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Research on the Accounting Major Talent Cultivation Model Integrating "Dual-Wheel Drive" and "Three-Dimensional Synergy" in the Context of Artificial Intelligence

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Abstract: The deep penetration of Artificial Intelligence (AI) technology is reshaping the competency boundaries of the accounting profession and is imposing structural reform requirements on talent cultivation in applied undergraduate accounting programs. Based on the teaching reform practice of the accounting major at the School of Finance and Economics of Guangdong University of Science and Technology, this paper proposes an accounting talent cultivation model that takes "AI technology empowerment" and the "OBE educational philosophy" as the dual-wheel drive and the "university–enterprise–AI technology platform" three-dimensional synergy as the practical carrier. The study first analyzes the four dilemmas currently faced by applied undergraduate accounting talent cultivation: the structural disconnection between the curriculum system and industry demand, inadequate collaboration mechanisms, insufficient supply of dual-qualified and dual-competent faculty, and evaluation mechanisms that lag behind competency cultivation goals. The study then constructs the overall framework and operating mechanisms of the "dual-wheel drive–three-dimensional synergy" model. Finally, the study puts forward specific implementation plans along four paths: curriculum system reconstruction, practice system construction, faculty upgrading, and evaluation mechanism safeguarding. The research shows that the model can effectively bridge the gap between talent supply and the demands of the digital-intelligent economy, providing a replicable practical reference for the digital-intelligent transformation of accounting programs in applied undergraduate institutions.

Keywords: Artificial intelligence; Dual-wheel drive; Three-dimensional synergy; Accounting major; Talent cultivation model

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1. Research background and significance

With the rapid iteration of artificial intelligence and big data technologies, the digital-intelligent economy is profoundly reshaping the accounting industry: traditional bookkeeping positions are gradually being replaced

by intelligent financial tools, and the market urgently needs composite accounting talent who possess both solid accounting expertise and artificial intelligence application capabilities [1]. Yet the current teaching reform of applied undergraduate accounting programs still faces practical shortcomings: the integration of the curriculum system with AI technology is not deep enough, and the coverage of digital-intelligent teaching content such as big data financial analysis and financial robots is limited [2]; practical teaching is largely confined to traditional accounting training, the collaborative education mechanism among universities, enterprises, and AI technology platforms is not well developed, and students lack hands-on scenarios involving real intelligent finance projects; some teachers have not fully implemented the OBE educational philosophy and their AI teaching capabilities need improvement, resulting in a mismatch between the supply of talent and the actual needs of industry positions [3]. Guangdong Province has strong momentum in digital economy development, and the accelerating financial digital transformation of regional enterprises generates robust demand for high-quality digital-intelligent accounting talent, placing urgent requirements on the reform of accounting talent cultivation in local undergraduate institutions.

Conducting this project carries significant theoretical and practical value. At the theoretical level, the project takes "AI technology empowerment + OBE educational philosophy" as the dual-wheel drive and builds a "university–enterprise–AI technology platform" three-dimensional collaborative education model, enriching the research content of applied undergraduate accounting education reform in the context of artificial intelligence and providing new theoretical ideas for digital-intelligent accounting talent cultivation [4]. At the practical level, grounded in the university's positioning for applied talent cultivation, the project reconstructs the accounting curriculum system, improves the multi-party collaborative practical teaching mechanism, and cultivates dual-qualified and dual-competent faculty, striving to resolve practical problems such as outdated course content, insufficient practical collaboration, and faculty capability gaps, thereby enhancing students' core competencies in AI financial tool application and intelligent financial decision-making and strengthening graduates' employment competitiveness [5]. Meanwhile, the research results can provide a reference for the teaching reform of accounting programs in peer institutions within the province, supply Guangdong's regional enterprises with accounting talent suited to financial digital transformation, and serve the high-quality development of the local digital economy.

2. Practical dilemmas of applied undergraduate accounting talent cultivation in the era of artificial intelligence

The impact of artificial intelligence on the accounting profession is not a single-point job substitution but a whole-chain challenge to the talent cultivation supply system [6]. Based on observations of the current teaching situation of the accounting major at Guangdong University of Science and Technology and a survey of job requirements conducted among chief financial officers and human resource managers of enterprises in Guangdong Province, applied undergraduate accounting talent cultivation currently faces four main dilemmas, as described below.

2.1. Structural disconnection between the curriculum system and industry demand

The traditional accounting curriculum system is dominated by bookkeeping-oriented courses such as Basic Accounting, Intermediate Financial Accounting, Cost Accounting, and Auditing. Its knowledge structure is complete, but its degree of alignment with job competency requirements is declining. On the one hand, too few AI-related courses are offered; some institutions only touch on "intelligent accounting" and "financial big

data" in the form of electives or special lectures, and the content remains at the level of concept introduction, making it difficult to support students' substantive understanding of technologies such as Machine Learning (ML) and Natural Language Processing (NLP) [7]. On the other hand, the links between course modules are loose, with accounting, financial management, taxation, and auditing courses each operating independently, lacking systematic integration around core competencies such as digital-intelligent decision-making and AI tool application. As a result, although students have mastered accounting rules, they find it difficult to use data tools to complete analysis and judgment in real scenarios [2].

