

Research on the Path of Construction Accounting Teaching Materials for Construction Companies in the Era of Digital Intelligence

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Abstract: The 2024 National Education Work Conference pointed out that we should adhere to the hard truth that education serves high-quality development, and digital intelligence brings excellent opportunities and challenges for the high-quality development of education. The digital intelligence era refers to the new economic era characterized by big data and intelligence, and the development of new technologies such as the Internet and artificial intelligence is constantly reshaping the shape of education. The digital era has also brought new development opportunities and challenges to construction enterprises. Traditional construction enterprise accounting teaching materials can no longer meet the needs of construction enterprise accounting personnel training under digital intelligence, and it is necessary to vigorously carry out the construction of construction enterprise accounting teaching materials incorporating the trend of digital intelligence, and to construct teaching materials construction evaluation indexes from the dimensions of the degree of meeting the needs of enterprise development, the degree of recognition of teachers and students, and the degree of enterprise development of digital intelligence, which can help to test the applicability of teaching materials for teaching accounting in construction enterprises, and help to improve the teaching of teaching materials. The evaluation indexes of teaching material construction are constructed from the dimensions of the conformity of enterprise development demand, the recognition of teachers and students, and the degree of digital intelligence of enterprise development, which can help to test the applicability of teaching materials for construction enterprise accounting, analyse the path of teaching

material construction integrating with the trend of digital intelligence in depth, and introduce the teaching materials by following the dynamics of the industry and emphasizing the cultivation of talents in the aspect of application orientation. So we can effectively promote the construction of teaching materials of construction enterprise accounting in depth, and enhance the high quality of teaching materials, and provide useful references and guidance for the practice of teaching.

Keywords: The Digital Intelligence Era; Construction Accounting; Textbook Development; Evaluation Indicators; Talent Cultivation

1. Introduction

The digital intelligence era refers to the new economic era characterized by big data and intelligence, and the development of new technologies, such as the Internet and artificial intelligence, is constantly reshaping the shape of education. For higher education, with the large-scale introduction of digital intelligence reforms, the effective use of new tools such as cyber-technology, AI and big data to promote the updating and continuous progress of teaching methods in conjunction with the educational environment has become a must for the development of society [1]. In 2024, the National Education Work Conference emphasized the necessity of adhering to the fundamental principle that education serves the objective of high-quality development. The construction of high-quality teaching materials represents a crucial foundation for the high-quality development of higher education. The construction of high-quality teaching

materials for the application of mathematics and intelligence will facilitate the realization of the goals of educational reform and innovation and accelerate the pace of the construction of China's educational power [2]. Currently, most accounting teaching materials for construction enterprises focus on standardization, and there are fewer accounting teaching materials with the characteristics of construction enterprises. Scholars have not yet studied the specific practical problems of the construction of accounting teaching materials for construction enterprises in the digital intelligence era, making it difficult to provide further guidance for the in-depth integration and development of the digital intelligence era and accounting education. Based on this, this paper proposes a way for the construction of accounting teaching materials for construction enterprises in the digital intelligence era, with the aim of providing theoretical support and guidance or professional accounting teaching materials in the digital intelligence era.

2. The Current Situation and main Problems of Construction Enterprise Accounting Teaching Materials Construction in the Era of Digital Intelligence

The rapid development of digital technology is leading to significant changes in the accounting industry, with a corresponding transformation of its business processing and information disclosure methods. In this context, the construction of accounting teaching materials assumes particular importance, particularly in the case of construction enterprise accounting teaching materials, which are directly related to the cultivation of the skills of construction accounting students and the improvement of social adaptability.

2.1 An Analysis of the Current State of Construction Enterprise Accounting Teaching Materials Construction in the Era of Digital Intelligence.

(1) The reform of training digital-intelligent composite accounting talents is in the initial stage

The rapid development of digital intelligence has facilitated the emergence of networks, extensive data analysis, and artificial intelligence, laying the foundation for the continuous improvement and transformation of accounting in the future. Against this backdrop,

new challenges and demands have been placed on the employability skills of accounting professionals. To adapt to these changes, accounting professionals need to continuously improve their skills to cope with market changes and business needs. To meet this challenge, many institutions are now offering new types of courses, such as extensive data accounting, intelligent accounting, and intelligent finance, to explore ways to reform the training of digitally intelligent composite talents. This initiative aims to adapt to the new requirements of accounting talents in the future era of digital intelligence and promote the renewal and innovation of the education system [3].

