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ARTICLE

THE PROFESSIONAL PRACTICAL TEACHING SYSTEM OF POSTGRADUATES WITH PROFESSIONAL DEGREES UNDER THE NEW ERA

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ABSTRACT

This study identifies existing issues in China's professional degree postgraduate education, including weak professional practice components and insufficient achievement of training objectives. To address these challenges, the research proposes a systematic solution based on standardized management, procedural implementation, and rigorous assessment. Taking the Master of Agriculture professional degree as an example, specific implementation plans are elaborated in detail.

KEYWORDS

Professional Practice, Standardized Management, Procedural Implementation, Rigorous Assessment, Master of Agriculture

1. INTRODUCTION

China's professional degree postgraduate education system was gradually established in 1991. Over more than 30 years' development, it has formed a distinctive framework with Chinese characteristics encompassing nearly 40 doctoral and master's professional degrees. In May 2023, General Secretary Xi Jinping personally replied to the postgraduate students of the Science and Technology Courtyard of China Agricultural University, fully affirming the outstanding achievements of the education of agricultural master's degree students, which integrates scientific and technological innovation, social services and talent cultivation to cultivate high - level professional talents. However, alongside the rapid development of professional degree postgraduate education, practical challenges have emerged [1-2].

1.1 Disconnection Between Postgraduate Training and Social Needs

Professional degree postgraduates fail to fully embody "professionalism," making it difficult for them to establish their career positioning in the context of the new era and amid intense talent market competition. Survey data indicate that over 50% of graduates express dissatisfaction with the professional practice components during their postgraduate studies, believing that the skills they acquired and their practical experience fail to meet workplace demands, necessitating extensive retraining after employment. Additionally, approximately 5% of graduates have only vague recollections of the specific content of their professional practice [3].

1.2 Weak Foundations in Professional Practice

Training objectives are not fully achieved. Postgraduates with professional degrees, whose training objective is to cultivate application-oriented talents with professional skills, end up lacking professional skills upon graduation. They are unable to independently complete basic skill operations, let alone be high-level application-oriented professionals. Although universities nominally establish practice bases and assign practice supervisors, implementation remains inadequate. The process often becomes a formality, reduced to perfunctory completion of a "Professional Practice Manual," with a significant proportion of postgraduates never actually engaging in practice at these bases.

1.3 Insufficient Emphasis on Professional Practice Assessment

The graduation of postgraduates and the conferral of degrees still rely on the evaluation of dissertations, with insufficiently strict standards and unsystematic procedures for assessing professional skills. This leads to a widespread emphasis on thesis writing over skill development and on theoretical learning over practical training among supervisors and postgraduates, mirroring the training model for academic degree students and undermining the original purpose of establishing professional degrees.

2. RESEARCH ON PROFESSIONAL PRACTICE

The outbreak of artificial intelligence has not only changed people's

way of life but also transformed the landscape of numerous fields. Against the backdrop of global economic downturn, employment challenges for university graduates have become a societal concern, with postgraduates facing unprecedented employment pressures. Contributing factors include objective issues such as cumulative growth in graduate numbers, talent concentration in developed regions, and inflated career expectations [4]. However, internal factors—such as the disconnect between postgraduate training and societal needs, the lack of "professionalism" in professional degrees, and weak foundational skills—are unavoidable contributors to employment difficulties.

For professional degree postgraduates, establishing a systematic professional practice training system is critical to addressing these shortcomings [5]. This system ensures that postgraduates comprehensively acquire necessary knowledge and skills, master specialized techniques during their studies, and enter the workforce with strong competitiveness, rapidly becoming qualified professionals in their fields. Key measures to strengthen professional practice management include the following:

2.1 Standardized Management

A hierarchical management system for practice bases should be established, clarifying the responsibilities and tasks of bases at national, provincial, and institutional levels (see Table 1 for detailed task breakdown). Through strict tiered management, the design, administration, implementation, and assessment of professional practice are structured hierarchically, ensuring clarity in functions at all levels and guaranteeing the standardization and effectiveness of professional practice training.

