Research on Optimization path of Comprehensive Practical Training Course of Economic Management based on Artificial Intelligence Platform

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Abstract: This paper focuses on the integration of artificial intelligence platforms and comprehensive practical training courses in economics and management, exploring optimization approaches to meet the demand for interdisciplinary talents in this field against the backdrop of digital transformation. The study reveals that current domestic application-oriented universities still face challenges in this integration, including outdated data and scenario resources, insufficient student motivation, and a lack of AI proficiency among teaching staff. To address these issues, this paper proposes optimization strategies in three areas: resource development, curriculum design, and teacher training.

In terms of resource development, it is suggested that automated business processes and virtual mentor systems be implemented through artificial intelligence platforms. This can optimize practical training processes and provide real-time guidance. In curriculum design, the use of artificial intelligence is advocated to enhance dynamic teaching content and personalized learning paths. This approach can thereby improve students' practical skills and interdisciplinary competencies. Regarding teacher training, systematic training programs, school-enterprise collaboration, and resource support are recommended to enhance teachers' ability to apply artificial intelligence effectively.

This paper also analyzes the potential multi-dimensional challenges during implementation and proposes targeted solutions. The research demonstrates that the aforementioned optimization strategies can significantly enhance students' interdisciplinary practical and innovative capabilities. This, in turn, promotes the advancement of comprehensive practical training courses in economics and management towards greater intelligence and practicality. These improvements provide strong support for cultivating high-quality talents in economics and management in the digital economy era.

Keywords: Artificial Intelligence Platforms; Comprehensive Practical Training Courses in Economics and Management; AI Capabilities

1. Introduction

With the widespread application of artificial intelligence technology and the accelerated digital transformation of the economy and society, the demand for economic management talents has undergone profound changes. Administrative talents now require not only traditional knowledge of economics and management but also proficiency in emerging technologies such as artificial intelligence and data analysis to navigate the complex and ever-changing business environment. Research on optimizing comprehensive practical training courses for economic management based on artificial intelligence platforms is not only an inevitable trend driven by technological advancement but also a practical necessity for talent development. By leveraging the advantages of AI technology and establishing a dynamic, scenario-based, and personalized practical training course system, students' interdisciplinary skills, practical abilities, and innovative capabilities can be effectively enhanced. This approach provides robust support for cultivating high-quality economic management talents in the era of the digital economy.

1.1 In the Context of Artificial Intelligence Platforms, Domestic Applied Universities are Actively Exploring the Integration of Economic Management and Comprehensive Practice Curricula to Understand the Current Situation

In recent years, according to the first batch of "Artificial Intelligence and Higher Education" typical case scenarios notice released by the Department of Higher Education under the Ministry of Education, domestic colleges and universities have made some progress in the field of "Artificial Intelligence + Higher Education." [1] However, most applications are focused on computer science or the use of artificial intelligence in teaching evaluation and supervision.

The School of Management at Shandong University, in collaboration with Hejing Technology, has explored a new interdisciplinary construction model of "Economic Management + AI" based on the "101 Intelligent Pilot Program." This collaboration represents a new breakthrough in integrating the economic management major with artificial intelligence platforms. It is evident that the interactive application of comprehensive practical training courses in economic management and artificial intelligence platforms in applied undergraduate colleges and universities is far from sufficient. Even when some integration is achieved, it still faces challenges such as outdated or insufficient data and scenarios, low student learning enthusiasm, and a lack of artificial intelligence proficiency among teachers.

1.1.1 Lack or Lag of Data and Scene Resources

Although some universities have introduced artificial intelligence platforms in their comprehensive practical training courses for economic management, it has been found in actual teaching that most of the data used by these platforms are outdated simulated data, which deviates significantly from the real data of the current market. [2] For example, in the market trend analysis training project, students' conclusions based on the old data provided by the platform are very different from the actual market situation. This leads to students' inability to accurately grasp market dynamics and affects the training effectiveness. Data is the basis for the application of artificial intelligence, and comprehensive practical training courses in economics and management need to be closely integrated with actual economic activities. If the data is lacking or lagging behind, students will not have access to real and timely economic data and scenarios during practical training. This makes it difficult to cultivate their ability to solve practical problems and meet the actual needs of enterprises for economic management talents.

