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Research on Pedagogical Strategies for Accounting Talent Cultivation in the Context of Digital Intelligence

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Abstract: With the rapid development of artificial intelligence technology, artificial intelligence tools represented by DeepSeek are increasingly applied in the accounting field, which has brought significant impacts on the accounting industry and profound influences on the cultivation of accounting talents in colleges and universities. This paper analyzes the transformations in the accounting field in the era of digital intelligence, explores the requirements for accounting talent cultivation in colleges and universities under the background of digital intelligence, and proposes strategies for the digital intelligence transformation of accounting education.

Keywords: Artificial intelligence tools; Accounting education; Digital intelligence educational reform

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1. Introduction

In the era of digital intelligence economy, the rapid development of artificial intelligence (AI) technology is transforming the way various industries operate, and the accounting field is no exception. The emergence and application of AI tools have provided opportunities for accounting education, but also posed challenges. AI tools will not lead to the demise of accounting, but rather reshape its capabilities and empower a new beginning for accounting [1]. In 2022, the "14th Five-Year Plan for Digital Economy Development" was released, proposing to accelerate the digital supply and networked services of public service resources in fields such as culture and education, and promote the deep integration of education and digital platforms [2,3].

Therefore, it is necessary for accounting educators in colleges and universities to deeply explore how to utilize AI technology to further enhance the quality of education in the digital intelligence environment, and cultivate high-quality, composite accounting talents with excellent business skills, data processing capabilities, and communication skills that conform to the development of the times.

2. Transformation in the accounting field in the era of digital intelligence

2.1. Financial statement automation

AI tools can automatically capture and process data to quickly generate financial statements. This not only significantly shortens the time required for financial statement generation but also improves data accuracy [4].

2.2. Intelligent tax processing

AI tools can analyze complex tax regulations and provide support for corporate tax planning. At the same time, they can also automatically complete some simple tax filing tasks, reducing human error.

2.3. Intelligent data analysis

With their powerful data processing and analysis capabilities, AI tools can quickly identify data patterns and trends and automatically generate detailed reports. In the field of accounting, this helps accountants extract valuable information from massive amounts of data, generate detailed reports and analysis results, and make accurate financial forecasts and budget plans [5].

3. Requirements for the cultivation of accounting talents in the era of digital intelligence

3.1. Mastering the application of AI tools and technologies

Both the *Outline of the 14th Five-Year Plan for Accounting Reform and Development* and the *Accounting Informatization Development Plan (2021–2025)* issued by the Ministry of Finance emphasize the importance of digital technology in accounting work and encourage accountants to actively explore and master new-generation information technology.

Data visualization tools such as Tableau and Power BI can create interactive and dynamic visualization reports. Financial automation software such as QuickBooks, SAP, and RPA (Robotic Process Automation) tools can automatically recognize invoice information, generate vouchers, and complete basic tasks such as invoice recognition and entry, expense reimbursement review, and accounting processing. Programming languages such as Python and SQL can process complex data or optimize financial processes, such as automated report generation. Accountants need to master the application of these AI tools and technologies, including how to operate software, how to analyze data, and how to optimize workflows, in order to improve work efficiency and make business accounting more standardized and accurate [6-8].

3.2. Possessing a data mindset and data analysis capabilities

In the era of digital intelligence, the core functions of accounting are gradually shifting towards “intelligent decision-making.” This requires accountants to possess a data mindset, understand the basic principles of data mining, modeling, and visualization, and make better use of AI tools for data analysis. At the same time, accountants must also have strong data acquisition and analysis capabilities to extract valuable business insights from massive amounts of data and provide strong support for strategic decision-making in enterprises.

3.3. Enhancing communication and collaboration skills

Accountants need to explain the business logic behind the data to non-financial departments, promote cross-departmental collaboration, and achieve the overall goals of the enterprise; they need to cooperate with the IT department to design intelligent financial systems and drive process optimization; they need to work closely

with business departments to provide financial support and advice. Therefore, accountants need to enhance their cross-departmental communication and teamwork skills.

