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Research on the Reform Path of Intelligent Manufacturing Practice Teaching under the Background of "New Four Modernizations"

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ABSTRACT

In the context of the "New Four Modernizations," intelligent manufacturing, as a key area driving the transformation and upgrading of the manufacturing industry, has made practical teaching reform crucial for enhancing the quality of talent cultivation. Based on an in-depth analysis of the current status of practical teaching in intelligent manufacturing, and considering the profound impact of the "New Four Modernizations," a systematic design of practical teaching reform paths has been developed. Under the background of electrification, practical teaching should emphasize content related to new energy technologies and green manufacturing; under the shared economy backdrop, there should be a focus on resource sharing and the cultivation of collaborative innovation capabilities; under the intelligentization backdrop, course content should include smart equipment, intelligent systems, and data analysis; under the networked backdrop, practical teaching should concentrate on improving network communication, information security, and system integration capabilities. By constructing the evaluation index system of practical teaching reform and using questionnaire survey, interview and data analysis to evaluate, the research found that the practical teaching after the reform has achieved significant improvement in curriculum system, training base construction, faculty quality and students' practical ability. In addition, the research also put forward countermeasures and suggestions for the problems faced in the reform process, such as increasing the intensity of curriculum system update, increasing investment in practical training base construction, strengthening teacher training and broadening the channels for cultivating students' practical ability, so as to provide practical guidance and theoretical support for the reform of intelligent manufacturing practice teaching.

KEYWORDS

Intelligent Manufacturing; Practical Teaching Reform; Curriculum System; Evaluation Index System.

1. INTRODUCTION

1.1. Research Background and Significance

As global technology advances at an unprecedented pace, the "new four modernizations" have become a significant trend leading industrial transformation. This trend is particularly profound in the field of intelligent manufacturing. Intelligent manufacturing, as the core direction for upgrading and transforming the manufacturing industry, is driving a shift towards more efficient, flexible, and personalized production models globally. This transformation also presents new challenges to talent cultivation, especially in practical teaching [1].

Practical teaching is a critical component in enhancing students' practical skills, problem-solving abilities, and innovative thinking. Under the backdrop of the "New Four Modernizations," practical teaching in intelligent manufacturing not only needs to impart traditional manufacturing techniques but also integrate cutting-edge technologies such as electrification and intelligence, as well as new business models like sharing and networking. Such teaching requirements make the reform of practical teaching in intelligent manufacturing particularly important and urgent[2].

Universities both domestically and internationally have begun exploring reform paths for intelligent manufacturing practical teaching. These reforms mainly focus on strengthening the faculty team for practical teaching, building diversified platforms for practical teaching, and constructing a comprehensive practical teaching system. For example, by introducing engineers and teachers with rich practical experience to enhance the professionalism and applicability of practical teaching; by establishing cooperative training bases with enterprises to allow students to practice in real production environments; and by integrating course resources to build a comprehensive practical teaching system that covers from basic theory to professional skills.

The reform of practical teaching in intelligent manufacturing not only helps to enhance students' practical skills and innovative awareness but also delivers high-quality talent to the field of intelligent manufacturing, thereby promoting the continuous development and innovation of the entire industry. Therefore, this study will delve into the reform paths of practical teaching in intelligent manufacturing under the "four modernizations" context, aiming to provide valuable references and insights for relevant educational institutions, collectively advancing the quality of talent cultivation in the field of intelligent manufacturing.

We also need to recognize that the reform of intelligent manufacturing practical teaching is not an overnight process. It requires joint efforts from educational institutions, enterprises, and the government, with continuous exploration and improvement. Through integration of industry, academia, and research, as well as cooperation between schools and businesses, we can collectively build a more industry-relevant and forward-looking practical teaching system, cultivating more outstanding talents for the field of intelligent manufacturing[3].