1.1.2 Students are not highly Motivated to Learn

In some colleges and universities, despite being equipped with artificial intelligence platforms for their comprehensive practice courses in administration, the curriculum design is relatively monotonous and lacks engaging and interactive elements. This results in low student enthusiasm for learning. For example, although a university uses artificial intelligence technology in its Comprehensive Simulation Training of Enterprise Operation Decision-making and Management to simulate the enterprise operation environment, the teaching mode is still dominated by traditional teacher-led explanations and student passive operation. As a result, students find the training process boring and have low participation.

Learning enthusiasm is an important factor that affects the teaching effectiveness. If students lack interest in the course, it is difficult for them to take the initiative to participate in the learning process. [3] In the integration of artificial intelligence and comprehensive practical training courses in economic management, if students' learning enthusiasm cannot be fully mobilized, they will not be able to fully exercise their initiative. This, in turn, makes it difficult to achieve the expected training goals and can also affect their understanding and mastery of the application of artificial intelligence technology in the field of economic management.

1.1.3 The Artificial Intelligence Ability of the Teachers is not Enough

When promoting the construction of big data and financial management majors, some colleges and universities have jointly built "Xindaoyun" order classes with enterprises. However, due to a lack of understanding and application ability in artificial intelligence technology, teachers cannot effectively

integrate artificial intelligence knowledge into economic management courses during the teaching process. [4] For example, in the financial data analysis course, although teachers are aware that artificial intelligence technology can improve the efficiency and accuracy of data analysis, their lack of practical experience with related technologies prevents them from effectively guiding students on how to use artificial intelligence tools for data analysis. As a result, problems that students encounter during the training process cannot be solved in a timely and effective manner.

Teachers are the leaders of teaching activities, and their professional ability and teaching level directly affect the teaching effect. Under the background of the integration of artificial intelligence and comprehensive practical training courses of economic management, teachers not only need to have solid professional knowledge of economic management, but also need to master the basic principles and application methods of artificial intelligence technology. If the teachers' ability in artificial intelligence is not sufficient, they can't effectively carry out the integration of teaching, nor cultivate interdisciplinary talent in administration to meet the needs of the new era.

In domestic colleges and universities, the integration of artificial intelligence platforms and management in comprehensive practice curricula is an important way to cultivate interdisciplinary talents. Problems such as the lack or lag of data and scene resources, low student enthusiasm for learning, and insufficient artificial intelligence proficiency among teachers not only restrict the deep integration of artificial intelligence platforms and comprehensive practical training courses in economic management, but may also lead to a series of adverse effects, such as disconnection between theory and practice, poor learning outcomes, and a decline in teaching quality. These issues can affect the quality of talent cultivation in applied colleges and weaken students' professional competence. Therefore, colleges and universities need to systematically address these problems through resource construction, curriculum design, teacher training, and other measures to achieve the deep integration of artificial intelligence technology and economic management

courses.

2. Research Method

This paper employs the literature research method, utilizing academic databases such as CNKI, Wanfang Data, and Web of Science to search for relevant academic papers, research reports, monographs, and other literature materials. Keywords used in the search include "artificial intelligence platform," "comprehensive practical training courses in economics and management," and "course optimization path". Additionally, attention is given to relevant policy documents and industry reports issued by educational departments and universities. The collected literature is screened to exclude materials that are irrelevant to the research topic or of low quality, while retaining those that are representative, authoritative, and timely. The selected literature is carefully reviewed to extract information on the current application status, existing problems, and optimization strategies of artificial intelligence platforms in economic and management practical training courses. This analysis highlights the achievements and shortcomings of existing research, providing a theoretical foundation and research direction for this paper. The literature is comprehensively summarized, and a literature review is conducted to elucidate the current research status in this field both domestically and internationally. This process clarifies the research starting point and innovative contributions of this paper.

