

# Discussion on Construction and Mechanism of Practice Bases for Professional Degree Postgraduates Based on the Integration of Production and Education in Local Universities

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**Abstract** Under the background of emerging agricultural education, practice bases are an important place to train profession talented person that match social needs, so it is very important to build stable and long-term practice bases. At present, the main problems in the construction of practice bases for postgraduates in local colleges and universities are mainly focusing on construction and neglecting management, imperfect cooperation mechanism and lack of teaching management effectively. It is of great significance to build a long-term management mechanism to ensure the education quality of practice bases. Therefore, constructing the mode of "double integration and double promotion of production and education" with practice bases as the carrier and realizing the organic combination of industrial needs and postgraduate projects is an important idea for local colleges and universities to train professional degree postgraduates to "know agriculture, love agriculture, strengthen agriculture and promote agriculture", and it also provides a reference for the mechanism construction of postgraduate bases.

**Key words** Emerging Agricultural Education; Professional master; Integration of science and education; Practice base; Mechanism

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In November 2018, Wu Yan, director of the Higher Education Department of the Ministry of Education, put forward the construction of new agricultural sciences for the first time in his speech at the "Yunnan Undergraduate Education Work Conference in the New Era". The core of the construction of "new agricultural sciences" is to optimize the talent training mode with new agriculture-related majors as the carrier to cultivate new talents<sup>[1]</sup>. In 2019, the construction of new agricultural sciences has played a "trilogy": "Anji Consensus", "Beida Warehouse Action", and "Beijing Guide". The "Anji Consensus" proposed a new concept of "four aspects" from a macro perspective, which should be oriented towards new agriculture, new villages, new farmers, and new ecological development of new agricultural sciences. The "Beida Warehouse Action" launched a new measure of "eight actions" to deepen the reform of higher agriculture and forestry education from the meso level<sup>[2]</sup>. The "Beijing Guide" aimed to launch the research of new agricultural sciences and reform practice project. The programmatic documents such as "Anji Consensus", "Beida Warehouse Action" and "Beijing Guide" point out the direction of the current education reform of agricultural sciences, and put forward objective requirements for the optimization of the training mode of agricultural masters in local universities, as well as higher

requirements for practice bases and the practice teaching system<sup>[3]</sup>. In the context of the integration of industry and education and the construction of "new agricultural sciences", which talent cultivation mode should be adopted to achieve the matching of talent cultivation with social needs is a problem that must be considered and faced in the education work of colleges and universities. Especially for local universities with the goal of cultivating applied talents, the integration of industry and education guided by social needs is more important. Therefore, exploring the construction and mechanism of postgraduate practice bases is of great theoretical and practical significance to promoting the education of professional degree postgraduates under the background of new agricultural sciences.

## Importance of Practice Bases

In 2020, the State Council Academic Degrees Committee and the Ministry of Education jointly issued the *Development Plan for Professional Degree Postgraduate Education (2020–2025)* (Degree [2020] No. 20), which clearly points out that professional degree postgraduate education is the main channel for cultivating high-level applied professionals. In recent years, the scale of professional degree postgraduates in China has rapidly expanded, and it is particularly important to build a corresponding applied talent training system and innovative practice bases. For local universities, the conditions and foundation for postgraduate training are relatively weak compared with 985 and 211 universities, which greatly affect the cultivation of innovative, practical, and professional ability of postgraduates. Therefore, exploring and practicing postgraduate practice bases suitable for local universities is an important idea and measure to strengthen the connotation construction of professional degree postgraduate education and improve the

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quality of training.

For professional degree postgraduates, the practice link is an important guarantee of the quality of professional degree postgraduate education. In the context of new agricultural sciences, good practice bases are an important prerequisite to ensure the efficient operation of the research and practice link. *Opinions on Training Full-time Professional Degree Postgraduates in 2009* by the Ministry of Education also point out that professional degree postgraduates should complete at least half a year's practice during their studies, and the time for fresh graduates studying for professional degrees should not be less than one year in principle. Through exploration and practice in recent years, it is generally believed that practice is an important way to cultivate high-level applied talents, and it is the key to the success or failure of professional degree postgraduate education<sup>[4]</sup>. Therefore, it is crucial to establish practice bases that match professional degree fields. For local universities, industry-oriented integration of industry and education is an important construction idea. Through the combination of schools and enterprises, the school-enterprise linkage with practice bases integrating production and education as the link can quickly realize the "win-win situation between schools and enterprises" and promote the connotation development of enterprises and the discipline construction of colleges and universities, and meanwhile, it is of great significance for postgraduates to contact the society and practice in professional fields.

