

EXPLORATION AND PRACTICE OF TEACHING REFORM OF HORTICULTURAL PLANT PATHOLOGY

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Abstract: Taking the talent needs and graduation ability requirements in the field of horticulture as the starting point, taking the theory-practice integrated teaching model as the basis for teaching reform, from the teaching objectives, teaching syllabus, teaching Reform the horticultural plant pathology course from multiple dimensions such as learning content, course ideology and politics, teaching staff and teaching evaluation. Strive to explore more effective teaching reform models and cultivate high-quality Qualitative applied talents.

Keywords: Horticultural plant pathology; Teaching reform; Integration of theory and practice

1. ANALYSIS OF TEACHING OBJECTS

Horticultural plant pathology is a student majoring in horticulture at the my country Academy of Agriculture and Forestry. A required professional course. In order to meet the requirements of professional development, according to Characteristics of the horticulture major of Shenyang Institute of Technology and student characteristics, for horticultural plant diseases Science curriculum reform. The course is based on the theory-practice integrated teaching model Based on teaching objectives, syllabus, teaching content, curriculum ideological and political education, teachers Reform the curriculum from multiple dimensions such as team and teaching evaluation.

Teaching reform combined with professional training objectives, comprehensively formulated in line with horticulture Phytopathology course objectives, improve the course outline, optimize teaching within content, integrate ideological and political education into the curriculum, and carefully design teaching activities; through multi-dimensional evaluation Valuation mechanism, feedback on students' learning effects and teachers' teaching achievements, through Analysis of course goal attainment, further promote the positive cyclic development of the curriculum exhibition. Through the teaching of this course, To enable students to master solid gardening skills theoretical knowledge of plant diseases, and initially learned the basic techniques for diagnosing diseases. Understand the occurrence and development rules of important diseases in horticultural production, and combined with production practice, connect basic theory with production practice, and master the summary of agricultural production effective prevention and control measures, striving to improve the quality of horticulture students Comprehensive quality.

Students are the main body of learning, in order to achieve the expected teaching reform effect, fruit, understanding the teaching objects is an important step that must be completed before carrying out teaching reform. Work.

1.1 Knowledge Level and Professional Status

Horticultural Plant Pathology is a three-year program in Horticulture at Shenyang Institute of Technology. A theoretical course for advanced students. The prerequisite for this course is botany. After studying in the previous courses, students have mastered relevant knowledge such as botany and horticultural plant cultivation., has influence on the growth and growth environment of horticultural plants. a comprehensive understanding of, laying a good foundation for further learning about horticultural plant pathology. good theoretical basis. During this period, students are interested in learning professional knowledge. Interest and enthusiasm for learning are at their peak, independent learning ability is increasing day by day Strong; at the same time, I have a deep understanding of how to apply the theoretical knowledge learned in practice. Strong interest, increasing awareness of applying what they learn, and learning professional requirements Further clarification, students' professional direction gradually becomes clear.

1.2 Cognitive Characteristics and Learning Abilities

University campuses have entered the era of "post-00s", who have independent personalities and Open, confident, positive, optimistic, and full of positive energy. After two years of university study and life, they have the psychological conditions to fully study and are ready. The third year of college is the peak period for acquiring and applying knowledge. The key stage for the formation of world outlook, outlook on life and values, integrating into teaching Incorporate ideological and political elements, conducive to establishing the correct three views. Head of students at

this stage Flexible brain, quick thinking, quick to access and master new things, good at professional Have strong interest in professional knowledge and life planning, learn professional knowledge Combined with value guidance, we cultivate students to have both ability and political integrity and develop in an all-round way applied talents.