With the rapid development of digital manufacturing technology, we also need to integrate this technology into practical teaching in intelligent manufacturing, enabling students to better understand and master the core technologies and applications of digital manufacturing during their learning process. By building a practical teaching system centered on students, using innovative design as a means, and based on advanced manufacturing technology, we can better cultivate high-quality talents with an innovative spirit and practical skills, providing strong talent support for the implementation of national strategies such as "Made in China 2025."

The reform of intelligent manufacturing practice teaching under the background of the "New Four Modernizations" is of great significance and value. By thoroughly exploring the reform path and putting it into practice, we can not only improve the quality of talent cultivation and meet the urgent needs of industry development, but also inject a continuous stream of momentum for the sustained development and innovation in the field of intelligent manufacturing.

1.2. Research Status at Home and Abroad

1.2.1. Domestic Research Status

Domestic progress has been made in the reform of practical teaching in intelligent manufacturing. Scholars have actively explored the construction of course systems to meet the new requirements for talent in the field of intelligent manufacturing. For example, some studies have established a practical teaching system centered on "intelligent manufacturing," integrating innovation and entrepreneurship education to enhance students' innovative awareness and new capabilities, thereby improving the quality of practical teaching for undergraduate students majoring in intelligent manufacturing [4]. At

the same time, domestic universities have made great efforts in building training bases, collaborating with enterprises to create realistic training environments that help students better understand and master intelligent manufacturing technologies.

In terms of faculty development, there is also a focus on enhancing teachers' professional competence and practical skills to ensure they can meet the needs of intelligent manufacturing practice teaching reforms. Despite this, systematic research on intelligent manufacturing practice teaching reforms under the "new four modernizations" context remains insufficient, and the design of reform pathways requires further in-depth exploration and improvement.

1.2.2. Current Situation of Foreign Research

Compared to domestic practices, foreign countries have started earlier in exploring reforms in intelligent manufacturing practical teaching and have accumulated rich experience. Foreign scholars and educational institutions place great emphasis on the close integration of theory and practice, stressing the importance of conducting practical teaching in real or simulated industrial environments to cultivate students' practical skills and problem-solving abilities. Moreover, interdisciplinary integration is also a significant feature of intelligent manufacturing practical teaching abroad, which helps students form a comprehensive knowledge system and better adapt to future development needs in the field of intelligent manufacturing[5].

In the context of the "New Four Modernizations," foreign research not only focuses on technological innovation but also emphasizes the innovation of educational models and philosophies. For example, some studies have proposed project-based learning methods, where students learn and grow through real projects. This approach has been proven to effectively enhance students' practical skills and innovative thinking. At the same time, foreign countries also emphasize the use of modern information technology tools, such as the "Internet+" teaching model, to improve teaching effectiveness and student learning experiences[6].

Although there has been progress in the reform of intelligent manufacturing practice teaching domestically, it is still necessary to draw on advanced experiences and practices from abroad, especially in designing systematic reform paths, integrating theory with practice, interdisciplinary integration, and the application of modern information technology. Through continuous learning and innovation, we can better cultivate high-quality talents who meet the demands of the "new four modernizations" context in the field of intelligent manufacturing.

2. PRACTICAL TEACHING REFORM PATH

2.1. Practice Teaching Reform under the Background of Electrification

With the transformation of global energy structure and the improvement of environmental protection awareness, electrification has become an important trend in the development of future manufacturing industry. In this context, intelligent manufacturing practice teaching must keep up with the pace of the times and actively carry out reform to adapt to new industrial needs.

In the context of electrification, the reform of practical teaching should first involve adjustments to course content. Traditional intelligent manufacturing courses primarily focus on mechanical processing and automation control. However, in the era of electrification, topics such as new energy technology and green manufacturing are becoming increasingly important. Therefore, it is necessary to add courses related to electrification on top of the existing curriculum, such as battery technology, motor control, and energy management systems, so that students can gain a comprehensive understanding of the latest trends and application areas of electrification technology[7].