3.4. Strengthening the ability of continuous learning

Finance and accounting professionals need to continuously learn and explore new knowledge and methods, update their professional knowledge system, and enhance their professional expertise and innovation ability. Especially in the context of digital intelligence, the content and methods of finance and accounting work are undergoing profound changes [9]. Accountants need to pay attention to the development trends of emerging fields such as AI ethics and blockchain, in order to keep abreast of new technological applications, maintain professional competitiveness, and better adapt to future industry changes.

4. Exploration of the digital intelligence transformation of accounting education

4.1. Updating the curriculum system

Firstly, incorporate artificial intelligence, big data analysis, and other related content into the accounting education system. Taking North China Electric Power University as an example, courses such as "Database Principles and Applications," "Data Analysis and Software Applications," "Management Software Applications," "Big Data Accounting and Intelligent Finance," "Accounting Information Systems," and "Accounting Information Systems Training" were included in the 2021 training program. This allows students to not only master basic accounting theories but also learn how to utilize big data technology for data analysis and mining, forming an interdisciplinary knowledge structure, comprehensively enhancing their professional abilities and qualities, and better adapting to the needs of industrial development and becoming interdisciplinary talents [10].

Secondly, offer courses such as case analysis and frontier topics to enhance the extension of accounting courses [11]. Taking North China Electric Power University as an example, courses such as "Financial Analysis," "Frontier Topics in Accounting," "Case Studies in Accounting," and "Case Studies in Finance" were included in the 2021 training program. This emphasizes the cultivation of students' abilities in financial analysis, financial decision-making, and financial control, enhancing their innovative thinking and professional practical abilities.

Thirdly, strengthen accounting ethics education, professional ethics education, and risk awareness cultivation [12]. On one hand, during the teaching process, teachers should strengthen accounting ethics education, making students understand that when using AI for accounting tasks, they must follow professional ethics, such as ensuring the authenticity and confidentiality of financial information. On the other hand, courses such as data security management, data privacy protection, and information system auditing can be offered to cultivate students' risk awareness, strengthen education on data security and risk management, improve students' awareness of data security, and enable them to identify risks such as data errors and algorithmic biases that AI may bring, so as to better avoid accounting data risks [13,14].

4.2. Transforming teaching methods

In the context of AI tool applications, the teaching methods and means of the accounting profession should also keep pace with the times, aiming to better adapt to technological advancements and enhance students' professional skills and comprehensive qualities [15].

Firstly, construct an intelligent teaching platform. Taking North China Electric Power University as an example, the university currently utilizes the "ChaoXing Learning Pass platform" for intelligent teaching,

which not only alleviates teacher pressure but also significantly improves teaching efficiency. Students can engage in self-study, in-class learning, and online interaction on the platform, achieving a one-stop completion of their learning courses. Teachers can utilize the platform for intelligent lesson preparation, intelligent teaching assistance, and intelligent Q&A, gaining a more precise understanding of students' learning progress and effectiveness. By conducting activities such as "topic discussions," "in-class exercises," and "polls," the classroom content is enriched, the atmosphere is invigorated, and teaching efficiency is enhanced.

Secondly, leverage virtual simulation technology. By developing virtual simulation experimental teaching resources, abstract accounting theoretical knowledge can be made more three-dimensional, visualized, and intuitive, thereby addressing practical training pain points [16,17]. Currently, the Accounting major at North China Electric Power University has established the "Virtual Simulation Comprehensive Laboratory for Power Enterprise Management Decision-Making." In 2024, it was selected as an "Innovative Experimental Project of Virtual Simulation Teaching in Colleges and Universities of the Ministry of Education." This experimental platform has greatly promoted the deep integration of digital technology and experimental teaching in the Accounting major, enhancing the virtual simulation teaching environment and the level of innovative applications.