2 REFINE COURSE OBJECTIVES AND IMPROVE TEACHING SYLLABUS

2.1 Refine Course Teaching Objectives

The course goal of horticultural plant pathology is to educate people in the field of horticulture Starting from talent needs and graduation ability requirements, combined with industry trends, Shenyang School positioning of the College of Engineering, characteristics of horticulture students and student development plans It was formulated comprehensively [1]. And from the knowledge goals, ability goals and quality goals Target 3 aspects and refine course teaching in multiple dimensions. Knowledge goal: students can Be proficient in the causes of horticultural plant diseases, their occurrence and development, and their Theoretical knowledge such as the diagnosis and treatment principles of pests, as well as vegetables, fruit trees and flowers Identification and prevention of common plant diseases. Ability goal: Cultivate students to master Common techniques and methods for identifying horticultural plant diseases, improve actual diagnosis The ability to treat plant diseases and solve existing problems in the field of horticultural plant production. Quality goals: Establish students' awareness of environmental protection for sustainable development and enhance Socialist cultural self-confidence, cultivating students' professional qualities and social responsibilities feel.

2.2 Improve the Course Syllabus

Horticultural plant pathology is to cultivate and strengthen applied horticultural professionals. Core Curriculum, which is also a required course for majors. Curriculum reform is based on Integrated teaching model of theory and practice, according to the Horticulture Plant Pathology Course The graduation requirements index points of the program, combined with the training objectives of the horticulture major, improve the curriculum Engineering syllabus. The syllabus includes the basic information of the course, the teaching objectives of the course, the support of the teaching objectives to the graduation requirement indicators, the teaching content and 6 parts including learning outcome requirements, course assessment, teaching materials and reference materials composition. In the process of improvement, first of all, the characteristics of graduation requirements, curriculum system and course content are comprehensively considered; secondly, the knowledge goals and objectives of the curriculum, Ability goals and quality goals must meet the curriculum and graduation requirements. requirements; thirdly, combine the teaching content with the teaching process and teaching links. Design, clarify the knowledge points, teaching methods, and planned hours of each knowledge module and students' expected learning effects, etc.; finally, the detailed teaching in the syllabus Goals must be evaluable. Improving the teaching syllabus through multiple dimensions, for teaching Provide basic guarantee for the specific implementation of reforms.

3 OPTIMIZE TEACHING CONTENT

3.1 Teaching Content and Credit Hour Allocation

In recent years, colleges and universities have attached great importance to the cultivation of students' comprehensive quality, and comprehensive courses The proportion of class hours has increased, the number of professional courses has decreased, and the relative number of courses has Relevant results and opinions are constantly updated, and the basic professional knowledge that students should master is constantly updated. The contradiction between teaching time and teaching content requires optimization Course content [2]. Combining the training of applied talents with Shenyang Institute of Technology Objective, the textbook is selected from "Horticulture Plants" published by China Agricultural University Press. "Pathology" 3rd edition, the course teaching content is based on the textbook, with some relevant content from reference books and literature added, arranged according to the syllabus and The teaching objectives should be appropriately deleted, and a large number of plant disease symptoms and symptoms should be added. Disease pictures and other content.

After optimizing the teaching content, total horticultural plant pathology courses 40 credit hours, divided into general introduction (24 credit hours) and individual topics (16 credit hours). The general part focuses more on the concepts, causes, occurrence and development of horticultural plant diseases, Key points to master the principles of diagnosis and treatment. The credit hours are divided into introduction (1 credit hour), The concept of horticultural plant diseases (3 credit hours), the causes of horticultural plant diseases (12 credit hours), the occurrence and development of horticultural plant diseases (4 credit hours), and the principles of diagnosis and treatment of horticultural plant diseases (4 credit hours); the monographs are as follows Horticultural plant diseases (16 hours), focusing on common vegetables, fruit trees, and flowers Disease identification, prevention and treatment, etc.

