

An exploration on the path to improve the teaching practice ability of "dual-qualified and dual-capable" teachers in applied colleges and universities under the background of the integration of production and teaching

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Abstract: The level of practical teaching ability of teachers in applied colleges and universities is the core driving force to improve the quality of personnel training and the efficiency of social service. This paper focuses on two important issues: The first one is to deeply analyze the challenges college teachers face in classroom teaching and practical teaching, and propose targeted improvement strategies accordingly; The second is to face the bottleneck problems in school-enterprise cooperation, such as the lack of enthusiasm between the two sides, the imperfect teaching and training system of teachers, and the lack of practical experience, and explore the path to improve the practical teaching ability of teachers in application-oriented colleges and universities. Specifically, on the one hand, this paper focuses on the teaching status quo of college teachers in the new era, solves the specific problems in classroom teaching and practical teaching through the guidance of the senior level of the school and the internal independent learning of teachers, increases the proportion of "dual-qualified and dual-capable" teachers, and provides new ideas for the development strategies of improving teaching practical ability. On the other hand, in view of the current difficulties, this paper proposes to rely on the opportunity of the construction of school industry colleges, deepen the school-enterprise cooperation mechanism, build a systematic training system for teachers' practical teaching, improve the evaluation system of practical teaching, create an open and cooperative educational ecological environment, and encourage teachers to carry out teaching reflection and practical innovation, so as to comprehensively improve teachers' practical teaching ability, promote the construction of "double-qualified and double-capable" teachers, and lay a foundation for the cultivation of high-quality talents in applied colleges and universities.

Key words: integration of production and education; applied colleges and universities; dual-qualified and dual-capable; teaching practice

1 Introduction

The emergence of application-oriented colleges and universities is a supplement and innovation to the traditional mode of higher education. The educational concept and goal really focus on the close connection with the needs of industry, emphasizing the combination of theory and practice, and focusing more on training students' practical ability and

vocational skills to meet the needs of social and economic development. Such colleges and universities usually work closely with industry enterprises, focus on practical teaching, and provide internship opportunities to ensure that graduates can quickly integrate into the workplace and have the ability to solve practical problems [1][2]. However, from the current point of view, the requirements for teachers' ability remain in the traditional concepts and past standards, with too much emphasis placed on the ability of theoretical teaching and scientific research, and there are problems in the construction of teachers' practical teaching ability, such as insufficient attention, lax requirements, insufficient investment, ineffective measures and low quality [3][4].

2 Analysis of the current situation of teaching practice ability of teachers in application-oriented colleges and universities

2.1 Problems in the practical ability of teachers in application-oriented colleges and universities

(1) Teachers' understanding of practical ability is not in place. Due to historical and practical reasons and the influence of educational environment, the existing teachers in the school have almost received traditional classroom teaching education, with relatively weak concepts and understanding of practice. It has become the teaching norm for college teachers to read from the book and have a fixed mindset.

(2) Lack of practical experience for teachers. Under the policy of higher education expansion, all colleges and universities are faced with the problem of insufficient teachers, and need to recruit a large number of new teachers to become the new force of colleges and universities. From the perspective of employment, the leadership of colleges and universities pays too much attention to the explicit indicators such as the academic background, graduation school level, academic achievements and whether the new teachers have overseas experience, but pays insufficient attention to the specific industry experience and the actual practical ability of teachers. These objective reasons have led to the absorption of a number of fresh academic postgraduates, who "go from school to school, lack practical experience and ability". They enter colleges and universities right after graduation, and although they have a high level of academic research ability, their practical experience is extremely scarce.

(3) Lack of practical training and evaluation mechanisms in schools. At the macro level, application-oriented schools need to keep pace with the times and pay attention to and understand the professional development of teachers, so as to adapt to the changing needs in the field of education. Traditional teacher professional development often focuses on the deepening of theoretical knowledge, such as upgrading academic qualifications, conducting scientific research and improving classroom teaching skills, which are all necessary, but they are only part of the professional growth of teachers. There is still a lack of school-enterprise cooperation mechanism, and there are few practice bases with high level and stable cooperation. The difficulty encountered by teachers in finding practice units is indeed a widespread problem, and the evaluation mechanism for practice projects is also immature.

2.2 Ideas, methods and innovations of the second-level college initiative

As an important part of application-oriented undergraduate universities, secondary colleges should highlight the "practical ability" of talent training and strive to improve the adaptability of students in specific industries. School of Optoelectronics Engineering, a secondary school of Changzhou Institute of Technology, an application-oriented undergraduate university, accurately connects industry standards, professional standards and post skill level standards in the process of talent training, transfers outstanding talents to professional positions, and meets the needs of college teachers' professional growth. Firstly, the stable and lasting practical motivation of teachers is stimulated, and the self-improvement of teachers is further linked with the development of students' practical ability. The practical motivation becomes positive and lasting under the double reinforcement of self-realization and performance of duties. It is necessary

to create a multi-dimensional practical situation in teaching practice, actively explore the reform path of practical teaching, continue to innovate teaching forms and methods, apply systematic thinking, adhere to scientific concepts, and integrate practical teaching into various practical aspects such as teaching objectives, teaching design, teaching organization, teaching methods and independent learning with the help of careful course planning and teaching design. On the one hand, the regular practical training is used to create a practice cycle situation; on the other hand, the professional ability improvement platform is built to create a skill competition situation, and teachers directly participate in or guide students to participate in various levels and types of subject competitions and vocational skills competitions, so as to enhance the professional vision of college teachers and accelerate their professional growth through reflection and internalization of their own educational activities. To greatly promote the teachers' practical ability, the specific practices and innovations are as follows:

(1) The educational concept of integrating production and education is fully implemented into the talent training system of the Department of New Energy Science and Engineering in the College of Optoelectronic Engineering to give full play to the role of the main position of the classroom, and achieve the purpose of integrating curriculum production and education.

