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Analysis of Accounting Teaching Reform in Colleges and Universities from the Perspective of Blockchain

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Abstract: With the rapid development of information technology, blockchain technology, as an innovative distributed ledger technology, has begun to be applied in many fields such as finance, supply chain management, and the Internet of Things. As an important part of economic management, accounting faces the challenge of transforming from traditional manual operation to intelligent and automated direction. The characteristics of blockchain technology, such as decentralization, data immutability and transparency, provide new solutions for the authenticity, accuracy and completeness of accounting information. Based on this, this paper mainly discusses and analyzes how to reform accounting teaching in colleges and universities through blockchain.

Keywords: Blockchain technology; College accounting teaching; Teaching reform

Introduction

Traditional accounting teaching resource management usually needs to be carried out through a centralized platform, such as the educational administration system of the school. However, this centralized management mode has security risks of data storage and transmission, as well as the possibility of data tampering. Through the introduction of blockchain technology, decentralized management of teaching resources can be achieved. Every student and teacher can publish and obtain resources through the blockchain network, while ensuring the security of data through the encryption technology of the blockchain.

1. Blockchain technology Overview

The convergence of innovation in distributed data management, peer-to-peer communication, consensus algorithms and encryption technology has given birth to the cutting-edge technology of blockchain. This new model has a blockchain data structure at its core for data verification, storage, and real-time updating of information through distributed node collaboration algorithms. The clever use of cryptography ensures the absolute security of data transmission and access, and smart contracts are like programming instructions, flexible manipulation of data, building a new framework for distributed computing platforms. The construction of blockchain integrates the multiple wisdom of network science, cryptography and mathematics, and is essentially a digital infrastructure built on a decentralized distributed ledger [1]. Blockchain information service is a form of service that relies on blockchain technology or related systems to push information to the public through the Internet and applications. With the growing popularity of technologies such as big data, blockchain, mobile Internet, Internet of Things, AI and virtual reality, blockchain has profoundly reshaped business and lifestyle.

2. The application of blockchain technology in the field of accounting and its impact on accounting teaching

2.1 Application of blockchain technology in the field of accounting

In the link of accounting information recording, the traditional accounting recording methods often rely on manual operation, which is prone to errors and fraud. The application of blockchain technology can realize automated and intelligent accounting information recording and effectively reduce the interference of human factors. Through blockchain technology such as smart contracts, automated accounting entries and statements can be generated, improving the accuracy and efficiency of accounting information.

In the audit process, the decentralized and immutable nature of blockchain technology provides a reliable source of data for audit work. Auditors can use blockchain technology to monitor and analyze the financial data of enterprises in real time and comprehensively, effectively improving audit quality and efficiency. At the same time, the transparency of blockchain technology also helps to enhance the fairness and credibility of audits.

In the financial reporting link, blockchain technology can realize the real-time publication and sharing of financial reports. Through the

blockchain platform, companies can distribute financial reports directly to all stakeholders, including investors, creditors, employees, etc., so that they can understand the financial situation of the company in a timely and accurate manner. This approach can not only improve the transparency of financial reporting, but also reduce misunderstanding and misdirection in the process of information transmission.

2.2 The impact of blockchain technology on accounting teaching

First, the decentralized nature of blockchain technology will reshape the basic architecture of accounting teaching. In the traditional accounting teaching, there are some delays and errors in the transmission of information between teachers and students. The application of blockchain technology can realize real-time sharing and verification of information, improving the efficiency and accuracy of information transmission. Students can access accounting data in real time on the blockchain for real-time analysis and processing to better understand how accounting works.

Second, the transparency and immutability of blockchain technology will enhance trust in accounting teaching. In traditional accounting teaching, the trust between students and teachers is often based on interpersonal communication, which has certain uncertainties. The application of blockchain technology can realize the transparency and traceability of information, making the process of accounting teaching more just and credible. Students can view the source and processing of accounting data on the blockchain, ensuring the accuracy and reliability of the data.

