

Exploration of the Digital Intelligence-Based Accounting Talent Training Mode Based on the CBE Concept

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Abstract: Accounting talents are an important force in maintaining market economic order and promoting economic and social development. Along with the extensive use of digital intelligence in various fields, the accounting field needs to keep abreast of the times in terms of digital intelligence if it wants to make a further qualitative leap and change the lagging situation relative to other industries. Based on the CBE concept, this paper analyses the CBE concept and applies the CBE concept to the teaching of mathematically intelligent accounting. In accordance with the new requirements for accounting talents in the new era, it conducts specific research on the training mode of digital intelligent accounting talents from four aspects: training objectives, curriculum embodiment, teaching methods and teaching resources. The aim is to cultivate digital intelligent accountants suitable for future development in the digital era. It helps to solve the challenges faced in the current accounting teaching and improve the accounting teaching reform proposals.

Keywords: CBE Concept; Digital Intelligence Accounting; Accounting Talent Training; Educational Innovation; Teaching Reform

1. Introduction

1.1 The Era of Digital Intelligence is Coming

With the advent of the digital age, modern enterprises stand at a crossroads of transformation, bearing unprecedented pressures from increased costs and expenses while also glimpsing infinite opportunities in the future digital market. In the enterprise management system, the digital intelligence transformation of the accounting field is a

focal point of modern enterprises. ^[1] It not only shifts the accounting function from traditional accounting to management decision-making but also changes the landscape of accounting talent demand. This transformation requires enterprises to deeply optimize their internal organization and processes, demanding comprehensive innovation in the internal teaching modes and training paths of various educational institutions. During the transformation process, several urgent problems have emerged, such as difficulties in internal reforms of enterprises, talent training modes struggling to adapt, and weak digital security systems, hindering the digital intelligence transformation of enterprise accounting. In summary, enterprises need to improve their digital intelligence technologies like artificial intelligence and cloud computing to accelerate their accounting digital intelligence process and meet the actual needs of the digital economy and society business.

1.2 Introduction to CBE

The core content of this paper is to construct a digital intelligence accounting talent training mode based on the CBE (Competency-Based Education) concept. CBE, as an educational strategy, originated in the 1970s. Initially, CBE was mainly used as a method to train manufacturing workers with specific skills needed for their jobs and as practical task design in teacher training programs. However, when this model was introduced into the university education environment, its challenges and difficulties gradually emerged. Due to the lack of effective supervision mechanisms and the higher-than-expected costs of courses, early CBE courses had low acceptance among students and teachers, and dropout rates were high. Entering the 1990s, the development of CBE reached a turning point. Educational institutions like Western

Governors University began to collaborate with states like Indiana, exploring and introducing competency-based assessment courses. This innovative model aimed to provide cost-effective online learning solutions for minority and low-income adult students. The success of Western Governors University is particularly notable, with its student population growing from 1 in 1998 to 129,169 full-time students in 2020. This achievement not only demonstrated the enormous potential of the CBE model but also provided valuable experience and reference for subsequent CBE course implementation.^[2]

1.3 The Combination of CBE and Digital Accounting

To strengthen the practical teaching of digital intelligence accounting talent training, the CBE teaching mode is introduced into the accounting talent training classroom. According to the characteristics of CBE, combined with the individual differences and actual needs of accounting personnel, digital intelligence training strategies in different fields are implemented. By transforming the traditional accounting teaching mode into the CBE accounting guidance mode, the aim is to guide accounting personnel to use digital intelligence technology to analyze actual accounting cases, ensuring that what is learned is closely connected with future employment directions. Emphasis is placed on timely evaluation of learning outcomes to ensure that the learning direction of trainees is consistent with future career development, reducing deviations. This makes the accounting talent training mode more in line with the development needs of the future social environment, maintaining a high level of teaching quality in the context of the digital intelligence era, and exploring an innovative path for the training of accounting talents. It is hoped that this innovative approach will provide reliable and effective suggestions for the training of accounting talents in colleges and universities.^[3]

2. CBE Concepts and Digital Accounting Concepts

2.1 CBE Concept Study

CBE (Competency-Based Education) refers to a teaching model within the “Competency-