Table 1: Task Decomposition Table of Three - level Practice Bases

Project/Category	University - level Practice Bases	Provincial - level Practice Bases	National - level Practice Bases
Management Unit	Postgraduate Training Institutions	Provincial Sub - committee of the Teaching Steering Committee	National Teaching Steering Committee
Task Decomposition	Develop professional training plans and implement professional practices	Develop practice training programs and organize practice assessments	Develop practice standards, assessment norms and provide demonstrations
Characteristics	They are specific implementation units of professional practice and fundamental and grass – roots.	They are practice assessment units, and relatively independent from university - level practice bases.	They are the highest - level practice bases with standardization.

2.2 Construction of a Procedural Implementation System

National-level practice bases are responsible for formulating professional practice standards and assessment criteria, as well as establishing exemplary practice models. Provincial-level practice bases, in accordance with national standards and regional characteristics, develop unified provincial-level practice training programs. These programs must explicitly outline training objectives, methods, content, and specific requirements to ensure systematic training for all participants, including proficiency in technical operations. University-level practice bases collaborate with advisors and graduate students to devise weekly practice plans, with a mandatory duration of no less than 48 weeks (12 months) for 3-year professional degree candidates. The practice plans must detail subject arrangements, time allocation, training content, intensity standards, competency requirements, and outcome metrics to ensure the effective implementation and quality of the practice. Taking the Master of Agriculture (Agronomy and Seed Industry) as an example, the professional practice implementation plan is as follows:

2.2.1 Training Objectives

Graduate students should systematically master the technical demand laws, application models, and communication patterns of modern agricultural enterprises, acquiring both theoretical knowledge and practical skills in plant production and management across the entire industry chain. Specific competencies include: proficiency in engineering technologies and management methods for field crops, horticultural crops, grasslands, and seed production; development of innovative thinking; and the ability to independently conduct technical research and development and operational management in agronomy and seed industries.

2.2.2 Training Methods

The professional practice is specifically implemented by an advisor group composed of practical advisors. During the 48-week (12-month) period, participants in the professional practice should complete the rotation of subjects according to the training plan. The rotation mainly takes the form of rotating among the subjects of this major and related majors, and the subject rotation is divided into compulsory subjects and optional subjects. Theoretical instruction is delivered via centralized lectures, distance education, and planned self-study, integrated throughout the training process. The content of professional practice can be carried out in various forms such as group discussions organized by advisors, simulation training, situational teaching, case explanation and analysis. In addition to the subject rotation, graduate students should participate in the work of the practice base and various teaching and research activities (such as teaching case analysis, project research, professional lectures, etc.), fill in the Practice Training Manual, neatly write the operation records of professional practice, and independently complete the implementation plan for technical operations.

2.2.3 Training Content and Requirements

Taking postgraduate students pursuing a three - year professional degree as an example, their professional practice should last no less than 48 weeks (12 months). The training program must meticulously plan arrangement of practical courses, time allocation, training content, intensity standards, proficiency levels, and training outcomes. For the Master of Agriculture (Agronomy and Seed Industry), the systematic practice training program and specific technical requirements are provided in Tables 2 and 3.

2.3 Strict Assessment

Ensure the quality of professional practice with a strict assessment system. The assessment of professional practice is divided into two types: subject assessment and completion assessment. The comparison of the two types of assessments is shown in Table 4.

2.3.1 Subject Assessment

The purpose of the subject assessment is to examine the practical achievements of postgraduate students in each subject. The subject assessment mainly focuses on technical operations and is organized and implemented by the university-level practical training base. Postgraduate students who pass the subject assessment can proceed to the next practical subject. Those who fail any subject assessment are not eligible to enter the completion assessment procedure. If a student