Finally, the intelligence of blockchain technology will enhance the intelligence level of accounting teaching. With the development of artificial intelligence and big data technology, accounting teaching also needs to keep pace with The Times and introduce more intelligent tools. Blockchain technology can provide students with intelligent accounting analysis and decision support to help them better cope with complex accounting problems. At the same time, blockchain technology can also provide teachers with intelligent teaching evaluation and feedback, improving the quality and effect of teaching.

3. The application of blockchain technology in college accounting courses

3.1 Accounting training platform developed based on blockchain technology

In order to meet the demand for blockchain education in higher education and overcome the existing teaching challenges, a scenario-based virtual blockchain accounting practice platform should be built to integrate blockchain technology into the academic environment, combine real accounting cases, adopt role-playing and practice-oriented teaching mode, and enhance the interaction between the two sides of teaching. The platform is a comprehensive intelligent accounting learning platform that integrates theory, practice, application and experience, emphasizing the balance of theory and skill education, and aims to cultivate interdisciplinary innovators with innovative thinking while being proficient in technology and accounting rules. As a cutting-edge platform for new technology education, it enables beginners to participate in role setting and practical operation through gamification and simulation means, so as to master the basic knowledge and architecture model of blockchain. By comparing the characteristics of centralized and distributed, it helps students deeply understand the concept and operation principle of blockchain, and get familiar with the key application scenarios of accounting business. This exercises students' skills, enlighten their way of thinking, and enables them to adapt to technological innovations in the accounting industry, keep abreast of the development of accounting rules, while rapidly promoting blockchain knowledge in a multi-professional context.

3.2 Realize "teaching, learning, practice, test, evaluation" five-in-one teaching design

On the blockchain accounting practice education platform, phased teaching process can be implemented: the initial stage pays attention to environmental perception and problem induction; Next, research strategies to deepen blockchain understanding; Subsequently, by applying the practical value of the blockchain industry for learning transformation and professional innovation, it promotes the enhancement of students' knowledge, quality and skills. In the concrete operation, the comprehensive teaching mode formed by the five parts of "teaching, learning, practice, assessment and reflection" is realized. Teaching guidance is guided by teachers to help students self-drive learning and reduce the burden of teachers' direct explanation. Learning materials include pre-set standardized videos and powerpoint slides that are synchronized with tasks, allowing students to schedule their time freely. The practical part requires students to operate by hand, and integrate theory and practice through task practice to enhance professional understanding of accounting. Knowledge assessment sets test questions after each task, which is used for students' self-testing and knowledge consolidation, and also broadens their knowledge horizon. Learning reflection encourages students to organize their thoughts after learning and form personal learning notes, such as knowledge overview and feelings, in order to improve professional quality. Integrating this five-step teaching method into blockchain education ensures that students can acquire comprehensive, fast, firm and in-depth knowledge of blockchain.

3.3 Strengthen interdisciplinary cooperation

The application of blockchain technology in college accounting courses not only enhances the practicality and technicality of the cours-

es, but also effectively promotes the cooperation and development between disciplines. By building an accounting training platform based on blockchain technology, universities can realize resource sharing and complementary advantages among different disciplines. For example, IT teachers can use their expertise in programming, network security and systems development to participate in the design, development and maintenance of an accounting training platform. They can ensure that the technical implementation of the platform meets the specific needs of accounting teaching while maintaining a high level of security and stability. Management teachers can use their knowledge of organizational behavior, strategic planning and project management to provide guidance for the teaching content design of the accounting practical training platform. They can help develop the framework for practical training projects, design teaching activities, and assess students' management skills and teamwork.

4. Conclusion

With the wide application of big data, cloud computing, artificial intelligence and "Internet +" in the accounting industry, the combination of blockchain technology and accounting practice teaching is gradually shaping the new pattern of accounting education. In order to adapt to this change, accounting teachers in higher education need to be proficient in blockchain technology, enhance their overall ability of education and teaching, and actively respond to the technological innovation challenges in the network teaching environment.

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