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Analysis of Digital Trade Virtual Simulation Comprehensive Training System

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Abstract: In the era of digital trade, business activities are borderless and cutting-edge technology and digital trade are deeply integrated, posing new challenges to talent. Therefore, building a digital trade virtual simulation comprehensive training system and cultivating students' practical skills and innovative abilities through immersive experiences is the key to cultivating high-quality and versatile international trade talents. This article delves into the difficulties and importance of constructing a comprehensive digital trade training system and designs a virtual simulation system framework around key areas such as international trade, cross-border e-commerce, digital marketing and business data analysis, in order to provide practical paths and strategic thinking for talent cultivation.

Keywords: Digital trade; Virtual simulation; Inter-disciplinary talent; Comprehensive Training

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1. Introduction

Driven by the wave of new technology, the next-generation Internet driven by cutting-edge technologies such as 5G, big data, cloud computing, AI and blockchain is booming, laying the foundation for China's economic digital transformation, industrial structure upgrading and cross-border integration [1]. These technological innovations not only reshape information infrastructure, but also promote the digitalization process of various industries, helping to promote high-quality economic and social development. The innovation of information technology is leading the global economy into a new era of digitalization. Digital trade, as a new force in the field of foreign trade, is rapidly rising with cutting-edge technology as the driving force, becoming the key to international trade innovation. It has a profound impact on building a new open economic system and enhancing the position of the global value chain [2].

Industrial upgrading is closely related to professional talents, and the rapid development of digital trade particularly requires comprehensive and innovative digital trade talents. In the digital trade environment, the trend of business boundaryless is evident, accompanied by the widespread application of cloud technology, virtual reality and big data [3]. Innovative models have emerged, posing new requirements for international trade talent standards. Modern trade talents need to flexibly use data on multiple platforms, accurately analyze

electronic information, provide insight into consumer behavior, capture business opportunities and effectively locate customers. Therefore, it is crucial to cultivate practical and versatile talents who meet digital trade needs and strengthen practical teaching.

Practical training is the key to cultivating international trade talents and is indispensable for enhancing practical abilities and innovative thinking in foreign trade. Building a comprehensive virtual simulation training system for digital and business disciplines is imperative [4]. The system should simulate real work environments and business scenarios, providing students with an immersive training experience, allowing them to exercise their skills and deepen their understanding of the simulated environment [5]. At the same time, educators will focus on strengthening international trade knowledge education, especially in areas such as data analysis, intelligent management, marketing and operations, to enhance job competency. In this way, high-quality composite international trade talents with both profound theoretical knowledge and digital practical capabilities can be cultivated to meet the needs of modern industrial development [6].

This article first explores the challenges of constructing a virtual simulation system for digital trade training and then emphasizes the importance and necessity of its construction. Finally, focusing on key areas such as international trade training, cross-border e-commerce, digital marketing and brand promotion, business data analysis and decision support, a virtual simulation system was designed to provide a practical path for cultivating international trade professionals who meet future market demands [7].

2. Difficulties in constructing a virtual simulation system for comprehensive digital trade training

The innovation of virtual simulation training technology has injected new impetus into cultivating international trade talents. This technology integrates advanced software and information technology to build an open, interactive, intelligent virtual platform, deeply integrating traditional training and information technology. It also greatly promotes the sharing of educational resources, making virtual training an important trend in the development of educational informatization.

In recent years, China has increased policy support and focused on developing virtual simulation training bases for vocational education, emphasizing the upgrading and application of cutting-edge technologies such as virtual reality and artificial intelligence in practical training. The goal is to deeply integrate information technology with training facilities, create an intelligent, immersive and interactive virtual training environment, achieve a combination of virtual and real, support each other, and build a solid foundation for cultivating professional skill masters who are in line with the times.

Currently, the construction of practical training rooms for economic and trade majors in Chinese universities lags, making it difficult to meet the needs of cultivating many high-quality talents, hindering the profession's progress. The abstract nature of economic and trade disciplines makes it difficult for practical training to demonstrate theories, hindering the development of practical teaching intuitively. Focusing on theoretical teaching while neglecting practical training operations has become a norm. Although case teaching has been effective, this trend is still significant [8]. In addition, there is an imbalance between scientific research and teaching incentives, with teachers focusing more on scientific research and neglecting the reform of teaching methods, which affects the quality of teaching and the progress of practical training. At present, practical training teaching exists in the form of embedded or independent courses, limited by resources and conditions, and mostly stays in an auxiliary role. Its potential for verifying theories and exploring new knowledge has not been fully explored, and its practicality and foreseeing perspective urgently need to be improved [9].

Although improving practical training facilities and courses has enhanced teaching effectiveness, it still faces problems such as limited simulation levels and a mismatch between the supply and demand of practical training. To improve the quality of practical training teaching, it is necessary to continuously invest, improve training methods, expand training content and ensure that students can effectively learn and practice in a close to real environment [10].

3. Necessity of constructing a virtual simulation system for comprehensive digital trade training

From a macro perspective, constructing the virtual simulation system for comprehensive digital trade training is a powerful driver of the education informatization process. It uses cutting-edge technology, following Internet generation, big data, cloud computing, artificial intelligence and simulation technology, and deeply integrates modern information technology and practical teaching. This move not only accelerates the process of educational informatization but also comprehensively stimulates the potential for educational modernization. This system adapts to the new way of knowledge exchange in the information age, deeply integrates information technology, expands the breadth and depth of teaching, breaks the limitations of time and space, and greatly improves the quality and efficiency of practical training teaching.