Based Education and Teaching System.” It originated in Canada and is widely applied in North American countries. Since the early 1990s, it has gradually spread worldwide and is now researched and used in more than 30 countries and regions. The CBE teaching model is divided into four stages: vocational analysis and DACUM chart formation, learning package development, practical teaching implementation and management, and practical teaching evaluation.^[4] DACUM, which stands for “Develop A Curriculum,” is a fundamental way to describe vocational competencies in CBE, essentially based on job task analysis for developing vocational education curricula. During the teaching process, CBE adheres to student-centered teaching principles, focusing on active learning rather than mere knowledge transmission, and emphasizing individual learning experiences and growth. In recent years, China’s accounting industry has introduced the CBE model, providing valuable references for the practice and development of accounting education and teaching.^[5] Currently, the accounting industry is conducting in-depth research and exploration in areas such as talent training objectives, curriculum design, teaching methods, teaching evaluation, teaching resources, and faculty development to further improve education and teaching quality. In the field of education, the innovation and development of teaching models are key concerns for educators. The core of the CBE teaching model is to focus educational goals on enabling students to acquire all the competencies necessary for a specific profession, transitioning from traditional education models to vocational education models. In the field of accounting, the CBE model can be applied to four aspects: knowledge, skills, abilities, and qualities. On the skills level, the CBE concept emphasizes helping accounting personnel become proficient in data analysis and data processing techniques, using digital technologies such as big data, blockchain, and cloud computing for financial data analysis. On the abilities level, the CBE concept emphasizes helping accounting personnel skillfully use accounting tools, developing strong practical operational capabilities. On the qualities level, the CBE concept emphasizes helping accounting

personnel develop a good team spirit and professional ethics such as honesty, dedication, and objectivity.

2.2 Digital Intelligent Accounting Concepts

In this study, data is the specific object of digital intelligence, and accounting personnel are the main subjects of digital intelligence. Accountants are no longer merely collectors and analysts of single data terminals; their functions span across all financial data generated during the normal production and operation of enterprises. Digital intelligence in accounting brings many operational tools to accountants, such as big data technology, which helps accountants perform data analysis and forecasting to improve decision-making accuracy; blockchain technology, which provides highly secure accounting methods, reducing the risk of financial fraud; and artificial intelligence and machine learning technologies, which automate and intelligent accounting processes. Compared to the rapid development of smart technologies in other fields, the cultivation of digital intelligence accounting professionals has lagged. Considering the social attributes of accounting talent cultivation, training digital intelligence accounting professionals requires hands-on operation through actual projects. This includes training accountants to analyze and predict enterprise financial data using big data technology, extracting relevant data from financial statements and other enterprise operation-related data through real case analysis, and ensuring a solid foundation in traditional accounting theory while teaching digital and intelligent technologies through blended learning.^[6]

3. Transforming Accounting Talent to be 'Digital Intelligent'

3.1 Analysis of the Current Situation of Accounting Personnel Training

Accounting professionals are an important force in maintaining market economic stability, promoting innovative development in the accounting industry, and supporting economic and social development. They are a crucial part of the talent pool needed for national revitalization. From vocational schools to regular universities and financial and economic universities, various types of

institutions offer accounting programs, and the number of accounting students is substantial.^[7] However, in the aspect of accounting talent cultivation, these institutions currently face problems such as unclear training objectives and insufficient practical abilities of students. Many schools have ambiguous goals for accounting students, with unclear core competencies and professional positioning, leading to a disconnect between the teaching content and actual enterprise needs. The goal of accounting talent cultivation is to supply enterprises and organizations with accounting staff who can meet the needs of economic development. However, in actual teaching, this goal has not been fully realized; many schools focus on imparting theoretical knowledge, emphasizing students' "professionalism" while neglecting the cultivation of their professional abilities.

3.2 Challenges to Accounting Manpower Development

In recent years, new information technologies such as artificial intelligence, cloud computing, and big data have been widely used in various fields of society, forming an innovative digital economy. In the digital economy era, data has become one of the most important production factors, with data updating and iteration speeds significantly faster than other factors. In this context, traditional accounting work urgently needs to achieve digitalization, intelligence, and modernization.^[8] The rapid development of digital intelligence technology will improve the efficiency of enterprise accounting activities. Massive amounts of data provide accountants with a wide and rich source of information for decision-making, greatly facilitating enterprise financial and accounting work. On the other hand, as digital intelligence technology becomes widely applied, it will replace many low-skill and highly repetitive accounting tasks. This poses new challenges to the existing accounting talent cultivation model. How to cultivate accounting professionals who can adapt to and further promote the digital transformation of enterprises is a major challenge faced by various institutions and their teaching staff. Higher education institutions must actively seek new approaches and methods for cultivating accounting professionals to keep

pace with the digital transformation of enterprise accounting operations and meet the professional requirements of the new era for accountants.