(2) The preliminary development of integrating of construction accounting teaching and digital intelligence.

Since 2018, most colleges and universities have gradually started the transformation of talent cultivation mode, but they are currently at the initial stage of the construction of the cross-fertilization of construction business accounting teaching and digital intelligence [3]. Key aspects such as the integration of construction business accounting teaching materials construction based on digital intelligence, have yet to be explored in depth in practice. Existing construction business accounting teaching materials urgently need to be organically integrated with cutting-edge technologies such as big data and artificial intelligence in terms of content design and presentation [4].

(3) Practical experience of enterprises in digital transformation can be learned from

At present, more enterprises have integrated cyber technology, data analysis, and AI technology into business management, promoting the deep integration of digital technology and finance to new heights. Platform companies, such as Google, Amazon, Microsoft, some regulatory authorities, and financial consulting companies have also accumulated quite mature practical experience, which can become an important practical platform for construction companies to build accounting teaching materials that integrate the digital intelligence trend.

2.2 The Main Problems in the

Construction of Teaching Materials for the Accounting of Construction Companies in the Era of Digital Intelligence

(1) The content of teaching materials fails to fully address enterprise development needs.

The content of teaching materials for accounting in construction enterprises has been updated slowly and does not fully meet the needs of enterprise development, which is manifested by the lack of consideration of the overall operation of the enterprise in the construction of teaching materials, the general existence of theoretical solid and disciplinary structural tendency, and the relative lack of practical characteristics and application ability, which is not in line with the characteristics of practical teaching of accounting and fails to fully meet the needs of the development of the enterprise [5].

(2) Insufficient integration between the presentation of teaching materials and digital information technology

At present, most accounting teaching materials for construction enterprises still use traditional paper media, and there are fewer digital intelligent versions. These textbooks are insufficient in depth and breadth, and lack sufficient supporting resources to meet the needs of education in the new era of information technology. Some textbooks overemphasize theoretical learning or technical skills enhancement but pay insufficient attention to enhancing students' overall quality of mathematical intelligence [6].

(3) The teaching material writing system places greater emphasis on theoretical aspects than practical applications.

Currently, the teaching materials of accounting in construction enterprises mainly focus on the theoretical aspect, and students mainly passively receive knowledge from theory without constructing the knowledge system through active practical activities, which is not in line with the practical needs of personnel training. At the same time, the paradigm of teaching materials does not emphasise the application of knowledge to solve practical problems, and the guidance of teaching materials for practical internship is too vague, which makes it difficult to effectively cultivate students' practical ability.

(4) The content of teaching materials favors the general edition and it is difficult to have its own characteristics.

The general edition of construction enterprise accounting textbooks has the characteristics of

classic content and standardized writing style, but the general edition of textbooks ignores the requirement of equal emphasis on theory and practice of construction enterprise accounting textbooks, and objectively restricts the publication and distribution of featured textbooks. At present, the construction enterprise accounting specialty teaching materials have not been able to meet the actual needs, and have not been integrated with the practical characteristics of construction enterprise accounting, and there is a lack of specialty teaching materials.

3. Evaluation Indicators of Accounting Textbook Construction Companies in the Era of Digital Intelligence

This paper proposes a framework for evaluating textbooks based on three key principles: applicability, integration of theory and practice, and development. In essence, this framework aims to align textbook evaluation elements with the needs of enterprise development, recognition by teachers and students, and advancement of enterprise development. The majority of existing studies have focused on the factors of curriculum standards, teaching objectives and contents, users, and the qualities of the textbook itself as the dimensions of textbook evaluation [7]. In light of the advancement of digital intelligence, there is a pressing need for a comprehensive assessment of the evaluation of accounting textbooks in the context of digital intelligence and its impact on tertiary education. The accounting teaching materials for construction enterprises under the trend of digital intelligence are evaluated in terms of their compliance with the needs of enterprise development, the degree of recognition by teachers and students, and the degree of digital intelligence in enterprise development to meet the needs of enterprise growth. The specific design of the evaluation indexes is detailed in Figure 1.

The evaluation indexes of construction enterprise accounting teaching materials in the era of digital intelligence have been analyzed through the existing relevant studies. The indexes of the degree of compliance with the needs of enterprise development, the degree of recognition of

teachers and students, and the indexes of the advancement of enterprise development have been sorted out and analyzed, as shown in Table 1.

