

Research on the Reform of Practical Teaching in the E-commerce Major Empowered by AI

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Abstract: In the era of the digital economy, e-commerce is undergoing unprecedented changes, with artificial intelligence (AI) playing an important role. At the same time, the application of AI in the field of education has become increasingly widespread, bringing profound changes to the practical teaching of e-commerce majors in technical colleges. Against this background, the integration of AI and practical teaching has become an important direction for the educational innovation of the e-commerce major. This paper briefly analyzes the core value of AI-empowered practical teaching in the e-commerce major and the existing problems in the practical teaching of the e-commerce major. On this basis, it explores the reform paths of AI-empowered practical teaching in the e-commerce major, hoping to provide a useful reference for cultivating high-quality e-commerce talents adapting to the development of the digital economy.

Keywords: AI technology; E-commerce; Practical teaching; Teaching reform; Talent cultivation

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1. Introduction

With the advancement of educational modernization and the intelligent transformation of the e-commerce field, the industry's demand for compound talents has become increasingly urgent. The practical teaching of the e-commerce major urgently needs to keep up with industry changes. With advantages such as data processing and scenario simulation, AI provides a new optimization path for the practical teaching of this major. This paper systematically sorts out the integration path of AI technology and e-commerce practical teaching, optimizes the practical teaching process and innovates the teaching model through AI empowerment, so as to provide a practical path for improving teaching quality and students' practical ability.

2. Core value of AI-empowered practical teaching in the e-commerce major

The value of integrating AI technology lies in solving problems such as the disconnection between theory and practice and the lag of teaching resources in traditional e-commerce practical teaching, and promoting the quality and efficiency of practical teaching. The virtual simulation platform built by AI can construct various

practical scenarios, such as real store operation and large-scale promotion activity planning. Students can try to design schemes, adjust operation strategies, accumulate practical experience, and narrow the distance between theory and practice in the simulated environment^[1]. AI can capture public data from e-commerce platforms and relevant information from industry reports, automatically generate the latest teaching cases, and keep teaching content in line with the industry rhythm. The intelligent resource management platform can integrate scattered materials, facilitate students to retrieve and use them quickly, and improve resource utilization efficiency. AI can also analyze students' learning behaviors and ability levels, push adaptive learning paths and training tasks for students, and assist teachers in implementing personalized teaching.

3. Prominent problems in the practical teaching of the e-commerce major

3.1. Disconnection between teaching content and industry needs

In recent years, the application of AI in e-commerce has been continuously expanded, and new platforms, tools, and marketing models have emerged one after another, such as virtual anchor live streaming in live e-commerce and algorithm-recommended operation in short video e-commerce. These emerging contents have become the core needs of enterprise e-commerce positions. Correspondingly, the practical teaching of the e-commerce major in technical colleges also needs to be adjusted. However, traditional practical exercises still stay at the level of stylized tasks, which are disconnected from the actual job needs of the industry, and students do not experience real business environments and practical scenarios^[2]. For example, the practical training in some colleges allows students to simulate e-commerce platforms to complete tasks such as uploading virtual product pictures and practicing order receiving. Such practical exercises in schools are relatively idealized, while the real e-commerce working environment of enterprises is more complex. For example, the e-commerce operation position requires mastering product listing skills, using tools such as Qianniu and Business Consultant to analyze store data, optimize product rankings, and at the same time take into account practical issues such as cost control, user feedback, and competitor analysis.

3.2. Lagging update and low utilization rate of teaching resources

At present, various professional tools and platforms have been deeply applied in the practical links of the e-commerce industry, such as professional streaming and field control tools for live streaming operations, professional platforms such as Business Consultant, Dian Guai Shou, and Baidu Statistics in the field of e-commerce data analysis, and operational platforms such as Taobao Qianniu and Douyin E-commerce Background. Due to the limitations of school venues and platform authorization, it is difficult for students to access front-line practical tools and real platforms in the industry during practical training^[3].

Although some colleges have introduced virtual teaching resources such as live streaming virtual training equipment and e-commerce platform simulation systems in combination with teaching needs, the utilization rate of such resources in actual teaching is relatively low, and they have not really integrated into the practical teaching process. How to combine virtual training resources with curriculum content and training projects, design adaptive training tasks according to the practical requirements of industry positions, and explore an efficient utilization path that can give play to the actual teaching value of resources is still an urgent problem to be solved in the current e-commerce practical teaching of technical colleges^[4]. In addition, the real e-commerce operation data and customer portraits of enterprises are commercial secrets and cannot be opened to colleges and students. Therefore, the teaching resources obtained by colleges from cooperative enterprises often lack timeliness.

3.3. Insufficient practical ability of teachers

The shortcoming of e-commerce professional teachers is the lack of practical operation and combat capabilities, and the proportion of “double-qualified” teachers is relatively low. Most teachers have rich classroom teaching experience but lack practical experience in the e-commerce industry^[5]. Many teachers directly enter schools to teach after graduating from universities, have not participated in real e-commerce store operations, full-process operation of live streaming with goods and other actual projects, and only have a basic understanding of the tools, platforms and software commonly used in the industry, making it difficult to provide professional guidance close to positions for students’ practical training. At the same time, there are relatively few special training on cutting-edge industry technologies for teachers in colleges, making it difficult for teachers to integrate mainstream industry technologies and operation methods into daily practical teaching, resulting in the disconnection between teaching content, teaching methods and the actual development rhythm of the e-commerce industry.