3.3 New Requirements for Accounting Talents in the New Era

From a broad perspective, as China enters a stage of high-quality development, accountants face new era requirements such as tapping into economic growth potential, strengthening financial and accounting supervision, preventing and addressing major risks, enhancing the competitiveness of the accounting industry, and promoting the healthy and sustainable development of the economy and society. On the other hand, with the rapid iteration of emerging technologies, accounting work needs to adapt to the digital intelligence transformation in the digital economy era. [9] The rapid application of new digital and intelligent technologies in the industry demands that accounting professionals continuously improve their digital intelligence skills based on a solid foundation of accounting theoretical knowledge to remain competitive in the digital economy era. Data is the core of the digital age. Accountants should have the ability to extract, process, and analyze key information from big data to identify potential risks and opportunities, thereby improving the accuracy and scientific nature of financial and accounting information. Accountants need to keep pace with the development of digital and intelligent technologies, understanding and mastering how to apply new technologies such as artificial intelligence, big data, cloud computing, and the Internet of Things to accounting work. Therefore, it is essential not only to focus on imparting financial and accounting knowledge but also to emphasize the cultivation of information technology skills in accounting talent training to adapt to the current trend of digitalization and intelligence in the accounting industry.

4. Digital-intelligent Accounting Talent Development Model

Higher education institutions face the challenge of shifting accounting courses from merely imparting accounting knowledge to a competency-based approach in nurturing data-savvy accountants. This shift is crucial for

accounting students to meet the future demands of digitized accounting work. Considering the current environment of high-quality development and the market demand for digital transformation in the accounting industry, higher education institutions should establish a data-driven accounting talent development model based on the Competency-Based Education (CBE) concept, focusing on cultivating goals, curriculum structure, teaching methods, and teaching resources.

4.1 Training Goal

The first step in exploring a new model for cultivating accounting talent in the context of digital intelligence is to clearly define the goals for nurturing data-savvy accountants. The Competency-Based Education (CBE) model, which focuses on abilities, aims to equip learners with comprehensive professional competencies required for specific occupations. Therefore, the goal of cultivating data-savvy accountants is to ensure that students not only grasp foundational financial accounting knowledge but also develop skills in applying digital intelligence technologies and fostering innovation. In today's era, the demand for accountants has shifted from merely generating information to providing scientific support for management and decision-making. Hence, alongside mastering theoretical accounting knowledge, students must acquire digital intelligence capabilities to deliver high-quality and efficient accounting services to businesses and society.

4.2 Curriculum

The CBE model breaks away from rigid disciplinary curriculum structures by analyzing professional abilities and establishing flexible curriculum systems based on career objectives. Given the trend of digital transformation in enterprise accounting, curriculum design should balance professional integration and practical training. Traditional accounting courses should integrate with emerging technology courses, blending theory with practical skills. Courses related to information technology, artificial intelligence, business analytics, and computerized accounting should be integrated into the accounting curriculum to broaden students'

perspectives while equipping them with basic computer application skills and a mindset for digital intelligence. It's essential to update teaching materials promptly and incorporate emerging knowledge into existing curriculum structures. Since CBE is a modular, credit-based course model, institutions need to offer different training modules and integrate accounting digital technology courses based on students' proficiency levels, allowing students to choose according to their abilities and needs.^[10]

4.3 Teaching Methods

The CBE teaching model shifts away from the traditional lecturer-centered approach to a student-centered approach, emphasizing learning over teaching and maximizing student engagement and autonomy. It advocates for providing abundant teaching resources and allowing students to choose their learning methods, accommodating individual learning paces and abilities. Therefore, higher education institutions need to reform and update teaching methods, integrating the CBE educational concept into the teaching process. In-class focus should shift from lecturers to students, fostering active thinking and self-directed learning. Modernization of learning tools is also crucial for teaching method innovation. Platforms like Bilibili and MOOCs can provide a variety of modern learning tools for teachers to maximize teaching efficiency. Another method of teaching reform is providing students with real-world training scenarios, as accounting talent cultivation should not occur in isolation. Realistic accounting activities closely related to new technologies like big data and artificial intelligence should be the focus of learning, allowing students to practice real-world digital accounting activities in the classroom.

