International Education Forum, 2026, Volume 4, Issue 1
http://ojs.bbwpublisher.com/index.php/IEF
Online ISSN: 2981-8605
Print ISSN 3083-4902

Research on the Empowerment of AIGC in the Accounting (ACCA International Accounting) Program within the Framework of Four-Chain Integration and Industry-Education Collaboration

Xiaotong Sun*

Qingdao City University, Qingdao 266106, China

**Author to whom correspondence should be addressed.*

Abstract: Against the backdrop of the global digital economic transformation, it is crucial to cultivate interdisciplinary accounting professionals with international perspectives, intelligent technology skills, and local practical capabilities. Currently, the Accounting (ACCA International Accounting) program faces challenges such as the disconnection between international accounting standards education and practice, insufficient effectiveness of bilingual teaching, and superficial industry-education integration. This paper adopts the "Four-Chain Integration" framework and introduces Artificial Intelligence Generated Content (AIGC) as a technological driver to construct a new model characterized by "International Leadership, Digital-Intelligence Drive, and Industry-Education Symbiosis." Through a case study in finance and accounting education, specific pathways are designed for AIGC to restructure knowledge content, reshape teaching methodologies, and reconstruct practical platforms. The aim is to bridge the gaps between international and local contexts, as well as theory and practice, achieving deep, end-to-end collaboration.

Keywords: AIGC; Four-Chain Integration; Industry-education integration

Online publication: February 12, 2026

1. Introduction

Currently, the wave of digitalization and economic globalization has highlighted the strategic value of cultivating high-end international accounting and finance talent. However, traditional training models face multiple challenges: first, there is a disconnect between the teaching of International Accounting Standards and intelligent financial practices, making it difficult for students to apply international rules to complex local scenarios; second, language barriers in bilingual teaching hinder deep understanding of professional concepts, with insufficient teaching interaction and personalized guidance; third, students lack opportunities to engage

with real high-level financial operations, creating a gap between theory and practice; fourth, industry-education integration often remains superficial, failing to deeply engage in the entire talent cultivation process.

To address these issues, the Four-Chain Integration development strategy provides top-level guidance for optimizing the talent training system, while breakthroughs in AIGC technology offer a new technical pathway for innovating teaching methods, reshaping practical scenarios, and achieving scalable personalized cultivation.

Therefore, this paper focuses on a core question: from the strategic perspective of Four-Chain Integration, how can people effectively leverage the revolutionary tool of AIGC to systematically empower the Accounting (ACCA International Accounting) program in universities, break through the bottlenecks of the existing education model, and construct a new industry-education collaborative education model that deeply integrates international standards, intelligent technologies, and Chinese industrial practices?

2. Literature review and theoretical foundations

2.1. Industry-education integration

2.1.1. Adaptability of industry-education integrated education

The talent cultivation model of industry-education integration can be traced back to the "cooperative education" initiated by American engineer Herman Schneider in 1906 [1]. Today, the vigorous development of new business formats, technologies, and models in the new economy is driving local ordinary undergraduate universities to transform into application-oriented institutions, further deepening the reform of industry-education integration in higher education [2].

2.1.2. Operational mechanism of industry-education integration

Henry Etzkowitz and Loet Leydesdorff pointed out that the government, universities, and enterprises have relatively clear divisions of responsibilities. The government needs to increase financial support for university-enterprise cooperation, universities are committed to enhancing students' comprehensive competencies, and enterprises provide practical training environments for students' skill development [3].

Cao Dan emphasized that industry-education integration is a process of mutual effort, where enterprises and universities, as the main actors, form a community of shared interests [4]. Qiu Hui noted that the participation of institutions, enterprises, and the government in industry-education integration aims to meet society's demand for high-quality application-oriented talent [5]. Wang Zhuhua argued that the connotation of industry-education integration has continuously enriched during its implementation, representing a new mechanism for knowledge innovation and technological innovation [6].

Shi Guizhou and Yu Xia observed that although some universities have established training laboratories, issues such as outdated and simplistic equipment, a significant gap from actual industry or enterprise production conditions, lagging textbook content relative to industry development, a shortage of "dual-qualified" teachers, and inadequate online resources persist [7].

2.2. Artificial intelligence-generated content (AIGC)

2.2.1. Technological practice of AIGC

Yuan Yulin provided an in-depth analysis of the technical principles and engineering architecture of ChatGPT from perspectives such as algorithm models, instruction tuning, and reinforcement learning from human feedback, exploring how to enable machines to think and act like humans [8].