3. Results and Discussion

3.1 Based on Artificial Intelligence Platform of Comprehensive Practice Curriculum Optimization Route of Administration

3.1.1 Resource Construction

3.1.1.1 Automated Business Processes Guided by Artificial Intelligence Platforms

The AI platform can simplify repetitive operations and optimize the training process. For example, RPA, or robotic process automation, can be deployed in the VBSE platform to handle basic tasks such as voucher entry and report generation, so that students can focus on high-level businesses such as financial analysis and strategy formulation.

3.1.1.2 Process Evaluation and Suggestions Supported by Artificial Intelligence Platform

For the data collection and analysis of the practical training process, a multi-dimensional ability portrait is constructed by combining the performance in operational courses and the evaluation data of vocational orientation. The artificial intelligence learning and analysis module is embedded in the comprehensive training platform, which collects real-time data on students' task completion efficiency, error rates, and collaboration frequency.

A virtual tutor system is developed, suitable for the development of artificial intelligence virtual mentors in multi-professional collaboration scenarios in economics and management. This system simulates the role of corporate executives, providing real-time strategic suggestions, such as cost control, during practical training. It also records students' decision-making logic for review and analysis. Additionally, the virtual tutor can provide practical answers to students' operational questions, such as tax rules, thereby reducing the burden of repeated guidance on teachers. At the same time, accurate ability assessment can be achieved.

3.1.2 Curriculum Design

3.1.2.1 The AI Platform is Utilized to Optimize the Team's Division of Labor and Competition Mechanism, thereby Improving Communication Skills, Leadership, and other General Qualities.

It highlights the importance of team collaboration and the competition mechanism. "Artificial intelligence platform rival enterprises" are introduced to play strategic games with student teams, enhancing the authenticity and challenge of the competition. The AI platform simulates dynamic market environments, such as sudden policy adjustments and supply chain interruptions, prompting teams to make quick decisions and engage in cross-departmental collaboration.

During the practical training process, students are guided to establish collaborative feedback and review mechanisms. The AI platform generates team collaboration reports, analyzes communication efficiency and decision-making blind spots, and provides suggestions for improvement, such as optimizing meeting processes. This approach strengthens the teamwork and adaptability that enterprises value, aligning with the dual training goal of "technology + quality" for applied talents.

3.1.2.2 Personalized Learning Path Driven by Artificial Intelligence Platform

The artificial intelligence platform analyzes students' abilities and interests to dynamically adjust teaching content and training tasks, thereby improving their professional skills and job suitability. Based on ability portraits, the platform provides personalized task recommendations. [5] It automatically pushes differentiated practical training tasks tailored to different majors and positions. For example, financial students receive tasks focused on tax declaration optimization, while sales students receive tasks focused on marketing strategy design. The platform can also dynamically adjust the priority of teaching content, increasing micro-class resources or simulation exercises for weak areas such as financial statement preparation.

By accurately matching students' needs, the system can provide dynamic job rotation suggestions to enhance job skills and career adaptability. Based on students' performance, the system recommends job rotation paths, such as from finance to supply chain, to broaden their global perspective. Additionally, the system generates ability improvement plans following job rotation to support continuous professional development.

Based on the financial report data of listed companies, a real-case database was established, and an evaluation model was constructed to score the operation plans submitted by students across multiple dimensions, such as compliance and innovation. A visual ability radar chart is generated to compare industry position standards and clarify the personalized skill improvement direction for different students.

3.1.3 Teacher Training

To address the problem of insufficient artificial intelligence capability in applied undergraduate colleges, the core solution lies in systematic training, intercollegiate cooperation, and resource support. These measures aim to enhance teachers' ability to apply artificial intelligence technology and enable them to effectively integrate artificial intelligence knowledge into the teaching of administration.