4.4 Teaching Resource

The CBE concept emphasizes the integration of teaching resources, striving to achieve integration within disciplines, across disciplines, and between internal and external resources. Abundant teaching resources are crucial for nurturing data-savvy accounting talent. Higher education institutions should develop new teaching resources vigorously while consolidating existing ones to

modernize teaching resources. Discipline integration should be implemented in student training, introducing the latest and best scientific technologies to campuses and valuing guidance from industry experts. Alongside strengthening the transmission of accounting theoretical knowledge, institutions should actively develop various on-campus online practical teaching platforms for students. Through systematic practice and training courses, students can develop the habit of linking accounting theory with enterprise accounting practices, enhancing their practical abilities while further understanding professional theoretical knowledge. Finally, accounting training should seek cooperation with enterprises to help students understand the essence of digital accounting work.

5. Conclusion

The cultivation of data-savvy accounting talent based on the CBE concept requires collective efforts from various aspects. First, accounting students, as the core subjects of the training system, need to prioritize themselves as the core of learning and actively engage in self-directed learning, keeping abreast of societal developments, and mastering various emerging technologies like big data and artificial intelligence. Second, accounting educators should utilize established frameworks from professional accounting organizations and develop digital intelligence accounting courses based on the CBE concept to meet the needs of cultivating data-savvy accountants. Proper utilization of the CBE concept is crucial not only for teaching but also for real-time assessment of teachers and students. Third, society should increase support for the cultivation of data-savvy talent, providing more resources for teachers and students. Lastly, the CBE-based model for cultivating data-savvy accounting talent not only transforms accounting courses into acquired abilities but also helps accountants acquire more digital intelligence technologies. Although it requires time and effort to adapt to diverse classroom content and methods, it is necessary for cultivating accounting talent to master the skills required for the profession and adapt to future technological developments.

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References

- [1] Chen Keyi, Li Zixin, Xu Zhilong. Research on the Training of Business Applied Talents in China Based on CBE Model-Taking Sino-American Accounting in Ningbo University of Technology as an Example. *Curriculum and Teaching Methodology*, 2021, 4(4):1-3
- [2] Vicki M. Stewart. Competency-based education: Challenges and opportunities for accounting faculty. *The Journal of Competency-Based Education*, 2021, 6(4):206-210.
- [3] Chen Hu. Research on the Innovation of Talent Cultivation Mode in Higher Vocational Education. China University of Geosciences (Beijing), 2008.
- [4] He Ying, Song Kangning, Zhang Yuyang. Competency Framework and Cultivation Path of Accounting Professionals in the Age of Digital Economy. *Journal of Beijing University of Posts and Telecommunications (Social Science Edition)*, 2019, 21(03):104-112.
- [5] Lin Zhijun, Xiong Xiaoyan, Liu Ming. The development of knowledge and skill elements in Chinese accounting education. *Accounting Research*, 2004, (09):72-81.
- [6] Tan Migrant, Qian Jingfang. On the Reform of Vocational Education Curriculum with Competence Orientation. *Education Research*, 2001(02):54-60.
- [7] Wang Zhiping. Research on Corporate Accounting Data Governance in the Context of Digital Intelligence. *China Academy of Financial Sciences*, 2022:12-21.
- [8] Xu Wenjing, Gu Jingyi, Xu Panpan. Challenges, opportunities and innovations in talent training for accountants in the era of digital economy. *Business Accounting*, 2020(08):99-102.
- [9] Zhang Guichun. Research on Developing Financial Accounting Skills Teaching with CBE/DACUM. *Accounting Friends (Zhongdianjian)*, 2008, (02):64-66.
- [10] Zhu Lin, Shen Bo. Exploration of Talent Cultivation Mode of Financial Management in Applied Undergraduate Colleges and Universities. *China Township Enterprise Accounting*, 2022, (09):196-198.