In addition to adjusting the course content, the construction of practical training bases is also a critical component of practical teaching reform. The new energy training base should simulate real electrified

production environments, equipped with advanced electrified equipment and testing instruments, providing students with ample opportunities for hands-on practice. Through practical operations, students can gain a deep understanding of the actual application of electrification technology, enhancing their practical skills and problem-solving abilities.

Strengthening the training and exchange of teachers and students in new energy technology is also a crucial part of the reform. Schools can regularly invite experts and scholars from the field of new energy to give lectures or host workshops, providing learning opportunities that align with industry trends. At the same time, encourage teachers and students to participate in domestic and international conferences on new energy technology and academic meetings, broadening their horizons and enhancing academic exchanges.

Practical teaching reform should also focus on cultivating students 'practical innovation capabilities. By encouraging teachers and students to participate in new energy technology research projects, not only can students' scientific research skills be honed, but they can also contribute to the development of the new energy industry. Schools can collaborate with enterprises or research institutions to jointly undertake new energy technology research projects, providing a platform for students to engage in practical innovation.

Reforms in intelligent manufacturing practice teaching under the background of electrification need to be approached from multiple aspects, including course content, construction of practical training bases, teacher-student training and exchange, as well as the cultivation of practical innovation capabilities. Through the implementation of these reform measures, we can nurture more high-quality talents who meet the demands of the electrified era, contributing to the sustained development of the intelligent manufacturing industry.

2.2. Practice Teaching Reform under the Background of Sharing

In the context of sharing, the reform of intelligent manufacturing practice teaching is particularly critical. Sharing not only means the efficient use of resources, but also represents a new collaborative innovation mode. This change in mode puts forward new requirements and challenges to practical teaching [8].

To adapt to these changes, we must start from the core philosophy of practical teaching and carry out profound reforms. First, practical teaching should break down traditional resource barriers to achieve resource sharing and maximum utilization. This can be achieved by establishing a platform for school-enterprise cooperation, where enterprises can provide the latest equipment, technology, and project cases, while schools can offer rich teaching resources and research capabilities. Through such collaboration, both parties can realize resource sharing and complementary strengths, jointly promoting the development of intelligent manufacturing practical teaching.

Practical teaching should encourage students to participate in interdisciplinary and cross-field project collaborations. In the context of sharing, intelligent manufacturing is no longer a single technical field but involves the intersection and integration of multiple disciplines such as mechanical engineering, electronics, computer science, and management. Therefore, practical teaching must focus on cultivating students' interdisciplinary thinking and collaborative innovation capabilities. By organizing students to engage in interdisciplinary projects, they can gain an understanding of knowledge and methods from different fields through practice, learn to collaborate with people from diverse backgrounds, and thus develop into high-quality talents with innovative spirit and teamwork skills.

Practical teaching should also focus on cultivating students 'open-minded thinking and international perspective. In the era of sharing, the development of intelligent manufacturing has transcended national boundaries, becoming a global competitive focus. Therefore, our students must possess an open mindset and an international vision to engage in communication and cooperation on a global

scale. To achieve this goal, practical teaching can introduce international content and methods, such as inviting foreign experts for lectures and organizing student participation in international competitions, thereby enhancing students' international competitiveness and cross-cultural communication skills.

Reforming practical teaching in intelligent manufacturing under the backdrop of sharing is a complex and urgent task. We must address multiple aspects such as resource sharing, collaborative innovation, interdisciplinary training, and international development to comprehensively enhance the quality and level of practical teaching. Only then can we cultivate high-quality intelligent manufacturing talents suited for the era of sharing, contributing to the transformation and upgrading of manufacturing and the innovative development of our country.