2.2.2. Educational value of AIGC

Jiao Jianli analyzed the impact of ChatGPT on school education across six aspects, including workload reduction and efficiency improvement, as well as transformations in learning methods, calling on schools to actively embrace technological transformation to foster educational development and innovation [9]. Lu Yanfeng and Wang Caiping emphasized that information technology reshapes traditional teaching models by enhancing students' reading experiences through multimedia, increasing the interactivity and engagement of instruction, and improving students' self-directed learning abilities through abundant online resources [10]. Lu Yu et al. summarized four core capabilities of AIGC large language models, exemplified by the ChatGPT system: inspired content generation, dialogue context understanding, sequential task execution, and programming language interpretation [11].

2.3. Research on the application of AIGC in education

Zhai experimentally verified the advantages of ChatGPT in assisting researchers with writing and enriching content, applying ChatGPT to the field of science learning [12]. Omar (2023) and his team explored leveraging the powerful language model of ChatGPT to engage and educate students, sharing detailed methods of using ChatGPT as a digital tutor to cultivate students' language and communication skills [13].

Guo Shaoqing pointed out that the impact of ChatGPT's application in the field of education needs to be evaluated based on specific circumstances [14]. Meng Kai found that ChatGPT's outstanding performance remains evident in its ability to quickly search and summarize information, but semantic understanding and analysis are still areas of weakness [15].

3. Analysis of the current situation and challenges in professional education and Four-Chain Integration

3.1. Current development status of the Accounting (ACCA International Accounting) program

The Accounting (ACCA International Accounting) program at Qingdao City University serves as a crucial platform for serving the local economy and cultivating internationally-oriented, application-oriented accounting and finance professionals. The program aims to develop interdisciplinary talents proficient in International Accounting Standards, possessing bilingual capabilities, and familiar with the Chinese business environment. Its curriculum integrates ACCA global examination subjects with domestic core courses, offering featured bilingual courses such as "Performance Management (Bilingual)" and "Financial Reporting (Bilingual)", reflecting the dual requirements of international certification and local adaptation.

Regarding faculty, a team has been established with members possessing overseas backgrounds, ACCA membership qualifications, and industry experience. However, there remains room for enhancing the interdisciplinary competence in areas such as mastery of intelligent financial technologies, ACCA teaching, and industrial practices.

In terms of teaching facilities, the program is equipped with resources such as an Intelligent Accounting Laboratory and a Financial Shared Service Simulation Laboratory, providing a foundation for digitalized teaching and simulated practical training. Nevertheless, further integration and upgrading with intelligent technologies like AIGC are needed to support the simulation of complex, dynamic cross-border business scenarios and to enable adaptive learning.

3.2. Challenges in cultivating talent in the Accounting (ACCA International Accounting) program from the perspective of "Four-Chain Integration"

3.2.1. Disconnection between the education chain and the talent chain

There is a gap between the standardized international accounting knowledge output by the education chain and the industry's expectations for the talent chain, which includes the ability to quickly adapt to local intelligent financial environments and solve practical problems in cross-border operations. The curriculum insufficiently addresses cutting-edge topics such as the application of international financial technology and data analytics in cross-border business, resulting in a time lag and skill mismatch in the supply of talent.

3.2.2. Misalignment between the education chain and the industry chain

The complex and dynamic demands of the industry chain, particularly in enterprises involved in cross-border operations, are difficult to reflect in real time and effectively integrate into the relatively stable education chain (curriculum and teaching materials). Due to confidentiality and complexity, genuine cross-border financial data and intricate transaction cases from enterprises cannot be directly used for teaching. This leads to a disconnect between classroom learning scenarios and real-world industry scenarios, making it challenging for students to apply what they have learned directly.

3.2.3. Interaction barriers between the talent chain and the innovation Chain

The rapid development of the innovation chain, such as new applications of fintech in cross-border payments and intelligent risk control, requires the talent chain to possess corresponding technological innovation understanding and application capabilities. However, in the current cultivation model, students have very limited opportunities to engage with and utilize tools like AIGC for innovative practices such as financial analysis, risk modeling, and intelligent report generation. This restricts the development of their innovative thinking and problem-solving abilities.

3.2.4. Feedback gaps between the industry chain and the innovation chain

The financial innovation needs of local enterprises in response to global competition (innovation chain) lack efficient channels to be transformed into driving forces for adjusting talent cultivation standards in universities (impacting the education chain and talent chain) in a timely and systematic manner. Similarly, the innovative outcomes of university talent cultivation find it difficult to directly serve and catalyze the digital transformation of corporate finance.

4. Construction of an AIGC-empowered industry-education collaborative education model for the Accounting (ACCA International Accounting) program

4.1. Overall framework

This model is a dynamic, open, and collaborative system. Its core logic aims to cultivate high-end accounting talent (talent chain) that meets the needs of global and regional economic development. By deeply integrating internationalized curricula (education chain) with the practical demands of China's local industries (industry chain) and leveraging cutting-edge technologies such as AIGC to stimulate innovation in teaching and application (innovation chain), the model ultimately achieves a positive cycle and value multiplication among

the four chains. AIGC technology serves as a "digital adhesive" and "innovation accelerator", permeating and reconstructing every aspect of knowledge transfer, skill training, and value creation, driving the evolution of the model from traditional linear delivery to a networked and intelligent "symbiotic" system.