3.2 Integration of Ideological and Political Education into Courses

According to the needs of the horticulture professional training program and the professional qualities required for employment requirements, focusing on the proposition put forward by General Secretary Xi Jinping that "we must persist in cultivating people with moral integrity as a The central link is to integrate ideological and political work throughout the entire process of education and teaching to achieve Educate people throughout the process, educate people in all aspects" [3]. During the course implementation process, professional Knowledge builds a moral education platform, fully explores the ideological and political elements covered, and "Patriotism, humanistic heritage, scientific spirit, professional quality and social responsibility Ideological and political elements such as "feeling" are subtly integrated into it.

Pay attention to current news and social hot topics, accumulate thoughts related to the course Political cases, real-time updates introduced into the classroom. For example, in early 2022, Changsha, Hunan Customs intercepts the pathogenic fungus of rice blast in China's "List of First-Class Crop Diseases and Pests", ensuring my country's biosecurity and agricultural and forestry production safety, etc. teach In the process, ideological and political cases are introduced to stimulate students' interest in learning and make them Students quickly find resonance in the classroom, and dig into the hot topics hidden in news and current affairs The deep thinking behind. Read books about historical figures and events at home and abroad, and share course-related content with students. For example, our country makes The earliest records of plant diseases can be found in "Guanzi" and "Lu Shi Chunqiu", which is consistent with foreign countries. The earliest records belong to the same period [4]. This not only shows that my country's research on plants The disease occurs earlier, and at the same time, students can deeply feel the wisdom of ancient Chinese people. Recognize the splendor and long history of Chinese scientific culture, and thus subtly Enhance students' patriotism and enhance students' sense of national pride and self-confidence.

4 TEACHER TEAM BUILDING

Teachers are the main body of educational practice activities and the main part of educational activities. The source of influence is the guide of students' learning activities [5]. Integrated teaching of theory and practice In the process, teachers are an important teaching guarantee, which requires teachers to have a profound professional theoretical foundation, a high level of professional skills, and the ability to apply a variety of teaching methods. The Horticulture Phytopathology Course Team consists of "Double-qualified" or "double-qualified " students with solid theoretical foundation and practical practical ability Composition of dual-skilled teachers. Curriculum team to cultivate outstanding backbone teachers Focusing on the team, we regularly organize exchange activities and collective lesson preparation, build a platform for communication and sharing, and at the same time enhance team awareness. We also actively encourage young teachers to participate in training, comprehensively improve teachers' teaching abilities, and strive to build a team of teachers with noble ethics, superb professional skills, and adaptability. High-quality teachers team for education reform. class The Cheng team often participates in Liaoning Province Rural Science and Technology Mission Action Plan projects. Not only improve practical skills, but also help local farmers solve actual production problems question. At the same time, team teachers also continue to improve their teaching informatization capabilities. Won the national and provincial education and teaching information competition awards for the first time.

5 ORGANIZATION AND IMPLEMENTATION OF TEACHING

5.1 Implementation of the Integrated Teaching Model of Theory and Practice

The theory-practice integrated teaching model organically combines theory and practice together, breaking through the disconnect between theory and practice. horticultural plant pathology The teaching reform is based on the integration of theory and practice teaching model, with theoretical teaching and Pay equal attention to practical teaching, closely connect theory and practice, and set teaching tasks and teaching objectives, integrating teachers' theoretical teaching, practical teaching and students The operation is integrated to improve students' ability to diagnose plant diseases and lay the foundation for solving problems in the field of horticultural plant production.

In the process of teaching reform of horticultural plant pathology, teachers have achieved Theory guides practice, practical service theory. According to horticultural plant pathology The content and characteristics of horticultural plant diseases (12 hours) and the diagnosis and treatment principles of horticultural plant diseases (4 hours) are discussed. implement teaching reform. In order to ensure the smooth development of teaching reform, teaching place It should not only satisfy the explanation of theoretical knowledge of horticultural plant pathology, but also be convenient Experimental demonstrations and students' hands-on operations are interspersed. The two parts are in Conducted in biological microscopy laboratory. Teaching implementation of horticultural plant pathology During the process, the students in the class were divided into several groups, and the teacher explained and demonstrated After the completion, students work in groups to strengthen teamwork. At the end of the course, the teaching content and objectives of the next class are arranged, with the teacher as the main Guides and students are the main body, and theoretical teaching is integrated into the entire process. Allow students to apply theoretical knowledge into practice and learn operational skills easily.