2.3. Practice Teaching Reform under the Background of Intelligence

Under the impetus of the intelligent wave, practical teaching in smart manufacturing must keep pace with the times and closely align with the actual needs of industry development. Reforming practical teaching under the backdrop of intelligence should start from multiple dimensions, including course content, construction of training bases, teacher and student training, as well as participation in technology research and development projects, to comprehensively enhance students' practical skills and innovative thinking[9].

In the design of course content, emphasis should be placed on adding knowledge points related to intelligent equipment, smart systems, and data analysis. By introducing advanced intelligent manufacturing technologies, intelligent control algorithms, and big data analysis methods, these courses help students build a comprehensive understanding of the field of intelligent manufacturing. These course contents not only aid students in grasping the basic principles and technical characteristics of intelligent manufacturing but also lay a solid theoretical foundation for their future careers in this area.

In the construction of practical training bases, emphasis should be placed on creating intelligent training bases. By introducing advanced smart manufacturing equipment, systems, and software to simulate real-world smart manufacturing environments, students can gain hands-on experience and operation in practice. Such training bases not only provide more practical opportunities for students but also help them better understand and master smart manufacturing technologies. At the same time, through collaboration with enterprises, more real cases and problems can be introduced, allowing students to develop their practical skills while solving these issues.

Furthermore, enhancing training and exchange between teachers and students in areas such as artificial intelligence and big data is also crucial. By organizing regular training courses, seminars, and academic exchange activities, teachers and students can learn together and explore the latest technologies and research findings in the field of intelligent manufacturing. Such training and exchange activities not only enhance the professional competence of teachers and students but also promote intellectual collision and collaborative innovation among them.

Encouraging teachers and students to participate in intelligent technology R&D projects is also an important way to enhance practical innovation capabilities. By collaborating with enterprises, research institutions, and others, joint efforts can be made on intelligent technology R&D projects, allowing students to develop their practical skills and innovative thinking through real-world research processes. Such project participation not only enhances students' employability but also lays a solid foundation for their career development.

In the context of intelligent manufacturing, reforming practical teaching requires a multi-faceted approach to comprehensively enhance students' practical skills and innovative thinking. By optimizing course content, establishing intelligent training bases, strengthening teacher-student training and exchanges, and encouraging participation in technology research and development

projects, we can cultivate more high-quality talents who are well-suited for the development of the intelligent manufacturing sector.

2.4. Practice Teaching Reform under the Background of Network Connectivity

Network connectivity, as one of the "new four modernizations," presents new challenges and requirements for practical teaching in intelligent manufacturing. With the transformation and upgrading of manufacturing, technologies such as network communication, information security, and system integration are increasingly becoming core skills in the field of intelligent manufacturing. Therefore, under the context of network connectivity, we need to carry out profound reforms in practical teaching to meet the demands of industry development[10].

In the cultivation of network communication capabilities, practical teaching should focus on strengthening the construction of network communication infrastructure. By establishing advanced network communication laboratories and introducing the latest network communication equipment and technologies, a good practical environment can be provided for students. In experimental teaching, students can operate the equipment themselves, configure network parameters, thereby gaining a deeper understanding of the principles and techniques of network communication. Additionally, comprehensive and innovative experiments in network communication technology can be conducted, encouraging students to explore new network communication technologies and application models, fostering innovative thinking and practical skills.

In terms of information security, practical teaching should focus on cultivating students' awareness and skills in information security. This can be achieved by offering courses related to information security, introducing real-world security cases for analysis and discussion, so that students understand the importance and urgency of information security. At the same time, in experimental teaching, information security attack and defense experiments can be set up, allowing students to simulate attack and defense processes, thereby mastering basic information security techniques and methods. Additionally, students can be encouraged to participate in information security competitions and projects, enhancing their practical skills and teamwork abilities.