## Existing Problems

### There is a general lack of long-term cooperation mechanism in practice bases

In recent years, China has attached increasing importance to the cultivation of high-level applied talents, and has put forward higher requirements for talent cultivation in universities. Many universities have gradually expanded the main position of professional degree postgraduates and significantly increased their enrollment scale in accordance with the *Development Plan for Professional Degree Postgraduate Education (2020 – 2025)* issued by the State Council Academic Degrees Committee and the Ministry of Education<sup>[5]</sup>. Therefore, the demand for internship practice bases in various enrollment units has sharply increased. Especially in local universities, with the scale of professional degree postgraduates rapidly increasing, the contradiction in the gap in educational conditions, related resources and platforms is becoming increasingly prominent, making long-term stable practice bases a prominent issue after expanding enrollment. Meanwhile, in the process of constructing practice bases, there are long-term differences in the training objectives of professional degree postgraduates between universities and cooperative units of practice bases, making it difficult to achieve organic unity of interests. Most cooperating parties have not yet established an effective assessment system and management methods, and there is a lack of dedicated personnel

responsible for base management and long-term operation. In terms of interest linkage, it is difficult for most of them to find a win-win interest linkage point. In the process of cooperation, if there are situations such as profit losses under which universities fail to timely compensate for the resource investment of practice bases and the interests of partners, it will inevitably weaken the enthusiasm of partners in maintaining practice bases, which will affect the long-term operation of practice bases and weaken the quality of postgraduate training.

### There is a lack of tutors for the practice link

In the process of cultivating professional degree postgraduates, practical ability is an important training goal and content. Therefore, allowing postgraduates to directly participate in practical projects during the training process is an important exercising way. In the process of off-campus practice, many local universities and foreign enterprises and institutions jointly establish off-campus practice bases for students, and hire off-campus tutors, realizing the joint responsibility system of on-campus and off-campus tutors, which allows full use of scientific research equipment and various platforms inside and outside schools and provides platforms and conditions for the cultivation of professional degree postgraduates. However, there are also some problems in the implementation process, especially the phenomenon that off-campus tutors are weak in guiding students during their internship. Some qualified and responsible off-campus tutors can give students better guidance, but it is difficult for them to play an active leading role in the guidance process without the support of related projects and funds<sup>[6]</sup>. Meanwhile, in the guidance process by off-campus tutors, due to the imperfect supporting facilities for students' training in most units, students' process management is difficult, which makes effective management of tutors absent in practice, which is not beneficial to the cultivation of students' practical ability.

### The teaching management system is not sound

In the process of postgraduate practice teaching, because on-campus tutors can't participate in the whole process of management, the whole practice process puts forward higher requirements for the teaching management system of practice bases. Many off-campus practice bases lack a perfect teaching management system, and there is a lack of obvious division and unified control over the work responsibilities and tasks of off-campus tutors, so students' practice process and quality cannot be well guaranteed<sup>[7]</sup>. On the one hand, it is due to reduced constraints faced by postgraduates in practical bases, coupled with poor self-control ability of most students, who are unable to complete all the required work content in practice, which affects their enterprising spirit and initiative. On the other hand, some off-campus tutors themselves have heavy work tasks and cannot fully devote themselves to the management of off-campus tutors' work. The uneven management or guidance to students leads to difficulties in continuous guarantee of the teaching effect.

## Building a Long-term Operational Mechanism for Practice Bases

### Building a cooperative training mechanism integrating production and education

In the process of cultivating professional degree postgraduates, the establishment of off-campus practice bases must consider sustainability and organic integration with professional training objectives and teaching content. In the construction and operation of bases, there will be significant differences in the focus of schools and enterprises. Enterprises consider whether students can bring benefits to enterprises, including the improvement of technological level or productivity, while universities consider whether the topic selection content of enterprises meets the requirements of the overall training content and goals, and postgraduates consider whether they can successfully complete the project content or improve their own ability. Only by coordinating and unifying the relations among the three can a good effect of base construction be achieved. In the actual operation process, the cooperative training mechanism integrating production and education is an important way to realize the organic coordination of the three. Colleges and universities can extract practical problems faced by enterprises in the process of industrial development and conduct subject setting on this basis, and construct scientific problems needed by base industries or enterprises, so that students' research results can serve the development of enterprises. It is also possible to jointly declare related topics according to the advantages of enterprises and universities in the early stage, thus providing a good direction for the selection of topics for professional degree postgraduates. Through the organic coordination and joint construction of the three parties, the research results can be truly used by enterprises, thus building a good interaction between enterprises and universities, and students become a bridge for cooperation between them, helping the long-term and good operation mode of bases.