5.2 Carry out Online and Offline Hybrid Teaching

Actively explore horticultural plant pathology online (online course teaching) and Offline (traditional classroom teaching) mixed mode teaching, during the implementation process, pays attention to teaching activities at various stages before class, during class and after class. Preparation before class Work, establish a class QQ group at the beginning of the semester, filter course resources, select characters A MOOC course that combines horticulture professional talent training programs. Built using Communication platform to publish course-related information and share teaching materials for students Preview in advance. During the online teaching process, QQ online teaching is mainly used. MOOC video teaching is supplemented. First of all, complete the sign-in for this class before class and publish the teaching arrangement, discussion content and thinking questions for this class; online teaching At the beginning, students watch the MOOC video resources, and the teacher plays according to the video Distribute questionnaires on a timely basis to understand students' viewing effectiveness of MOOC videos in a timely manner. fruit. After watching the video, start a QQ online discussion on the video content. Teachers help students sort out the content by asking questions, and set up a discussion In this link, students are the main body and teachers complete the guidance. Finally, the teacher talks about The teaching method supplements the content that is not mentioned in the video and is not comprehensive enough. Wire Set up extra points during the teaching process, and randomly roll call to avoid missing numbers. Students sign in with the class notes recorded in this class. After class, students Complete assignments and tests, and teachers track completion, which helps to carry out targeted Sex teaching [6].

6 CONSTRUCT A REASONABLE TEACHING EVALUATION SYSTEM

The teaching evaluation system should objectively and comprehensively reflect students' learning level. equal ability, adopt multiple methods to evaluate performance, including the usual cost grades, in-class assessments, coursework and final exams. First, the usual score package Including attendance management, preview completion, etc., it mainly assesses students' personal performance of the class. Cheng's learning status. Secondly, in-class assessments are conducted in stages, targeting students' operational skills and proficiency in technical essentials during production practice. Conduct assessments to promote the improvement of students' practical skills and prepare them for future work Guarantee for job and career advancement. Third, for coursework, pay attention to students' mastery in real time according to the teaching progress., the set questions have a higher Flexibility and strong analytical understanding and application, which can give full play to students' subjective initiative and access a large amount of information to assist teaching. Finally, the final exam assesses students' basic theoretical knowledge., mainly testing students' understanding of kindergarten The degree of understanding, mastery and comprehensive application of plant pathology knowledge [7].

7 Conclusion

The horticulture major of Shenyang Institute of Technology is the Ministry of Education's outstanding agricultural and forestry talent education A major in the training plan reform pilot program, it was approved as a general higher education institution in Liaoning Province in 2020. Other schools' first-class model majors, responsible for cultivating high-quality applied horticulture The important task of talents. Taking the construction and horticulture profession as the leader, to cultivate application-oriented Taking talents as the entry point, focusing on reforming and constructing the curriculum system, strengthening the Features of Art Major, and continuously deepen the quality of education and teaching. Horticultural plant pathology Learning is based on the integrated teaching model of theory and practice, carry out multi-dimensional teaching reform The exploration of reform, from building teaching staff, refining curriculum teaching objectives, improving teaching syllabus, optimizing teaching content, integrating ideological and political education into the curriculum, and constructing reasonable Reform the teaching evaluation system and other aspects. Pay attention to the practical experience of horticulture students Cultivation of practical ability, enhance students' ability to analyze and solve problems, Lay a solid foundation for serving the society. Strive to continuously Reform and innovate, improve teaching quality, and train students for national development and social needs. Cultivate more horticultural professionals.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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