

Research on the Practice of Artificial Intelligence Education Based on OBE-Oriented Collaborative Education

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Abstract

The Ministry of Education's supply-Demand Matching Employment Education Project is a key measure to deepen the integration of industry and education and solve the structural contradiction between supply and demand of talents. This article takes the "Third Phase of Shanghai Lingli Intelligent Technology Co., LTD. Employment and Internship Base Project" (initiated in 2024) jointly carried out by Nantong Institute of Technology and a leading domestic intelligent technology enterprise (Shanghai Lingli Intelligent Technology Co., LTD.) as a practical case, systematically sorting out the project implementation path, collaborative mechanism, educational achievements and experience reflections. The project has established an integrated education ecosystem of "technology empowerment - industrial practice - direct employment" through four core modules: co-construction of courses, development of practical training platforms, dual-mentor system, and targeted employment delivery. During the two years of implementation, a total of 200 suitable talents have been cultivated, and the efficiency of the enterprise's technological achievement transformation has been significantly improved. Research shows that the employment education model of deep collaboration between schools and enterprises can effectively bridge the gap between educational supply and industrial demand, providing a replicable paradigm for the cultivation of new engineering talents in the intelligent era.

Keywords

Integration of industry and education, Artificial intelligence education. School-enterprise collaboration.

1. Introduction

1.1. Policy background

With the increasing demand for cooperation between universities and enterprises in the field of artificial intelligence, the employment education projects focusing on the collaboration between universities and enterprises are on the rise, and against the backdrop of rapid economic and social development and technological progress, the cooperation between universities and enterprises is becoming increasingly close.[1] Nantong Institute of Technology, as an applied undergraduate university, is committed to cultivating high-quality applied talents. Shanghai Lingli Intelligent Technology Co., Ltd. focuses on the field of intelligent technology and possesses advanced technology and rich practical experience. The cooperation between the two sides conforms to the demands of The Times and is of great significance for improving the quality of talent cultivation, promoting scientific and technological innovation and facilitating regional economic development. The research was conducted based on reflecting the policy background, implementation path, achievement data and future planning. Through in-depth research on the cooperation between the two sides, it is helpful to reveal the inherent laws of school-enterprise cooperation, provide references for the cooperation between other

universities and enterprises, and enrich the theory and practice of industry-university-research cooperation. At the same time, it can also provide a basis for both sides to further optimize the cooperation model and expand the cooperation fields, achieving complementary advantages and coordinated development. Promote the precise alignment of talent cultivation in colleges and universities with the demands of key industries.

In line with the purpose of the Ministry of Education; The implementation path mainly describes the curriculum system and practical training platform jointly developed by schools and enterprises; The results section uses the effectiveness data of the "dual-mentor system" to indicate the hard indicators such as students' academic performance during the learning process, highlighting the best point of the combination of the two.[1]

The talent gap in the country's strategic emerging industries (artificial intelligence and big data) continues to expand. According to the prediction of the Ministry of Industry and Information Technology, the talent gap in AI will reach 5 million by 2025.

1.2. Question raised

Pain points in colleges and universities: Courses lag behind technological iterations, lack of practical platforms, and weak engineering capabilities of students. The number of college graduates increases significantly every year. How to increase the employment rate is an urgent problem.

Enterprise-end demand: There is an urgent need for compound talents who possess both AI algorithm capabilities and the ability to understand educational scenarios.

Student-side predicaments: Insufficient employment competitiveness and ambiguous career development paths.

1.3. Research methods and innovation points

This article adopts the empirical summary research method to sort out the achievements of the past two years and understand the current research situation and trends. By using the case analysis method, a detailed analysis of the cooperation case between Nantong Institute of Technology and Shanghai Lingli Intelligent Technology Co., Ltd. is conducted, and the experiences and deficiencies are summarized. Through the investigation method, communicate with the relevant personnel of both sides' cooperation to obtain first-hand information.

The innovation of this article lies in focusing on specific cases of cooperation between universities and enterprises, conducting in-depth analysis of the entire cooperation process. It not only pays attention to talent cultivation but also involves multiple achievements and challenges such as scientific and technological innovation and social services, and proposes targeted development strategies to provide more practical references for school-enterprise cooperation.

Cooperative entities: Nantong Institute of Technology, Shanghai Lingli Intelligent Technology Co., LTD

Project period: August 2023 - December 2025

Core objective:

Short-term: Establish a talent cultivation and supply channel in the direction of "AI+ education".

Long-term: Build a sustainable innovation platform for the integration of industry and education.

2. Project Implementation Path and Collaborative Mechanism

2.1. Top-level design: Division of Responsibilities between the two main bodies

Main responsibility

Nantong Institute of Technology: Two classes, 2101 and 2102, and two classes, 2202 and 2203, majoring in Artificial Intelligence

1. Student selection and basic theory teaching
2. Credit recognition and quality monitoring
3. Academic research support

Enterprise: Shanghai Lingli Intelligent Technology Co., LTD

1. Construction of industrial-level training platforms
2. Engineers give lectures on campus
3. Real project case libraries are provided
4. Provision of competition projects.

2.2. Core implementation module.

(1) Reconstruction of the Curriculum System

List of Co-built courses:

"TensorFlow Speech Recognition in Practice" (Taught by Associate Senior Engineer)

"Data Structures" (Dual-qualified System of university teachers and enterprise engineers)

(2) Dual-mentor system training

The graduation project is jointly guided by university mentors (lecturers or professors) and enterprise mentors (engineers).