2.2. Inadequate three-dimensional synergy mechanism in practical teaching

Practical teaching is a key link in cultivating applied talent, but the current synergy among universities, enterprises, and AI technology platforms remains superficial [8]. Most university–enterprise cooperation consists mainly of cognitive internships and post-based internships; out of concern for data security and commercial confidentiality, enterprises rarely open up real financial shared-service data and AI finance projects. AI technology platforms possess computing power, algorithms, and tool resources but lack stable channels for embedding them into courses. The dispersal of resources among the three parties leads to monotonous practical content, and the probability that students will engage in projects such as the deployment of AI financial robots, the construction of business-finance data middle platforms, and the testing of intelligent finance algorithms is relatively low, making it difficult to effectively develop digital-intelligent hands-on capabilities.

2.3. Insufficient supply of dual-qualified and dual-competent faculty

Accounting faculty generally have solid theoretical foundations, but the proportion of teachers with an AI technology background and industrial practice experience is low. Most teachers' understanding of AI technology remains at the level of tool demonstration, and they lack hands-on experience in model tuning and data modeling. At the same time, some teachers do not have a deep enough understanding and application of the OBE philosophy, and in setting course objectives, designing teaching activities, and choosing assessment methods, they still habitually center on knowledge transmission, failing to truly achieve the reverse design of courses driven by "competency outcomes." The shortcomings in faculty capabilities directly constrain the depth of curriculum reconstruction and teaching innovation.

2.4. Evaluation mechanisms lagging behind competency cultivation goals

Existing assessment is still dominated by closed-book final examinations, with question types concentrated on journal entry preparation, calculation, and theoretical discrimination, and there are no effective means of observing students' performance in AI tool application, data interpretation, and professional judgment. The "baton" effect of evaluation results directs students' energy toward memorization and test-taking, while cultivation goals such as digital-intelligent capabilities, cross-position collaboration, and professional values are relatively hollowed out, creating a divergence between evaluation and goals [3].

3. Construction of the "dual-wheel drive–three-dimensional synergy" accounting talent cultivation model

3.1. Model connotation and overall framework

The core proposition of the "dual-wheel drive–three-dimensional synergy" model is to answer two questions:

"what drives the change" and "what supports its implementation" [9]. "Dual-wheel drive" means taking AI technology empowerment as the driving force for renewing content and methods and taking the OBE educational philosophy as the driving force for restructuring objectives and logic: the former addresses the technical question of "what to teach and how to teach," while the latter addresses the directional question of "why teach and to what extent to teach." "Three-dimensional synergy" refers to universities, enterprises, and AI technology platforms forming a stable structure of shared responsibility and shared benefits around practice-based education, providing implementation scenarios and resource guarantees for the dual-wheel drive. The overall framework of the model is shown in **Figure 1**.

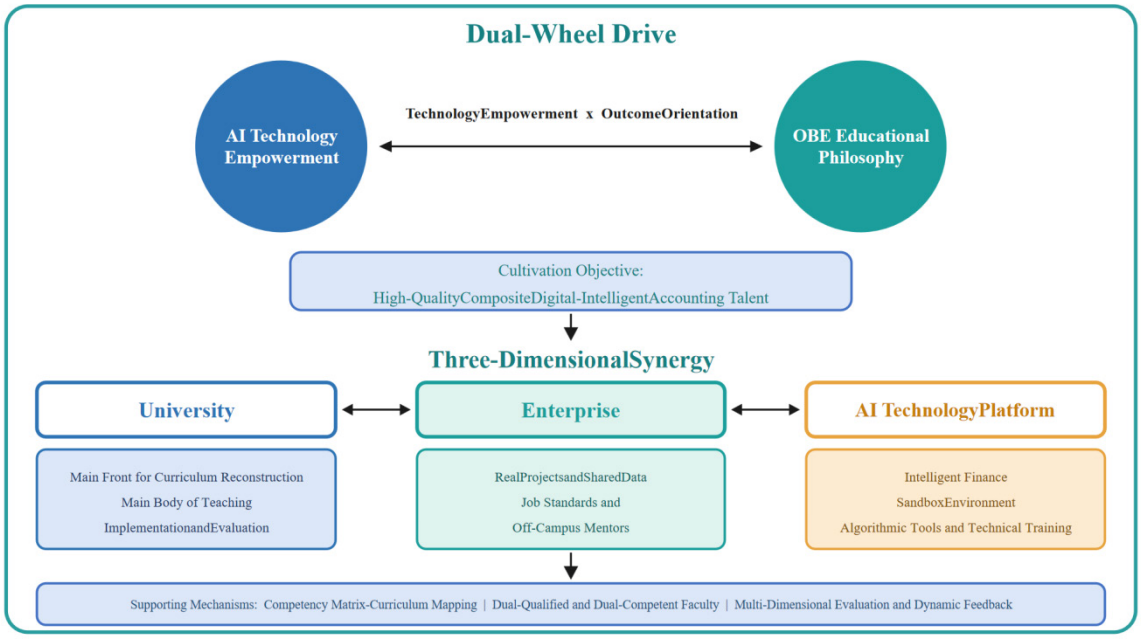


Figure 1. Overall framework of the "dual-wheel drive–three-dimensional synergy" accounting talent cultivation model