Table 1. Explanation of Evaluation Indexes for Construction Enterprise Accounting Teaching Materials Construction in the Digital Age

Level 1 Indicators	Level 2 Indicators	Indicator Analysis
Enterprise Development Requires Conformity	Real-time of Content	The incorporation of digital-intelligent teaching tools into accounting textbooks facilitates the delivery of real-time case presentations and the incorporation of real-world scenarios. Students can engage with digital-intelligent teaching tools (e.g., Chat GPT, MOOC, flipped classroom) to pose questions and address uncertainties, thereby facilitating the application and comprehension of accounting knowledge.
	Relevance of Content	The content of the teaching materials is related to enterprises, thereby providing students with a clear direction of the course objectives. For instance, in elucidating the cost and expense aspect, the accounting methodologies of enterprise accounting can be elucidated from the vantage points of project cost, period expense, government subsidy, income tax, and so forth. Furthermore, practical training cases can be introduced to exemplify the integration of digital intelligence technology with financial data and its role in enterprise accounting, thereby cultivating the capacity for problem-solving and decision-making [8].
	Professional of Content	The theoretical knowledge base should be closely aligned with the development of enterprises, while practical knowledge should emphasize the nuances and standards associated with work tasks. This enables students to navigate the complexities of real-world accounting. Firstly, accounting talents must be able to effectively combine modern information technology, such as computer network technology, database technology, and cloud computing technology, with accounting work. Secondly, students should be able to utilize a variety of financial software, and demonstrate proficiency in its operation. Thirdly, students should be able to utilize construction enterprise budget management software, accounts receivable management software, inventory management software and other commonly used information management systems. Fourthly, the construction enterprise ERP system should be utilized to the fullest extent possible in order to achieve accounting and financial analysis functions [9].
	Accuracy of Content	The fundamental principles of accounting are accurately delineated, encompassing definitions and elucidations of accounting elements such as assets, liabilities, owners' equity, income, and expenses. The technical specifications of Numerical Intelligence are meticulously described, accompanied by explanations and applications of electronic bookkeeping, electronic payment systems, financial software, and pertinent regulations and guidelines. The information and data sources are reliable, and the information provided is substantiated by references to authoritative accounting organizations, academic research, or classic cases. Information, graphs, tables, and data are presented in a clear and accurate manner, with sources identified. No logical or methodological errors are present, translations are accurate, and explanations, operations, or computational steps are consistent with accounting standards and principles. This ensures that students are able to correctly understand and apply these principles.
Recognition of Teachers and Students	Logical	The principle of professional development must be adhered to in the development of teaching materials on mathematically intelligent accounting. The materials must be organized in accordance with the processes and norms of mathematical and intellectual accounting work to

		help students understand and apply the basic principles and skills related to mathematical and intellectual accounting.
	Adapting to the Laws of Teaching	The content of the teaching is structured in accordance with the principles of education and teaching, focusing on the processes and steps of digital accounting, including account processing, voucher entry, and financial statement generation among other topics. The online teaching platform and digital teaching materials are employed to facilitate an interactive learning experience, thereby enabling students to gain a comprehensive understanding of the specific processes involved in digital accounting operations. The online simulation and virtual simulation functions of the platform enable students to engage with the application of digital intelligence technology in construction enterprise accounting in a fully immersive manner.
	Consistent with Cognitive Development	In accordance with the principles of cognitive development of students, the knowledge points are presented in a logical sequence, with the most challenging concepts placed at the beginning of the curriculum. Integrating of BIM, cloud computing and other digital intelligence tools in the classroom allows students to gain a deeper understanding of the role of digital intelligence technology in accounting work. Instructing students to utilize digital intelligence tools for the analysis of accounting data, the production of reports, and other tasks [10].
	Practicable	The textbook aims to stimulate students' interest in participating in activities in the professional field of accounting. It does so by emphasizing the practicality of mathematically intelligent accounting, thereby underscoring the importance of accounting knowledge in modern business and career development. To facilitate comprehension of the practical applications of mathematical and intellectual accounting, real-world cases and industry data are presented. This enables students to develop an understanding of the role of these skills in professional practice and enhance their employability.
Degree of Digital Intelligence in Enterprise Development	Digital Intelligent Content Presentation	The content of the teaching materials is designed to address the frontiers of subject specialization, examine the frequency of updating and the maintenance mechanism of the teaching materials, research the development trend of the accounting discipline, and pay timely attention to the rapid development of technologies such as AI, Big Data, Cloud Computing, Mobile Internet, Digital Twin, etc. and their large-scale application in the field of education. This will lead to a transformation of digital intelligence of education from a quantitative to a qualitative change.
	Mathematical Intelligence in Teaching and Learning	The teaching process makes full use of the advantages of mathematical and intellectual information technology. The visual design of the teaching materials is of interest, and it is necessary to identify the specific content of the teaching materials to be introduced into Chat GPT. This includes accounting principles and financial statement analysis. The content of the textbook is transformed into a dialogue mode, thus enabling students to engage in dialogue and communication with Chat GPT. This approach will facilitate more interactive engagement and enhance learning outcomes [11].