Table 2: Practice Plan for the Field of Agronomy and Seed Industry

Practice Base	Rotation Time (Weeks)	Compulsory/Optional	Involved Fields
Grain Crops Planting Base	4	Compulsory	Agronomy and Seed Industry
Economic Crops Planting Base	4	Compulsory	Agronomy and Seed Industry
Ornamental Plants Planting Base	4	Compulsory	Agronomy and Seed Industry
Medicinal Plants Planting Base	4	Compulsory	Agronomy and Seed Industry
Grain Crop Processing Base	4	Compulsory	Food Processing and Safety
Economic Crops Processing Base	4	Compulsory	Food Processing and Safety
Medicinal Plant Processing Base	4	Optional	Food Processing and Safety
Agricultural and Sideline Products Production Base	4	Optional	Animal Husbandry
Grain Crops Sales Base	4	Optional	Food Processing and Safety
Economic Crops Sales Base	4	Optional	Agricultural Management
Breeding Base	4	Optional	Animal Husbandry
Bashang Grassland	4	Optional	Animal Husbandry
Water Source Wetland	4	Optional	Agronomy and Seed Industry
Practical Base for Agricultural Informatization	4	Optional	Agricultural Engineering and Information Technology
Rural Enterprise Base	4	Optional	Agricultural Management
Village Committee	4	Optional	Rural development

fails a subject assessment, they can apply for a make-up examination within a certain period of time. If they still fail, they will need to retake the professional practical training for that subject and reapply for the subject assessment until they pass.

2.3.2 Completion Assessment

The completion assessment is the final evaluation of the professional practice of postgraduate students pursuing a professional degree. The completion assessment should be organized by the provincial-level practical training base to ensure the absolute independence of the assessment unit and the training unit. With reference to the standardized training for Master of Clinical Medicine, the completion assessment consists of two parts: theoretical knowledge and practical skills operation. It is carried out in a combination of compulsory and optional subjects and adopts a scoring system. By passing the completion assessment, students can obtain the relevant completion certificate, which serves as a necessary condition for applying for a professional degree.

3. CONCLUSION

This study conducts research on the professional practice of postgraduate students pursuing professional degrees and constructs a systematic professional practice system integrating standardized management, procedural implementation, and rigorous assessment. This framework addresses critical issues such as unsystematic practical training and inadequate professional skills. By prompting the administrative departments, training institutions, supervisors and postgraduate students to attach importance to professional practice and assessment, the system enables postgraduate students to receive rigorous, standardized and high-level training in their majors and specialized technologies. Results demonstrate that a systematic professional practice system enables postgraduate students to firmly master technical competencies and research capabilities, enabling postgraduates to cope with industry demands calmly. This model cultivates highly skilled, practice-oriented professionals who meet societal needs, ultimately bridging the gap between professional degree education and job market requirements while elevating the quality of talent development.

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Table 3: Operational Technical Requirements of the Professional Practice Plan in the Field of Agronomy and Seed Industry

Operational Technology	Minimum Number of Cases	Basic Requirements	Involved Fields
High - yield Cultivation Technology	3	Mastery	Agronomy and Seed Industry
Utilization Technology of Heterosis	3	Mastery	Agronomy and Seed Industry
Molecular Marker Technology	3	Mastery	Agronomy and Seed Industry
Plastic Film Mulching Technology	3	Mastery	Agronomy and Seed Industry
Transgenic Technology	3	Mastery	Agronomy and Seed Industry
Precision Seeding Technology	3	Mastery	Agronomy and Seed Industry
Identification and Detection of Plant Pests	2	Grasp	Plant Protection and Resource Utilization
Safety and Detection of Pesticide Residues in Non-polluted Agricultural Products	2	Grasp	Food Processing and Safety
Detection of Heavy Metals (Microorganisms, Pesticides) in Food	2	Grasp	Food Processing and Safety
Artificial Induction of Spawning Technology	2	Understanding	Animal Husbandry
Artificial Insemination Technology	2	Understanding	Animal Husbandry
Full - process Mechanization Technology	2	Understanding	Agricultural Engineering and Information Technology
Agricultural Information Collection Technology	2	Understanding	Agricultural Engineering and Information Technology
Promotion Technology of Agricultural and Sideline Products	2	Understanding	Agricultural Management

Table 4: Comparison between Subject Assessment and Completion Assessment

Project	Organizing Unit	Assessment Time	Assessment Purpose	Characteristics
Subject Assessment	University - level Practice Base	At the end of subject practice	To examine the practice results of each subject	Grass - roots nature
Completion Assessment	Provincial - level Practice Base	At the end of all professional practices	To examine the overall results of professional practice	Decisiveness, Authority

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