4.2. Pathway design for the AIGC-empowered industry-education collaborative education model

4.2.1. Restructuring of the knowledge content system

While the traditional ACCA knowledge system centers on standardized international textbooks, this model utilizes AIGC to dynamically and contextually reorganize it. Driven by AIGC, specialized tools are developed or introduced. By inputting ACCA standard cases and key parameters, AIGC integrates built-in knowledge bases of Chinese tax laws, commercial regulations, and local industrial policies to automatically generate variant cases applicable to the Chinese context. A cross-language dynamic accounting knowledge map is constructed using AIGC's natural language processing capabilities. This involves intelligently extracting, correlating, and integrating multi-source texts such as the ACCA syllabus, domestic accounting standards, relevant fintech reports, and typical corporate annual reports. The resulting visual and continuously updated knowledge map clearly demonstrates the connections between concepts in Chinese and English, their historical evolution, and links to specific industrial scenarios, thereby supporting exploratory learning for students and instructional design for teachers.

4.2.2. Restructuring pathways for teaching methods and processes

The teaching model shifts from a dual structure of "teacher-student" to a tripartite collaboration of "teacher-AIGC agent-student." A bilingual intelligent learning companion is deployed, functioning as a virtual teaching assistant proficient in the ACCA professional knowledge base and capable of seamless switching between Chinese and English. It provides students with instant Q&A support, explanations, and imitation exercises for complex professional sentence structures, suggestions for structuring academic reports, and language polishing, effectively lowering the barriers to bilingual learning and enabling personalized tutoring.

Immersive simulation teaching scenarios enhanced by AIGC are created for complex topics such as cross-border mergers and acquisitions, international tax planning, and global supply chain finance. AIGC can dynamically generate responses from negotiation counterparts, simulate changes in market conditions, and provide multi-dimensional risk data, allowing students to hone their professional judgment, decision-making analysis, and cross-cultural communication skills through highly realistic "human-machine interaction." The role of the teacher transforms into that of a scenario designer, process facilitator, and reflection promoter.

4.2.3. Reshaping pathways for practical platforms and ecosystems

A dual-track, integrated practical ecosystem is established, comprising an "on-campus international laboratory + corporate cloud-based practical platform."

Within the on-campus laboratory, existing intelligent accounting labs are integrated with AIGC-supported financial analysis tools, automated report generation modules, and business intelligence simulation systems. Students can utilize these tools to analyze synthetic yet realistic corporate datasets generated by AIGC based on publicly available data.

On the corporate cloud platform, an industry-education data bridge is established by collaborating with

partner enterprises to build a secure and compliant integrated innovation platform for industry-education data. Under strict desensitization and privacy-preserving computation safeguards, enterprises can authorize access to certain non-sensitive, generalized business data streams or patterns. On this platform, AIGC assumes two key roles: first, as a synthetic data engine, generating high-fidelity simulated data for teaching purposes; second, as an intelligent analysis collaborator, assisting students and teachers in exploring real business logic within authorized scopes and jointly developing optimization solutions, thereby achieving the preliminary translation of learning outcomes into industrial value.

Regarding the collaboration between teachers and AI assistants, enterprise mentors and on-campus instructors can jointly issue challenging projects based on real business scenarios through the platform. As an AI teaching assistant, AIGC supports students by organizing foundational materials, conducting preliminary data analysis, and performing other tasks, enabling teachers and students to focus their efforts on higher-value strategic planning and innovative thinking.

4.3. Effectiveness evaluation and dynamic optimization mechanism

To ensure the effective operation and continuous improvement of the model, a multi-level and process-oriented evaluation system is established.

In terms of student competency, new indicators are introduced, including the quality of cross-border business case analysis reports produced with AIGC assistance, evaluations of teamwork and decision-making effectiveness in virtual simulation projects, and assessments of bilingual professional communication skills.

Regarding teaching innovation, metrics are established to evaluate the usage rate and satisfaction with AIGC-generated resources, as well as classroom observation assessments of the tripartite collaborative teaching model.

For industry-education integration, measurements are applied to gauge the quantity and depth of jointly developed cases/projects by universities and enterprises, the adoption rate and evaluation of students' practical outputs by companies, and the proportion of students entering high-quality positions related to cross-border business.

In the dimension of technological empowerment, the frequency, depth, and user feedback of AIGC tool usage are tracked to assess their accuracy in problem-solving and supporting efficiency.

