture major. The main contents of the course include: types and structures of protected horticulture, park planning and design, protected environmental control, cultivation of protected horticultural crops, intensive seedling raising, green production technology, and operation of protected horticulture industry. The course is offered relying on the university's horticultural experimental teaching center, protected horticultural training base, and off-campus rural industrial base, and has formed a relatively complete theoretical teaching system, occupying a core position in the cultivation of horticultural talents. With the transformation of rural protected horticulture towards intelligence, standardization and greenization, the course has a good professional foundation, platform foundation and industrial foundation for carrying out the reform of farming-reading education.

3.2. Existing Challenges in the Course

Backward teaching philosophy and lack of farming-reading education The traditional teaching adopts engineering and science-oriented training modes, focusing on theoretical knowledge and technical principles, while ignoring the cultivation of rural affection, labor spirit and responsibility for agriculture, rural areas and farmers. Students lack sufficient understanding of the current situation of rural protected horticulture and farmers' actual production needs, resulting in insufficient internal motivation to take root in rural areas.

Inflexible curriculum system and insufficient interdisciplinary integration The course content overemphasizes technical theories such as facility structure and environmental control, and lacks sufficient integration with rural revitalization, farming-reading culture, leisure horticulture, courtyard economy, agricultural product quality and safety, and other fields. Teaching is dominated by classroom lectures, and most cases are selected from urban industrial parks and large-scale production bases, lacking practical contents suitable for rural small-scale facilities, household horticultural facilities and farmers' practical technologies.

Weak practical teaching and shortage of farming-reading scenarios The proportion of practical classes is relatively low, and most practices are limited to laboratories and campus training bases, with few opportunities for students to enter rural fields, farmers' greenhouses and rural facility parks. Practical contents are mainly verification experiments, lacking productive labor, industrial investigation, technical services and other farming-reading practices, so students' ability to solve practical rural problems is insufficient.

Single evaluation method unable to measure the effect of farming-reading education Course assessment mainly relies on final written examinations and daily assignments,

focusing on knowledge memorization. It lacks evaluation of farming-reading-related abilities and qualities such as labor practice, industrial service, rural investigation and technological innovation, making it difficult to comprehensively assess students' comprehensive ability and affection for agriculture, rural areas and farmers.

4.Curriculum Teaching Reform Plan

4.1. Clarify the Teaching Objectives Guided by Farming-Reading Education

Closely following the requirements of rural revitalization and farming-reading education, the three-dimensional objectives of the course *Protected Horticulture* are reconstructed as follows:

Knowledge Objective: Master the core theories and technologies such as protected horticultural structure, environmental control, efficient cultivation and green production, and be familiar with the policies, standards and development models of the rural protected horticulture industry.

Ability Objective: Possess the abilities of protected horticultural planning and design, production management, technical operation and problem solving, and be able to provide technical services for rural protected horticulture and courtyard horticulture.

Literacy Objective: Cultivate the spirit of labor, craftsmanship, local affection and the sense of responsibility for strengthening and revitalizing agriculture, and establish the professional philosophy of serving rural areas and taking root at the grassroots level.

4.2. Optimization of the Curriculum Teaching System

4.2.1. Reconstruct Curriculum Content and Integrate Farming-Reading Elements

Add content on rural protected horticulture: rural simple greenhouses, greenhouse construction, courtyard facility cultivation, low-cost production technologies for farmers, etc.;

Integrate farming-reading culture: traditional horticultural techniques, local horticultural landscapes, inheritance of agricultural culture, etc.;

Connect with rural industries: operation of protected horticultural cooperatives, leisure horticulture, order production, construction of agricultural product brands, etc.;

Strengthen green agriculture promotion: rural practical technologies such as green prevention and control in facilities, organic fertilizer utilization, water-saving irrigation, and ecological horticulture.

4.2.2. Innovate Teaching Methods and Strengthen the Integration of Farming and Reading

Field Classroom: Move the classroom to rural facility parks and farmers' greenhouses, conduct on-site teaching, on-site operation and on-site problem solving;

Labor Practice: Carry out full-process production labor such as land preparation, sowing, seedling raising, management and harvesting to practice the connotation of "ploughing";

3. Case Teaching: Select cases of getting rich through rural protected horticulture and cases of grass-roots agricultural technicians' services to strengthen the guidance of "reading";

Integration of Online and Offline: Use virtual simulation platforms to carry out facility design and environmental control simulation, and combine offline on-site operations to improve the effect.