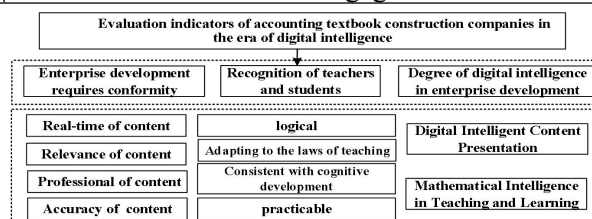


Figure 1. Evaluation Indicators of Accounting Textbook Construction Companies in the Era of Digital Intelligence

4. Appropriate Path of Accounting Teaching Material Construction for Construction Enterprises in the Era of Digital Intelligence

(1) In-depth promotion of school-enterprise cooperation in teaching materials construction

The construction of teaching materials in the era of digital intelligence embodies interactive and intelligent functions, which can better address the needs of construction enterprises for accounting professionals. The process of preparing teaching materials should facilitate the implementation of a school-enterprise cooperation model, integrate digital intelligence into the school and enterprises to facilitate in-depth collaboration, and facilitate the preparation of teaching materials in the context of jointly cultivating accounting professionals and technicians. Additionally, it should enhance the support for the participation of accounting practice personnel in construction enterprises in the preparation of teaching materials.

(2) Construction of textbooks to promote the integration of digital intelligence into the content of the textbook

Construction of teaching materials should pay attention to cloud computing, blockchain, big data, artificial intelligence and mobile data, in order to continuously update the industry dynamics and promote the integration of digital intelligence into the construction business accounting teaching materials construction. In textbook construction, close attention is paid to the dynamics of digital intelligence technology, with new methods and new situations being introduced into the content of the textbook in a timely manner. In the process of synchronizing the preparation of digital teaching materials, it is necessary to provide a variety of intelligent teaching tools to track industry dynamics in a timely manner and guarantee the authenticity and reliability of construction enterprise accounting data [12].

(3) Comprehensive promotion of mathematically gifted accounting talent training in the construction of teaching materials.

The textbook introduces students to the field of big data analysis, equipping them with the knowledge and skills to make financial analyses and forecasts based on big data, as well as to apply data-driven thinking to make accounting decisions. The construction of accounting textbooks for construction enterprises is oriented towards the application of accounting practices in enterprises, with a particular focus on close

integration with the objectives of talent cultivation. The preparation of textbooks begins with an analysis of the practical needs and application abilities of students, with the objective of further promoting the cultivation of digital-intelligent accounting talents.

(4) Comprehensive promotion of digital intelligent dynamic teaching resources in the construction of teaching materials

The construction enterprise accounting teaching materials should proactively develop digital intelligent dynamic teaching resources, which will gradually become more diverse. This will break the single situation of the traditional paper teaching materials, and help to further optimise the construction enterprise accounting teaching materials construction. The production of microclasses or animations enables the simulation and display of important knowledge points, confusing and error-prone theoretical points, thus stimulating the enthusiasm of students to learn and enabling them to understand complex knowledge points more intuitively and clearly in the learning process.

5. Conclusions

In the context of the digital intelligence era, traditional construction enterprise accounting teaching materials are no longer adequate for the training of construction enterprise accounting personnel in the digital intelligence environment. It is therefore necessary to develop construction enterprise accounting teaching materials that incorporate the trend of digital intelligence. The construction of a scientific and reasonable evaluation index system for teaching material construction allows for the examination of the applicability of teaching materials, as well as the analysis of the path of teaching material construction integrating the trend of digital intelligence. This is achieved by considering the degree of compliance with enterprise development needs, the degree of recognition by teachers and students, and the degree of digital intelligence in enterprise development. Furthermore, the construction of teaching materials can be promoted by tracking the industry dynamics and emphasizing the cultivation of talents in an application-oriented manner. This will help

to promote the quality of teaching materials. The construction of teaching materials can facilitate the development of high-quality teaching materials, providing educators with valuable resources for educational and teaching practice.

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