4. Reform paths of AI-empowered practical teaching in the e-commerce major

4.1. Construct AI-driven virtual simulation practical teaching scenarios

For a long time, the practical teaching of the e-commerce major has faced pain points such as insufficient real training scenarios, high practical costs, and incomplete experience. To address these problems, schools can rely on the integration and optimization of AI technology and digital twin technology based on the professional talent training goals, and build a virtual simulation practical teaching platform covering the entire e-commerce process and all positions, allowing students to improve their practical abilities in a highly realistic industry environment^[6].

The virtual platform needs to restore the real e-commerce platform operation rules, market competition logic and supply chain collaboration model, covering processes such as online store operation, network marketing, and logistics management^[7]. Students can play different roles such as operation specialists, marketing planners, and customer service personnel, and complete a series of practical tasks such as formulating marketing promotion plans, docking user needs, and following up transaction processes in a simulated market competition environment.

The content of the virtual platform can also integrate mainstream AI tools and systems in the current e-commerce industry, allowing students to master the practical application methods of AI technology during training. Specifically, practical tools such as AI design tools, intelligent data analysis tools, digital human live streaming systems, and intelligent customer service robots can be integrated to guide students to practice skills such as AI product image generation, intelligent layout of detail pages, accurate analysis of user portraits, and optimization of live streaming scenarios in practical operations.

4.2. Build a dynamic, intelligent teaching resource system

Traditional e-commerce resources are mostly fixed materials and scattered, which are not conducive to teachers’ teaching calls and students’ independent learning. With the help of AI technology, this problem can be solved. By using AI technology to obtain data from mainstream e-commerce platforms such as Taobao, Douyin, and Xiaohongshu, analyze the visual design, marketing copy, and promotion strategies of best-selling products, the core logic can be extracted and transformed into case materials suitable for teaching^[8]. The case library is divided into modules such as online store operation, short video marketing, and cross-border e-commerce. Each case clearly marks skill points, data performance, and optimization directions, facilitating teachers to quickly screen

and call according to specific teaching goals. At the same time, AI can real-time monitor industry dynamics and platform rule changes, automatically update case materials, and ensure the timeliness of cases.

Relying on cloud computing and AI technology, build an intelligent resource management platform integrating tool tutorials, case materials, industry data, and training tasks. The platform has functions of automatic resource tagging and intelligent retrieval. Students can obtain learning materials by searching for relevant content. After teachers upload training tasks, the platform will automatically match corresponding resources^[9]. In addition, AI can push personalized learning resources according to students' learning progress and ability assessment results to adapt to the learning needs of different students, and match the AI intelligent tutoring module to timely answer students' practical problems^[10].

4.3. Innovate AI-empowered teaching models

At present, there is a problem of rigid models in e-commerce practical teaching. This method is not suitable for all students and has a gap with the practical requirements of enterprise positions. The integration of AI technology can promote the upgrading of practical teaching models and strengthen the effect of practical training.

Schools can rely on the AI intelligent learning system to analyze students' behavior data in practical exercises, grasp their ability shortcomings, and customize exclusive practical learning paths for each student, so that students with different foundations can gradually improve their practical skills^[11]. At the same time, implement a mixed teaching model combining online independent practice, offline centralized practice and AI tutoring. Online focuses on students' independent practice of basic practical skills, while offline focuses on team cooperation and practical exercises of practical projects. AI follows up the whole process to answer various practical problems for students.

Schools can also implement an AI training model of "promoting learning through competitions". Relying on AI technology to build a practical competition platform, replicate various e-commerce practical competition scenarios, and students can conduct practical training on the platform^[12]. AI will automatically score according to the competition's practical standards and give optimization suggestions to help students improve their competition ability. The platform can also integrate excellent competition cases over the years and provide them to students to stimulate their creative inspiration and strengthen their practical skill application ability.

4.4. Deepen the AI + integration of production and education collaborative talent training model

To improve the effectiveness of e-commerce practical teaching, it is also necessary to start with the integration of production and education. At present, most school-enterprise cooperation stays at a shallow level. Students do not have access to real enterprise work scenarios, and there is a gap between practical training and actual job requirements. Deepening school-enterprise collaboration, integrating AI technology into the entire talent training process, and building a "double-qualified" teacher team can make practical teaching truly connect with industry positions and improve students' practical ability and professional adaptability^[13].

Technical colleges can build cloud workshops relying on cloud computing and AI technology. Enterprises upload real projects to the platform. Under the joint guidance of school teachers and enterprise mentors, students participate in practical tasks such as product visual design and marketing plan formulation^[14]. The platform supports real-time communication between teachers, students and enterprise mentors. Students can timely consult enterprise mentors about problems encountered, and enterprise mentors can remotely monitor project progress and provide professional, practical guidance, allowing students to accumulate real job experience. In this process,

enterprises can also discover outstanding talents in advance and reduce recruitment costs.

Schools and enterprises can jointly improve the curriculum system, build training bases, and jointly formulate talent training plans, integrate the latest enterprise technical standards and post practical requirements into the curriculum content, and develop courses such as intelligent data analysis and application and live e-commerce operation^[15]. At the same time, enterprises provide training resources such as AI design software and intelligent operation platforms, and schools provide a venue and teaching management support. With the joint support of both parties, training can be closer to the real working scenario.

5. Conclusion

The rise and application of AI technology provide reliable support for the reform of practical teaching in the e-commerce major. By building virtual simulation scenarios, improving intelligent teaching resources, innovating teaching models, and deepening the AI + integration of production and education talent training, schools can effectively solve the pain points and difficulties in traditional practical teaching, such as the disconnection between theory and practice, lagging resources, and single models. In general, AI technology has broad application prospects in e-commerce practical teaching, but it also faces challenges such as insufficient technical ability of teachers and insufficient resource investment, which need to be gradually overcome by educators in future practice.

Disclosure statement

The author declares no conflict of interest.

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