4.3. Innovating teaching model

With the support of AI technology, students hope to choose their own learning methods based on their needs and interests, such as online courses, MOOCs, and self-study. Therefore, teachers can adopt blended learning models, such as flipped classrooms and online-offline integration, to give full play to the advantages of both online and offline teaching, providing students with more flexible and diverse learning methods [18]. This also helps to cultivate students' autonomous learning and cooperative learning abilities, and improve their comprehensive qualities and innovative abilities [19]. Currently, the Accounting major at North China Electric Power University is actively exploring blended teaching models. Among them, core courses such as "Basic Accounting" and "Managerial Accounting" have adopted blended teaching models and utilized the ChaoXing teaching platform for smart classroom construction.

4.4. Strengthening practical teaching

Accounting professional teaching should not only consolidate students' professional foundation but also, based on the development trends and characteristics of the accounting industry, better integrate AI and big data technologies, establish, improve, and continuously optimize the practical teaching mechanism, and cultivate compound skilled talents who not only possess the application and practical operation capabilities of accounting but also meet market demands [20].

First, construct a complete experimental course system to consolidate the professional foundation. Set the foundation and core courses of the accounting major in the form of "theory + practice" to cultivate students' basic logic of accounting and consolidate their professional foundation. **Table 1** shows the experimental course settings supporting the foundation and core courses of the Accounting major at North China Electric Power University.

Table 1. Supporting experimental courses for the foundation and core courses of the Accounting major at North China Electric Power University

Theoretical course	Experimental course
Basic Accounting	Bookkeeping Training
Intermediate Financial Accounting	Financial Accounting Simulation Experiment
Cost Accounting	Cost Accounting Simulation Experiment
Managerial Accounting	Managerial Accounting Simulation Experiment
Auditing	Audit Simulation Experiment
Accounting Information Systems	Accounting Information Systems Training
Statistics	Social Survey

Second, establish a practical teaching platform compatible with AI tools. As an experimental platform for higher education institutions of the Ministry of Education, the Comprehensive Virtual Simulation Laboratory for Power Enterprise Management Decision-Making at North China Electric Power University provides students with abundant practical cases and simulation environments. Through practical operations, it cultivates students' data processing capabilities, algorithm application capabilities, and problem-solving capabilities.

4.5. Enhancing teachers' qualities

First, update teaching concepts. In the AI era, teachers' teaching concepts should be updated accordingly. Teachers must deeply recognize that the goal of education is not only to impart knowledge but, more importantly, to stimulate students' curiosity, cultivate their ability to solve practical problems, and develop their independent thinking and critical thinking skills. Teachers should transform from traditional knowledge imparters to guides and facilitators of student learning.

Second, enhance professional qualities and information technology skills. In the AI era, teachers need to continuously improve their professional qualities and information technology skills, enhance their teaching abilities, and adapt to the teaching demands of the new era. By participating in professional training and AI technology training, teachers can understand the latest accounting theories and teaching methods, grasp the basic principles and application methods of AI technology, and improve their professional qualities, information technology literacy, and AI application capabilities.

5. Conclusion

In the era of the digital intelligence economy, traditional accounting work patterns have changed. Complicated financial accounting tasks have been gradually replaced by machines, and the focus of accounting work has shifted from traditional accounting reflection to decision-making support and value creation. This has had a profound impact on the cultivation of accounting talents. In the era of the digital economy, accounting talents need to master the application of AI tools and technologies, possess a data mindset and data analysis capabilities, enhance communication and collaboration skills, and strengthen continuous learning ability. By updating the curriculum system, transforming teaching methods and approaches, innovating teaching modes, strengthening practical teaching, and enhancing teachers' qualities, high-quality talents who can meet the needs of the future accounting industry can be cultivated. These reforms not only help improve students' comprehensive professional abilities and employment competitiveness but also promote the continuous development and

innovation of accounting education.

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Disclosure statement

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