3.1.3.1 Strengthen the Training of Teachers

By organizing teachers to participate in specialized training on artificial intelligence technology, with a focus on short-term courses

covering the application of machine learning, data mining, natural language processing, and other relevant technologies in the field of economic management, their awareness and understanding of artificial intelligence can be significantly enhanced. Additionally, teachers can be arranged to undertake short-term practice at AI platform enterprises, engage in practical projects, and accumulate hands-on experience in AI technology applications. Teachers are also encouraged to attend academic conferences that integrate artificial intelligence with economic and management fields, to stay updated on the latest technological trends and teaching cases, thereby improving their overall understanding and practical abilities in artificial intelligence.

3.1.3.2 Standardizing Collaborative Teaching between Schools and Enterprises

Enterprises invite experts and school teachers to co-teach, with experts handling the technical aspects and school teachers focusing on theoretical explanations, thus forming complementary strengths. Real projects from enterprises, such as intelligent prediction models in financial data analysis and optimization algorithms in supply chain management, can also be transformed into teaching cases to enhance the practicality and cutting-edge nature of the instruction.

3.1.3.3 Improve the Construction of Teaching Resources

Build an artificial intelligence teaching case base and training platform to provide teaching support for teachers. According to the actual needs of enterprises, the application case base of artificial intelligence in the field of economic management is developed, covering multiple directions such as finance, marketing and supply chain, so as to provide teaching reference for teachers. Consider introducing or developing an artificial intelligence training platform suitable for economic management courses, integrating common tools (such as Python, R, Tableau) and data sets to support data analysis, model building and other operations suitable for students.

3.1.3.4 Establish Incentive Mechanism

Awards will be given to teachers who demonstrate outstanding performance in the integrated teaching of artificial intelligence and economic management courses, including teaching achievement awards and scientific research funding support. Incorporate teachers' achievements in the application of artificial intelligence technology into the evaluation system for professional title assessment. A comprehensive evaluation of the teaching effectiveness of practical training courses should be conducted to motivate teachers' enthusiasm. [6]

Through these measures, teachers' ability to apply artificial intelligence technology will be significantly enhanced, enabling them to more effectively integrate artificial intelligence and relevant knowledge into course instruction. Students will receive higher-quality practical training guidance, master the practical operation skills of artificial intelligence tools, and thereby enhance their employment competitiveness. Additionally, the deepening of school-enterprise cooperation will inject more industry resources into curriculum development and promote the sustainable development of professional programs.

3.2 Possible Challenges and Solutions during the Implementation of the Plan

The integration of an artificial intelligence platform with comprehensive practical training in economics and management will undoubtedly bring new opportunities and optimizations to the talent training model of application-oriented colleges and universities. However, the implementation of the optimization plan may also face challenges in technology, personnel, security, and other aspects.

3.2.1 Technology and Data Security

3.2.1.1 Technology Integration and System Compatibility Challenges

The existing integrated training platform needs to be upgraded to support AI-related functions, and the technology integration is highly complex. Lightweight modules, such as intelligent assessment systems, can be embedded first and gradually extended to more complex functions, such as virtual tutors. You can also work with platform vendors to make integration easier by leveraging their open APIs or custom development interfaces. Additionally, there may be compatibility issues between the modules of the artificial intelligence platform and the original system. Conduct a system compatibility test in the early stages of project implementation to ensure seamless integration between the platform and the training software. If possible,

it is advisable to set up a technical maintenance team to monitor system operations in real time and fix vulnerabilities. [7]

3.2.1.2 Data Security and Privacy Protection Challenges.

The collection of student behavioral data involves privacy risks and must comply with regulatory requirements. Data may be leaked during storage and transmission. [8] To mitigate these risks, data anonymization can be adopted to remove personal identification information, such as names and student numbers, when collecting data, retaining only behavioral data labels. Additionally, SSL/TLS can be used to encrypt data transmission, and AES-256 encryption can be applied to store data in the database. Data access should be restricted to authorized teachers and administrators who are permitted to view the analysis results. Regular data security audits should be conducted to ensure compliance. [9]

3.2.2 Adaptability of Teachers and Students

3.2.2.1 Challenges of Teacher Training and Teaching Transformation

Due to their lack of experience with artificial intelligence tools, teachers find it difficult to effectively guide students in new practical training courses. Additionally, the teaching role of teachers needs to shift from being "operational instructors" to "strategic instructors," a transition that can be challenging to adapt to. Schools and cooperative enterprises need to provide support to help teachers navigate this transition period.