For the cultivation of system integration capabilities, practical teaching should emphasize systematicness and wholeness. This can be achieved through system integration project practices, where students participate in the planning, design, implementation, and management processes of projects. In these projects, students need to apply their knowledge and skills comprehensively to solve real-world system integration problems. Through this approach, students can gain a deeper understanding of the principles and methods of system integration, thereby enhancing their system integration abilities. Additionally, encouraging students to engage in interdisciplinary and cross-domain system integration projects can broaden their horizons and improve their overall qualities.

In addition to the aforementioned reform measures, practical teaching reforms under the context of networked education should focus on the following aspects: First, strengthen faculty development to enhance teachers 'professional standards and practical experience; Second, improve the evaluation system for practical teaching, establishing a diversified assessment mechanism that comprehensively reflects students' practical skills and innovative achievements; Third, enhance cooperation and communication with enterprises to stay informed about the latest industry trends and technical needs, providing strong support and guarantees for practical teaching.

In the context of networked connectivity, the reform of intelligent manufacturing practice teaching is a systematic project that requires a multi-faceted approach to comprehensively enhance the quality and level of practical teaching. By strengthening practical teaching in areas such as network communication, information security, and system integration, we can cultivate more high-quality talents with innovative spirit and practical skills, making positive contributions to the development of the intelligent manufacturing sector.

3. EVALUATION OF THE EFFECT OF PRACTICAL TEACHING REFORM

3.1. Evaluation Indicators and Methods

In the process of practical teaching reform, the evaluation of its effect is a crucial part. In order to ensure the comprehensiveness and objectivity of the evaluation, we have constructed a set of perfect evaluation index system and adopted a variety of evaluation methods[11].

The evaluation indicator system is the cornerstone of assessment work, covering all aspects of practical teaching reform. Specifically, we have designed a series of concrete evaluation indicators from four dimensions: the completeness of the curriculum system, the level of construction of training bases, the improvement in faculty quality, and the enhancement of students' practical abilities. These indicators not only focus on the input and process of reform but also emphasize its output and effectiveness, aiming to comprehensively reflect the outcomes of practical teaching reform.

In terms of evaluation methods, we adopted various approaches such as questionnaires, interviews, and data analysis to ensure the accuracy and reliability of the assessment results. The questionnaire survey primarily targeted students and teachers, collecting their perceptions and feedback on practical teaching reforms to understand the actual effects and existing issues. Interviews focused on in-depth exchanges with school-enterprise cooperation units and industry experts, evaluating practical teaching reforms from their perspectives. Data analysis involved organizing, analyzing, and mining large amounts of collected data to uncover the intrinsic patterns and development trends of practical teaching reforms.

We also focus on the feedback and application of evaluation results. On one hand, we promptly provide these results to relevant departments and teachers, offering targeted suggestions and guidance for improving practical teaching. On the other hand, we use the evaluation results as a critical basis for optimizing the path of practical teaching reform, continuously promoting its in-depth development.

By building a perfect evaluation index system and adopting various evaluation methods, we can comprehensively, objectively and accurately evaluate the effect of practical teaching reform, and provide a strong guarantee for improving the quality of talent training.

3.2. Data Analysis and Case Display

In the process of practical teaching reform, data analysis and case presentations are crucial for evaluating the effectiveness of reforms. By collecting and analyzing relevant data before and after the reform, it can objectively reflect the outcomes and issues of the reform, providing strong support for further optimizing the reform path. At the same time, in-depth analysis and presentation of typical cases can vividly showcase the achievements and highlights of the reform, enhancing its persuasiveness and influence.

In terms of data analysis, we have comprehensively employed various methods such as questionnaires, interviews, and field investigations to collect a large amount of firsthand data on the reform of practical teaching. Through the organization and analysis of this data, we found that students' practical skills, innovative awareness, and teamwork abilities have all shown significant improvement after the reform. At the same time, we also noticed some issues and challenges during the reform process, such as uneven levels of construction in training bases and the need for further improvement in faculty quality. In response to these problems, we have proposed specific suggestions and measures to achieve better results in future reform practices.