Concerning data collection and the optimization cycle, a combination of methods such as platform log analysis, questionnaire surveys, structured interviews, and output reviews is employed to gather data. Regular analysis of this data helps identify bottlenecks and highlights in the model's operation. Through teaching seminars, university-enterprise consultations, and technical refinements, targeted adjustments are made to course content, AIGC tools, and practical projects, thereby forming a closed loop of "design-implementation-evaluation-optimization."

5. Conclusion and outlook

This paper constructs a new AIGC-empowered education model centered on the core principles of "international leadership, digital-intelligence drive, and industry-education symbiosis." Theoretically, this model achieves a deep integration of the "Four-Chain Integration" strategy with educational practice, offering a new paradigm for the digital transformation of international accounting education. In terms of implementation pathways, it

systematically outlines three key empowerment approaches for AIGC in restructuring the knowledge system, reforming teaching methodologies, and reshaping the practical ecosystem, providing targeted solutions to address the disconnections among language proficiency, contextual application, and practical experience in professional teaching. Regarding operational mechanisms, it designs a closed-loop collaborative system with AIGC as the hub, enabling talent cultivation to dynamically respond to industrial and technological innovations.

This study is constrained by its single-case background. The generalizability of the model requires further validation, its long-term effects need continuous tracking, and the ethical and managerial issues accompanying AIGC applications warrant deeper exploration.

Looking ahead, future research can expand in several directions: the application and adaptation of this model to other international finance and accounting certification programs; the innovative integration of AIGC with technologies such as blockchain; cross-cultural comparative studies; and the development of governance frameworks for educational AI ethics. These endeavors aim to ensure that technological empowerment consistently serves the essence of education and the holistic development of individuals.

Funding

This paper is a research outcome of the 2025 Qingdao City University Education and Teaching Research Project: Research on the AIGC-Empowered Industry-Education Collaborative Education Model for Finance and Accounting Majors in Universities from the Perspective of Four-Chain Integration (Project No.: 2025004A).

Disclosure statement

The author declares no conflict of interest.

References

[1] Schneider H, 1906, Cooperative Education: A New Method of Engineering Training. The Journal of Engineering Education, 1(1): 1–5.

[2] Huang L, Zhang Q, Wang L, 2019, Research on the Transformation Path of Local Undergraduate Universities towards Application Orientation from the Perspective of Industry-Education Integration. China Higher Education Research, 2019(5): 45–50.

[3] Etzkowitz H, Leydesdorff L, 1995, The Triple Helix-University-Industry-Government Relations: A Laboratory for Knowledge-Based Economic Development. EASST Review, 14(1): 14–19.

[4] Cao D, 2015, Connotation, Motivation, and Implementation Pathways of Industry-Education Integration. Education Development Research, 35(21): 27–32.[5] Qiu H, 2016, Innovation of Industry-Education Integration Mechanism Based on Stakeholder Theory. Vocational and Technical Education, 37(34): 12–17.

[6] Wang ZH, 2019, The Logic and Pathways of Industry-Education Integration in Promoting Collaborative Development of Higher Education. Research in Higher Education of Engineering, 2019(4): 88–93.

[7] Shi GZ, Yu X, 2022, Problems and Countermeasures in the Practice of Industry-Education Integration—A Case Study of Application-Oriented Universities. Theory and Practice of Education, 42(6): 55–59.

[8] Yuan YL, 2023, Technical Principles of Large Language Models and Their Educational Applications—A Case Study of ChatGPT. Chinese Journal of Language Policy and Planning, 8(4): 76–84.

[9] Jiao JL, 2023, The Impact of ChatGPT on School Education and Corresponding Strategies. e-Education Research, 44(2): 5–11.

[10] Lu YF, 2012, Practical Exploration of Information Technology and Curriculum Integration. China Education Info, 2012(8): 23–26.

[11] Lu Y, Zhang C, Chen PH, 2023, Potential and Challenges of Artificial Intelligence Generated Content in Education—A Case Study of ChatGPT. Open Education Research, 29(3): 34–40.

[12] Zhai Y, 2023, The Application of ChatGPT in Academic Writing. Journal of Educational Technology & Society, 26(3): 45–56.

[13] Omar A, Khan M, Al-Shahri A, 2023, ChatGPT as a Digital Tutor: Enhancing Language and Communication Skills. International Journal of Interactive Multimedia and Artificial Intelligence, 12(2): 78–89.

[14] Guo SQ, 2023, Ethical Dilemmas and Governance Pathways of Educational Artificial Intelligence from the Perspective of Human-Machine Collaboration. Modern Educational Technology, 33(7): 12–18.

[15] Meng K, 2024, Research on the Application Effectiveness of ChatGPT Technology in Educational Scenarios. China Distance Education, 2024(1): 25–30.