3.2.2.2 Student Adaptability and Engagement Challenges

Students are unfamiliar with intelligent platform tools, which may cause resistance or difficulties in operation. Some students rely on the traditional teaching mode and have low participation in the new practical training mode. It is suggested to first test in pilot classes, collect feedback, and optimize the system before gradually promoting it to the entire profession. During the fusion design, optimize the interface interaction design by setting up features such as voice assistants and one-click operations to reduce the usage threshold.

3.2.2.3 Cross-professional collaboration and task complexity challenges.

The cross-post task of comprehensive practical training in economics and management requires the cooperation of students from multiple disciplines. The multi-disciplinary cooperation tasks generated by artificial intelligence may lead to student frustration due to their complicated processes. It is essential to construct a student-centered practice process, utilizing artificial intelligence to monitor team progress in real-time and automatically provide collaborative suggestions. [10]

3.2.3 The Development and Maintenance Costs of Artificial Intelligence Systems are High and May Exceed the University Budget.

Existing servers and high-performance terminal hardware devices need to be upgraded to support the AI platform's computing capabilities. It is suggested that the university collaborate with a platform technology company to build a laboratory. The company will provide technical support and part of the funding, while the university will provide application scenarios and data. Alternatively, the university could apply for funding support from relevant departments, such as the Department of Education, thereby obtaining corresponding policy guarantees and support from the government. [11]

The implementation of the integration of an artificial intelligence platform with cross-professional practical training in economics and management needs to systematically address multi-dimensional challenges such as technology, personnel, and safety. It is suggested that the implementation be phased, starting with the pilot of lightweight functions and gradually moving towards comprehensive promotion to reduce risks. Closed-loop optimization can be achieved through school-enterprise cooperation, multi-party collaboration, and a teacher-student feedback mechanism. Considering the needs of teachers and students, the system should enhance the usability and engagement of the tool. Through the above measures, implementation obstacles can be effectively resolved, and practical training in economics and management at application-oriented colleges and universities can be upgraded in the direction of intelligence and practicality.

4. Conclusion

With the rapid development of artificial intelligence technology and its deep

integration into the digital transformation of the economy and society, the training of economic management talents is facing a transformational demand, shifting from traditional knowledge teaching to "technology + quality" compound ability training. This study focuses on the optimization path of integrating artificial intelligence platforms with comprehensive practical training courses in economic management, aiming to address the core problems existing in current course practices by leveraging the advantages of AI technology. This approach seeks to enhance students' interdisciplinary practical abilities and innovation quality.

This shift is not only an inevitable trend of technological development but also a realistic requirement for talent cultivation. Only through continuous exploration and practice can we effectively promote the deep integration of artificial intelligence technology and comprehensive practical training courses in economic management. This integration can significantly improve students' interdisciplinary abilities, practical skills, and innovation capabilities, providing strong support for cultivating high-quality economic management talents in the era of the digital economy.

Future research should continue to focus on the application of artificial intelligence technology in the comprehensive practice curriculum of economic management, exploring more innovative teaching modes and methods. Researchers should also study how to utilize artificial intelligence technology to achieve more personalized and intelligent teaching, thereby improving students' learning experiences and effectiveness. Additionally, attention should be paid to the ethical issues surrounding artificial intelligence technology in comprehensive practical training courses. Ensuring the compliance and safety of technology application will provide more theoretical and practical support for talent training in colleges and universities.

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