In terms of case presentation, we have carefully selected several representative typical cases for in-depth analysis. These cases cover practical teaching reform practices across different fields and levels, including both successful experiences and lessons learned from failures. By providing detailed presentations and thorough analyses of these cases, we can gain a more intuitive understanding of the

specific implementation process, outcomes, and challenges faced during the reform. At the same time, these cases also offer valuable references and insights for other universities or institutions conducting similar reforms.

Overall, through data analysis and case studies, we not only comprehensively and objectively evaluated the effectiveness of practical teaching reforms but also delved into the highlights and issues during the reform process. This will help us further summarize lessons learned, optimize the reform path, and promote the deepening and advancement of intelligent manufacturing practical teaching reforms to higher levels.

3.3. Evaluation Results and Discussion

After a comprehensive evaluation of the effects of practical teaching reforms, we observed positive changes at multiple levels. First, in terms of the curriculum system, the reformed intelligent manufacturing practice courses better align with the needs of the "new four modernizations" context. New course content related to electrification, sharing, intelligence, and connectivity has been added, enabling students to gain a more comprehensive understanding and mastery of cutting-edge technologies and applications in intelligent manufacturing. This change not only enriches the course content but also enhances its practicality and relevance.

In the construction of practical training bases, advanced equipment and technologies have been introduced to establish multiple bases that align with the "new four modernizations" context. These bases provide students with more realistic practice environments, enabling them to enhance their skill levels through hands-on operations and deepen their understanding of the practical applications of intelligent manufacturing. At the same time, the development of these training bases has also promoted cooperation and exchange between schools and enterprises, laying a solid foundation for improving the quality of talent cultivation.

In terms of improving the quality of the faculty, reforms have promoted continuous learning and progress among teachers. By organizing regular training and exchange activities, teachers can continuously update their knowledge systems and enhance their professional skills, thereby better guiding students in practical learning for intelligent manufacturing. The overall improvement in the quality of the faculty provides strong support for ensuring the quality of practical teaching.

In terms of enhancing students 'practical skills, the reformed practical teaching system places greater emphasis on the students' primary role and the cultivation of their practical abilities. By increasing the proportion of practical courses and diversifying the types of practical projects, it has sparked students' interest in practice and fostered an innovative spirit. Through these activities, students not only improve their skill levels but also develop teamwork and problem-solving skills, laying a solid foundation for their future career development.

During the evaluation process, we also identified some issues and shortcomings. Some course content was not updated in a timely manner, failing to fully reflect the latest developments and technological achievements in the field of intelligent manufacturing. To address this issue, we recommend establishing a dynamic update mechanism for course content to ensure it remains aligned with industry trends. Additionally, some equipment at the training base is outdated, affecting the effectiveness of practical teaching. For this problem, we suggest increasing investment in equipment, regularly updating and upgrading training facilities to ensure the smooth operation of practical teaching.

Practical teaching reform has achieved significant results in multiple aspects, but there are still some issues and shortcomings that need improvement. We will continue to strive to optimize and improve the practical teaching system to meet the demands of the intelligent manufacturing industry under the "new four modernizations" background, contributing to the cultivation of more high-quality, highly skilled intelligent manufacturing talents.

4. EXISTING PROBLEMS

In the advancement of practical teaching reform in intelligent manufacturing, although we have made some significant progress, we still face a series of challenges and issues. First, the update of the curriculum system is not timely. With the rapid development of the "new four modernizations" trend, technologies and knowledge in the field of intelligent manufacturing are constantly evolving. However, the current practical teaching course system often fails to keep up with these changes, leading to a certain disconnect between what students learn and industry needs.

Insufficient investment in the construction of practical training bases is also a prominent issue. Intelligent manufacturing practice teaching requires substantial support from practical equipment and venues, but due to funding and resource constraints, many schools 'practical training base constructions are not well-developed, failing to provide students with sufficient practical opportunities. This not only affects the effectiveness of students' practical learning but also hinders the deep advancement of practical teaching reforms.