From a micro perspective, the digital trade comprehensive training virtual simulation system has built a bridge connecting traditional theories with new-era technologies, industries and economies. This system is based on digital trade practice and provides students with a comprehensive learning platform through high-fidelity simulation and practical exercises [11]. Students can learn professional knowledge and also exercise core skills such as data analysis and digital management in the context of the digital economy, cultivating high-quality composite digital trade talents and continuously delivering excellent talents to society.

4. Design of virtual simulation teaching project for digital trade comprehensive training

The digital trade virtual simulation training system adopts a three-dimensional teaching method, integrates multi-dimensional simulation scenarios with advanced training technologies and seamlessly integrates traditional and modern educational technologies. This system accurately adapts to the needs of talent cultivation and creates a new teaching model emphasizing theory and practice. Students can experience real-life workplace training through an immersive platform, ensuring that what they have learned is applied and seamlessly transitioned to their work positions. The following text will take virtual simulation systems such as international trade, cross-border e-commerce, digital marketing and business data analysis as examples to elaborate on their design points.

4.1. Design of virtual simulation system for international trade training

Under the guidance of the global economic and trade legal framework and industry practices, universities aim to create a highly simulated learning and practical platform for students, covering all aspects of international trade. The platform clearly defines user roles:

(1) Administrators ensure system stability, data security and resource updates;

(2) Teachers are responsible for class management, task allocation and monitoring feedback;

(3) Students participate deeply in simulated transactions by playing the role of import and export merchants, strictly following the standard procedures of international trade at every step, from pre-

transaction preparation, negotiation, and contract signing to contract performance and business aftermath.

The system provides the latest trade data, analysis tools, and risk simulation (such as credit, exchange rate, and transportation risks) with risk management strategies. It strengthens risk awareness and response in practical combat [12]. This comprehensive simulation deepens students' understanding of trade processes and provides comprehensive training in negotiation, correspondence, pricing, documents, insurance, freight, settlement and other aspects, achieving efficient integration of theory and practice and comprehensively enhancing students' professional and comprehensive abilities.

4.2. Design of cross-border e-commerce virtual simulation system

Simulate the operation interface of mainstream cross-border e-commerce B2B and B2C platforms and simulate key links such as store registration, product listing, advertising placement, supply chain management, international logistics, payment and settlement, and customer relationship management. System-integrated market analysis tools such as global analysis and keyword research help students accurately capture market trends and target customer groups. The product database allows students to customize product details, pricing and promotional strategies based on market and consumer preferences. The marketing module covers SEO, social media, email marketing, etc., to enhance students' ability to plan and execute marketing activities and enhance product awareness and sales [13]. Supply chain simulation covers order and inventory management, enhancing students' understanding operational efficiency of the supply chain. Logistics simulation with diverse modes allows training of students to cope with different logistics needs and customs clearance and return challenges. Pay simulation interfaces such as PayPal, teach international payment processes and exchange rate risk management. Customer service scenario simulation improves service skills and customer satisfaction. This system builds a comprehensive learning ecosystem for students, comprehensively mastering cross-border e-commerce skills and laying a solid foundation for their careers.

4.3. Design of virtual simulation system for digital marketing and brand promotion

Universities have highly simulated the modern digital marketing environment, covering key areas such as social media, search engine optimization (SEO) and e-commerce platforms, comprehensively cultivating students' digital brand building and customer attraction.[14] Students can quantitatively evaluate marketing effectiveness in practice through a task-driven learning model and built-in data analysis and optimize strategies accordingly. Students will simulate real-life operations on virtual social media platforms, publish content, manage advertising campaigns and respond to user feedback to enhance community engagement and loyalty. In terms of SEO, students will learn to optimize website structure, keyword selection and content creation to improve search engine rankings. The system will also simulate email marketing scenarios, where students will learn to establish email lists, design templates and automate processes to implement email marketing strategies accurately. This series of simulation training will help students master the core skills of digital marketing [15].

4.4. Design of business data analysis and decision support virtual simulation system

The business data analysis and virtual simulation system involves the simulation of real cross-border e-commerce operations, integration of comprehensive data analysis and decision support tools, and focus on cultivating students' core data analysis skills [15]. In addition, it can simulate various operational data, including user behavior, sales, inventory and logistics, with tools such as data mining, visualization and statistical analysis to help students deeply analyze operational situations and identify problems. By analyzing cross-border e-commerce data, market trends, customer behavior, advertising effectiveness, supply chain inventory and even

risk warnings, students can better understand the complexity and importance of data analysis and enhance their skills in making efficient decisions in dynamic markets.

In addition to the above virtual simulation systems, modules such as market analysis and prediction virtual simulation, supply chain management and logistics simulation, customer relationship management virtual simulation, and enterprise management decision virtual simulation can also be expanded.

5. Conclusion

The construction of a digital trade virtual simulation comprehensive training system aims to address the challenges of economic and trade education, meet current talent training standards and anticipate future social needs. This system not only strengthens schools' education and research capabilities but also seamlessly connects with the training needs of enterprises, achieving efficient expansion of educational resources. The system balances theoretical and practical teaching, synchronously improving students' knowledge accumulation and practical operation ability, ensuring that students can flexibly apply theoretical knowledge to solve practical problems and at the same time, cultivating digital trade talents with application ability, composite knowledge structure and innovative spirit.

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