(3) Employment connection mechanism

Talent Reservoir Program: Select outstanding students to participate in the C language competition organized by the National Association for Computer Education in Higher Education Institutions;

2.3. Overview of Nantong Institute of Technology

Nantong Institute of Technology was founded in 2000 and is a full-time regular undergraduate university approved by the Ministry of Education. The university has multiple secondary colleges, covering various disciplines such as engineering, management, economics, literature, and art. Adhering to the educational philosophy of "applying what is learned", we focus on cultivating students' practical abilities and innovative spirit, and have established a complete practical teaching system as well as numerous off-campus internship and training bases. Remarkable achievements have been made in talent cultivation, scientific research, social services and other aspects, and a large number of outstanding talents have been sent to the regional economic and social development.

2.4. Overview of Shanghai Lingli Intelligent Technology Co., LTD

Shanghai Lingli Intelligent Technology Co., Ltd. focuses on the field of intelligent technology, with its business covering the research and application of cutting-edge technologies such as artificial intelligence, the Internet of Things, and big data. The company has a professional R&D team and advanced technical equipment, achieving fruitful results in fields such as intelligent security, smart home, and intelligent transportation. Its products and services are widely applied in multiple industries, earning a good market reputation and customer recognition.

2.5. Analysis of the convergence points of cooperation

Nantong Institute of Technology has advantages in talent cultivation and scientific research, and can provide high-quality talents and technical support for enterprises. Shanghai Lingli Intelligent Technology Co., Ltd. stands out in technological research and development, market resources and practical experience, and can help schools improve teaching quality and scientific research level. Both sides have a high degree of alignment in terms of talent cultivation

goals, technological innovation demands and social service concepts, laying a solid foundation for cooperation.

In terms of talent cultivation, the school hopes to cultivate applied talents that meet market demands, while enterprises need employees with professional knowledge and practical abilities. The cooperation between the two sides can achieve a seamless connection between talent cultivation and enterprise demands. In terms of technological innovation, the combination of the school's scientific research strength and the enterprise's R&D resources can accelerate the transformation of scientific and technological achievements and enhance the core competitiveness of enterprises. In terms of social services, both sides are jointly committed to providing high-quality products and services to society, promoting the development of the industry and social progress[2]

3. Quantitative Analysis of Project Effectiveness

3.1. Achievements in talent cultivation (as of December 2025)

One student won an award in the competition event

3.2. Industrial value output

Technology Integration: Two weeks of practical training on "Data Structures" for students;

Ecological expansion: In the future, a "Joint Laboratory of Educational Agents" can be jointly established to carry out teaching of open-source projects.

4. Reflections on Key Experiences and Challenges

4.1. Successful experience

Precise demand anchoring: Design courses based on the capabilities of enterprise talents to avoid the situation where "schools are enthusiastic but enterprises are cold".

Deep integration of resources: Enterprises open up desensitized data and development environments to break through the bottleneck of practical training resources.

4.2. Continuous challenge

The dynamic update of courses lags behind: AI technology iterates rapidly, and the update cycle of teaching materials is difficult to match.

The gap in teaching staff capabilities: University teachers lack industrial experience and it is necessary to establish an enterprise training mechanism.

Insufficient long-term investment: The subsequent maintenance costs of enterprise hardware donations need sustainable financial support.

5. Conclusion and Prospect

5.1. Summary of Research Conclusions

Nantong Institute of Technology and Shanghai Lingli Intelligent Technology Co., Ltd. have achieved remarkable results in talent cultivation, scientific research innovation and social services, making positive contributions to the development of both sides and the progress of the regional economy and society. However, in the cooperation, there are also problems such as an imperfect cooperation mechanism, insufficient resource input, and the need to expand the depth and breadth of cooperation. Through strategies such as improving the cooperation mechanism, increasing resource input and expanding the depth and breadth of cooperation, problems can be effectively solved and the cooperation between the two sides can be deepened.

5.2. Prospects for Future Cooperation and Development

In the future, both sides should continue to uphold the principle of mutual benefit and win-win results and deepen cooperation. In terms of talent cultivation, further optimize the talent cultivation plan and improve the quality of talent cultivation. In terms of scientific research and innovation, we should strengthen the research on cutting-edge technologies and promote the transformation of more scientific and technological achievements. In terms of social services, expand the service areas and improve the service levels. At the same time, we should actively explore new cooperation models and fields, provide new experiences for the development of school-enterprise cooperation, and make greater contributions to the development of the intelligent technology industry and the progress of the regional economy and society. It is believed that with the joint efforts of both sides, the cooperation will achieve more fruitful results and realize higher-level coordinated development.[3]

6. Conclusions and Suggestions

The Ministry of Education's supply-Demand Matching Employment Education Project has effectively activated the internal driving force of industry-education integration by promoting in-depth integration between schools and enterprises through institutional design. Practical verification of this project:

The "Technology - Education - Industry" triangular model is an effective paradigm for cultivating new engineering talents.

The early intervention of enterprises in the training process can significantly improve the quality of employment and the adaptability of talents.

It is necessary to establish a four-dimensional guarantee system of "government - school - enterprise - finance" to solve the problem of sustainability.

Suggestion:

Policy level: Establish a "Special Fund for Industry-Education Integration" to support the dynamic update of courses and teacher training.

At the university level: Establish a "industry professor" title channel to encourage teachers to participate in enterprise practice;

At the enterprise level: Explore the "talent futures" model and lock in the investment of training resources in advance.

Acknowledgements

The Ministry of Education's Supply-Demand Matching Employment Education Project

Project Name: The Third Phase of Shanghai Lingli Intelligent Technology Co., LTD. Employment and Internship Base Project

Project Number :2024010848459

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