Moreover, the uneven quality of faculty is also a significant factor constraining the reform of practical teaching. Intelligent manufacturing is a highly specialized field that requires teachers to possess profound professional knowledge and practical experience. However, many schools currently lack experienced and skilled teachers in intelligent manufacturing, which makes it difficult for them to provide effective guidance and support when conducting practical teaching.

The insufficiently comprehensive cultivation of students 'practical abilities is also an issue that needs attention. In the current practical teaching system, there is often a greater focus on technical operation training while neglecting the development of students' innovative thinking and teamwork skills. This results in students often lacking sufficient coping abilities and innovative thinking when faced with complex and changing real-world problems.

To address the aforementioned issues, we need to take a multi-faceted approach. First, we should accelerate the update of our curriculum system, incorporating the latest technologies and knowledge into teaching content in a timely manner. Second, we should increase investment in practical training bases, improving facilities and venues to provide more hands-on opportunities for students. At the same time, we must strengthen faculty development by attracting top talent and enhancing teacher training, thereby boosting their professional competence and practical teaching skills. Finally, we should focus on cultivating students' comprehensive practical abilities, not only emphasizing their technical operational skills but also fostering innovative thinking and teamwork among other integrated competencies. By implementing these measures, we can better advance the reform of intelligent manufacturing practice teaching, nurturing more high-quality professionals for the industry.

5. SUMMARY

The research focuses on the reform of practical teaching in intelligent manufacturing under the background of the "New Four Modernizations." By integrating theoretical analysis, empirical research, and case studies, it delves into the necessity, feasibility, and implementation paths of practical teaching reform. Throughout the study, we closely align with the new requirements for the intelligent manufacturing sector driven by the "New Four Modernizations" trend. We analyze the current status and issues of practical teaching, propose targeted reform strategies, and validate the effectiveness of these strategies through specific data analysis and case studies.

In terms of improving the curriculum system, we have comprehensively reviewed and updated the existing course content in line with the characteristics of electrification, sharing, intelligence, and connectivity. By introducing knowledge from emerging fields such as new energy technology, green manufacturing, intelligent equipment, and systems, we aim to make the course content more aligned

with the forefront of industry development. At the same time, we emphasize the integration of theory and practice, adding practical teaching components like experiments and training sessions to enhance students' hands-on skills and problem-solving abilities.

In the construction of practical training bases, we have increased our investment, updated and upgraded training equipment, and established several industry-specific training bases. These bases not only provide students with real professional environments but also offer them seamless practice opportunities that align closely with their future job positions. Through deep collaboration with enterprises, we have also introduced actual production projects and cases from companies, enabling students to truly engage with cutting-edge technologies and real-world problems during their training.

In terms of improving the quality of our faculty, we focus on teachers' professional growth and skill training. By organizing teachers to participate in industry seminars, technical exchanges, and corporate internships, we enhance their professional competence and practical skills. At the same time, we encourage teachers to actively engage in research projects and industry-academia-research collaborations, which helps improve their research capabilities and innovation. These measures effectively elevate the overall quality of our faculty, providing a strong guarantee for the quality of practical teaching.

In enhancing students' practical skills, we focus on cultivating their innovative thinking and problem-solving abilities. By organizing a variety of practical activities, competitions, and project training, we enable students to learn and grow continuously through practice. We also strengthen our cooperation with enterprises, providing more internship and employment opportunities for students, allowing them to continuously improve their professional qualities and comprehensive abilities in practice.

Under the background of the "New Four Modernizations," we have conducted comprehensive reform explorations in intelligent manufacturing practical teaching, achieving significant results. These reform measures not only improved the quality of practical teaching but also provided strong support for students' all-round development. In the future, we will continue to deepen the reform of practical teaching and strive to cultivate more high-quality talents who can adapt to industry development.

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