(2) Teachers, adhering to the value of setting a good learning example for students, should not only establish the consciousness of lifelong learning, but also continuously improve their own professional ethics, and comprehensively improve their teaching and practical abilities. Everyone should strive to become a "dual-qualified and dual-capable" teacher, wholeheartedly serving for the cultivation of students' practical ability in applied colleges and universities.

(3) In practical teaching, applied colleges and universities should take industrial college as a platform to improve teachers' practical ability, carry out scientific training, integrate and reshape teachers' knowledge system, and promote teachers to combine theoretical knowledge with practical operation to improve their practical operation level; establish a stable practice base, combine theoretical knowledge with practical operation, improve the level of practical operation, cultivate students' engineering literacy and craftsman spirit, have strict requirements for accurate operation, and cultivate students' sense of responsibility and professional quality.

3 Measures taken by Changzhou Institute of Technology to improve teachers' practical ability

3.1 Improve awareness, change teachers' ideas, and stimulate teachers' self motivation to improve practical ability

Dual-qualified and dual-capable teachers are the basic guarantee to support the characteristic development of application-oriented colleges and universities and break through the homogenization. Only by building a team of teachers that matches the goal of talent training as soon as possible can application-oriented colleges and universities achieve sustainable development. At the school level, it is necessary to fully realize the urgency of the construction of double-qualified and double-capable teachers with both teaching and practical teaching abilities. At the teacher level, as an ordinary teacher in an application-oriented undergraduate university, in the context of the country's vigorous development of vocational education and the transformation of colleges and universities, it is necessary to change the concept of emphasizing classroom teaching and neglecting practical teaching as soon as possible, and complete the transformation of knowledge structure, ability structure and role.

3.2 Promote the cooperation between schools and enterprises, establish a "dual-professional and dual-ability" talent technology and training platform, and effectively improve teachers' teaching and practical teaching abilities

Changzhou Institute of Technology, as an application-oriented undergraduate college, is located in Changzhou, a "famous manufacturing city" and "new energy capital". It develops new quality productivity according to local conditions and has unique industrial advantages. When training students, the advantages and characteristics of applied undergraduate

institutions must be fully reflected. At the same time, it is necessary to focus on the cultivation of students' practical application ability, innovation and creativity.

3.3 Take the existing industrial college of the university as the starting point to stimulate teachers' endogenous motivation for professional service

Industrial colleges should constantly enhance teachers' sense of social service and enhance teachers' awareness of the integration of production and education and professional services. Professional teachers should jointly improve their professional teaching level and project practical skills. Individual teachers should design their own career development plan based on their professional competency structure, combined with the school's professional education direction, the skills requirements of the majors and courses they teach, as well as their own career development direction. For example, teachers can improve their professional practice and management through temporary workouts and postings in enterprises.

3.4 Accelerate the construction of the system, stimulating teachers' initiative to practice, and improving the system of practical teaching and training for teachers

To give full play to the baton role of the personnel system to improve teachers' practical ability and teaching quality, the following strategies can be adopted:

(1) Adjustment of the assessment system

Add practical requirements: In the teacher evaluation system, add requirements for practical experience and results, such as the time and quality of participation in social practical activities, and the ability to integrate practical experience into teaching.

Quantitative evaluation indicators: Set specific indicators, such as at least 6 to 12 months of social practice experience as one of the necessary conditions for promotion to senior titles.

(2) Reform of training content

Practical knowledge and skills: focus on the acquisition of practical knowledge and skill training to ensure that teachers are able to integrate theory and practice.

Capacity for the integration of "production-study-research": strengthen the cooperation between teachers and industry, and enhance the transformation capacity of scientific research results and production-study-research cooperation projects.

(3) Innovation in training forms

Case study: Use industry cases for analysis and discussion to help teachers understand the application of theory in practice.

Practice tutorial system: Bringing in industry experts as practice mentors to provide one-on-one guidance and support to teachers.

(4) Continuous improvement mechanism

Feedback and evaluation: Collect regular feedback from teachers, students and industry partners to continuously optimize the content and approach of training.

Incentive mechanism: Establish a reward mechanism to commend teachers who have outstanding performance in practical teaching and professional development, and stimulate the enthusiasm and creativity of all teachers.

4 Conclusion

Facing the needs of the integration of production and education in the new era, under the background of the transformation of traditional colleges and universities, the establishment of a high-quality "dual-qualified" teaching team that understands both theory and practice is an important guarantee for application-oriented undergraduate colleges and universities to give full play to their functions. The teachers of applied undergraduate colleges should not only possess the

theoretical knowledge and teaching skills required by the teachers of research-oriented universities, but also possess the practical teaching ability matching with the teaching standards of applied undergraduate colleges. Therefore, the research on the improvement of teachers' practical teaching ability is helpful to improve the level of application-oriented undergraduate colleges and universities, and accurately serves the training of composite application-oriented talents.

Acknowledgments

This work was supported by the key research topic of university-level teaching reform (jgkt2022-7), the special research topic of school-level curriculum ideological and political teaching reform (30120300100-23-yb-igkt13 and 30120300100-23-yb-jgkt14), and university-level demonstration course construction project (cjrhk2022-6).

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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