### Strengthening the construction of the dual-tutor team and giving full play to the leading role of tutors

In the process of postgraduate training, schools should pay attention to the development of tutors' own ability, especially the research and reform of teaching practice ability, so that tutors can often go to enterprises or production lines to inspect and practice in person, strengthen contact with practice bases, and enhance the understanding of practical education and teaching by on-campus tutors. Meanwhile, we should set up a platform for the exchange of practical education among on-campus tutors, and hire excellent on-campus tutors or off-campus tutors to share teaching and jointly study and discuss related problems in the teaching process of practical education, so as to enhance the ability of on-campus tutors to analyze and solve practical education problems<sup>[8]</sup>. On the other hand, we should establish selection criteria for stable and high-quality part-time or enterprise tutors to effectively select outstanding tutors who can solve the construction of practice bases and

better grasp the scientific problems in production and use them to establish a good communication model between off-campus tutors and on-campus tutors. Through the joint efforts of on-campus tutors and off-campus tutors, a dual-tutor selection and training system can be established to strengthen the construction of the tutor team.

### Constructing long-term management system of practice bases

Under the background of new agricultural sciences, colleges and universities need to highlight their own characteristics in the process of base construction by relying on the training direction of agricultural masters. As Director Wu Yan said, "We encourage local colleges and universities to develop according to their own characteristics. One school can't do everything, nor does it have to do everything. The cultivation goal of agricultural masters requires highlighting "practicality", and the construction of long-term bases should also be classified, implemented, and managed according to different directions. Facing new farmers, "we will focus on improving students' production skills and management ability, and cultivate a group of practical agricultural and forestry talents who love agriculture, understand technology, and are good at management". The cultivation of agricultural masters should face "agriculture, rural areas, and farmers", and be guided by the actual needs of "agriculture, rural areas, and farmers", to effectively improve the agricultural extension service skills of agricultural postgraduates and cultivate high-level talents with practical skills in serving "agriculture, rural areas, and farmers"<sup>[9]</sup>. Therefore, in the construction of bases, due to the fact that practice bases are generally located in different regions from schools, it is difficult for school tutors to solve practical problems faced by students in bases in a timely manner, which will affect the effectiveness of student training in bases. A management system that matches practical bases should be built to achieve collaborative management between universities, enterprises and tutors and effectively distinguish the responsibilities of on-campus and off-campus tutors. When postgraduates complete research projects linked to industrial integration projects, off-campus tutors effectively cultivate professional postgraduates in practical and operational aspects, and enhance their ability to discover and solve problems in production practice. On-campus tutors pay attention to the teaching of students' basic theories and frontier knowledge, guide students to complete scientific research training, and improve their scientific problem extraction, paper proposal completion and writing ability. Through the cooperation of on-campus and off-campus tutors, "double tutors" can give full play to the role of school teachers and off-campus tutors in teaching curriculum design, and effectively implement the teaching syllabus content and training objectives stipulated by professional degrees. In addition, it is necessary to actively build a reward and punishment mechanism for practical bases, establish an inspection team for strict assessment, effectively implement the responsibilities of on- and off-campus tutors, and leverage the

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regulatory role of institutional mechanisms. Through institutional construction, we aim to address the shortcomings of practical teaching bases for agricultural masters in local colleges and universities under the background of new agricultural sciences, thereby enabling students to focus their papers on practical problems discovered during practice processes, effectively solve agricultural practical problems, and write papers on the land of China to assist in the revitalization and construction of rural areas in the country.

## Conclusions

Under the background of "New Agricultural Sciences", building stable research and teaching practice bases is an important carrier for agricultural professional degree postgraduates to exercise their practical ability. Constructing practice bases of professional degree postgraduates with the characteristics of "integrating production and education" allows the organic integration of industry-teaching and scientific research, which effectively solves the problem of the absence of off-campus practice teaching and provides a new idea for exploring the long-term operation mechanism of practice bases.

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