4.2.3. Improve Teachers' Ability and Consolidate the Foundation of Farming-Reading Education

Establish a farming-reading teaching team consisting of "on-campus teachers + grass-roots agricultural technicians + rural industrial leaders". Arrange teachers to take temporary posts in rural bases for training, and invite agricultural technical experts and large-scale growers to enter the classroom to improve teachers' understanding of rural industries and their ability to carry out farming-reading education.

4.3. Construction of the Farming-Reading Practical Teaching System

4.3.1. Build Rural Farming-Reading Practice Bases

Co-build off-campus farming-reading practice bases with rural protected horticulture parks, planting cooperatives, family farms and beautiful rural demonstration sites, set up fixed practical class hours, and organize students to carry out long-term resident production labor, technical services and industrial research.

4.3.2. Carry Out "Farming-Reading Knowledge and Practice" Practical Activities

Production-oriented Farming-Reading: Participate in the whole-cycle cultivation and management of protected crops and complete the labor practice from planting to harvesting;

Service-oriented Farming-Reading: Provide voluntary services for farmers such as facility maintenance, technical guidance and pest diagnosis;

Research-oriented Farming-Reading: Conduct research on the current situation of the rural protected horticulture industry, farmers' needs and industrial pain points, and form research reports;

Innovation-oriented Farming-Reading: Carry out innovation and entrepreneurship projects such as simple facility improvement, low-cost cultivation technology innovation and courtyard horticulture design according to rural needs.

4.3.3. Inherit Local Horticultural Culture

Organize students to explore rural traditional horticultural techniques, local flower and fruit tree resources, and courtyard horticulture models, carry out cultural sorting, skill inheritance and creative transformation, and help rural cultural revitalization.

4.4. Reform of the Multi-Dimensional Assessment and Evaluation Mechanism

Establish a four-dimensional assessment system of "knowledge + practice + labor + literacy", weaken the proportion of the final written examination, and strengthen the process evaluation of farming-reading:

Theoretical Assessment (30%): Final written examination to assess core knowledge;

Practical Operation (30%): Practical performance in facility construction, cultivation management, technical services, etc.;

Farming-Reading Labor (20%): Field labor hours, labor attitude and labor achievements;

Literacy and Service (20%): Industrial research reports, voluntary services, local affection and team cooperation.

5.Conclusion

Rural revitalization provides a broad platform for horticulture talent cultivation, and farming-reading education guides talent training in agriculture-related universities. As a core

course linking horticulture majors with rural industries, farming-reading education reform in "Protected Horticulture" is imperative to align with national strategies, meet industrial needs and improve talent quality.

Integrating farming-reading education into the whole teaching process through reshaping teaching concepts, optimizing curriculum systems, innovating practical teaching and reforming evaluation mechanisms can effectively solve the disconnection between traditional teaching and rural reality, insufficient students' affection for agriculture and weak practical abilities.

This reform will cultivate horticultural professionals with professional skills, love for rural areas, practical ability and dedication, providing solid talent and technical support for rural industrial, ecological and cultural revitalization.

6. Funding: This work was supported by Educational and Teaching Research Project of Jingchu University of Technology (JX2022-003).

References

1. Peng QQ. Logic, realistic challenges, and optimization strategies for ag ricultural education in agricultural universities in the new era. J Shandong Agric Eng Univ. 2024;41:121-8.
2. Jia QY, Ding Y. Reflections on the construction of farming education in agricultural universities in the new era: value implication, realistic dilemma and path analysis. J Anhui Agric Sci. 2025;53:280-2.
3. Peng XC, Qing P, Lyu XJ. Deepening farming-and-reading education in agriculture-related universities in the new era: characteristics, reflections, and pathways. High Agric Educ. 2025;5:42-9.
4. Guo Y, Hou YJ. The logical path and practical path of farming-reading education in agriculture-related universities to empower rural revitalization. China Agric Educ. 2025;26:81-9.

How to Cite This Article

Huang R-H. Research on the Reform of "Rural Education" for Horticulture Majors under the Background of Rural Revitalization: Taking the Course "Protected Horticulture" as an Example. J Frontiers Multidiscip Res. 2026;7(1):215–218.

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