3.2. Dual-wheel drive: Coupling of AI technology empowerment and the OBE educational philosophy

AI technology empowerment is not simply a matter of adding courses but of embedding the technological core into the knowledge structure of professional courses. Specifically, technological elements such as machine learning, natural language processing, and process automation can be decomposed into three levels—"cognition, application, and development"—and integrated into course modules such as accounting, financial management, tax management, and auditing. The cognition level demonstrates the practical application of AI in budget forecasting and risk control; the application level trains students to use intelligent financial tools to complete data processing and analysis; and the development level guides students to participate in the process design and algorithm testing of financial robots. The OBE educational philosophy provides the main thread of reverse design: it first establishes cultivation objectives starting from the competency requirements of digital-intelligent economy positions, then decomposes them into observable core competency indicators, and finally maps them back onto course clusters and teaching sessions, forming a "competency matrix–curriculum mapping" system, as shown in **Table 1** [7]. The coupling relationship between the two wheels lies in the fact that AI technology empowerment provides the competency content

while the OBE philosophy provides the way of organizing that content; together they determine the form of the curriculum system and the depth of teaching.

Table 1. Core competency and curriculum mapping matrix for accounting talent in the era of the digital-intelligent economy

Core competency	Connotation of the competency	Supporting course cluster	Main assessment method
Digital-intelligent decision-making capability	Supporting business and financial decisions based on data and models	Financial Management; Management Accounting	Case-based decision report
AI tool application capability	Proficient use of tools such as intelligent financial systems and financial robots	AI and Accounting Intelligence; Application of RPA Financial Robots	Tool operation assessment
Data governance and analysis capability	Data collection, cleaning, modeling, and visualization	Python Financial Programming; Financial Big Data Analysis	Data project assignment
Professional judgment and risk awareness	Making compliant and prudent professional judgments in complex situations	Auditing; Tax Accounting; Internal Control	Scenario-based test
Communication and collaboration capability	Business-finance collaboration, cross-position communication, and teamwork	Financial Shared Services; Comprehensive Professional Training	Peer evaluation of group projects
Professional ethics and values	Integrity, objectivity, confidentiality, and accountability	Accounting Professional Ethics; Curriculum-based Values Education	Process-based evaluation

3.3. Three-dimensional synergy: Reconstruction of the responsibilities of universities, enterprises, and AI technology platforms

The key to three-dimensional synergy is to clarify "what each party gives and what each party needs." The university is the main front for curriculum reconstruction, responsible for setting competency standards, developing courses, and implementing and evaluating teaching. Enterprises provide real financial shared-service data, business processes, and job standards, and dispatch chief financial officers to serve as off-campus mentors and participate in the development of "AI + accounting" cases. AI technology platforms provide virtual simulation environments such as intelligent finance sandboxes, algorithmic tools, and technical support, and regularly conduct workshop training. Through the joint construction of an "AI Accounting Laboratory" and an "Intelligent Finance Sandbox," the three parties enable students to test the effects of algorithms in budget management and cost control in a virtual environment and then enter real enterprise projects to complete verification and iteration. The division of responsibilities and functional positioning of the three parties are shown in **Table 2**.

Table 2. Division of responsibilities in the "university–enterprise–AI technology platform" three-dimensional synergy

Collaborating party	Resource input	Main responsibilities	Mode of participation
University	Faculty, courses, teaching venues	Setting competency standards, developing courses, organizing teaching and evaluation	Main body of curriculum reconstruction
Enterprise	Real business data, job standards, industry mentors	Providing real projects, participating in case development, accepting student interns	Off-campus mentors; joint project development
AI technology platform	Algorithmic tools, sandbox environment, technical engineers	Providing the technical environment, conducting technical training, supporting algorithm testing	Joint platform development; special workshops

3.4. Supporting mechanisms: Competency matrix–curriculum mapping and dynamic iteration

The effective operation of the model depends on two supporting mechanisms. The first is the competency matrix–curriculum mapping mechanism, which establishes many-to-many mapping relationships between core competencies—digital-intelligent decision-making, AI tool application, data governance, professional judgment, communication and collaboration, and professional ethics—and course clusters, so that each competency has a clear curriculum carrier and assessment anchor point, and competency cultivation does not remain at the conceptual level. The second is the dynamic iteration mechanism, as shown in **Figure 2**, which forms a closed loop of "survey of job competency requirements → reconstruction of the competency matrix and curriculum mapping → collaborative implementation by universities, enterprises, and platforms → multi-dimensional evaluation and effect feedback." The evaluation results are fed back into the next round of competency requirement analysis, thereby ensuring that curriculum content keeps pace with technological evolution and industry demand and forming a sustainable capacity for self-correction [6].

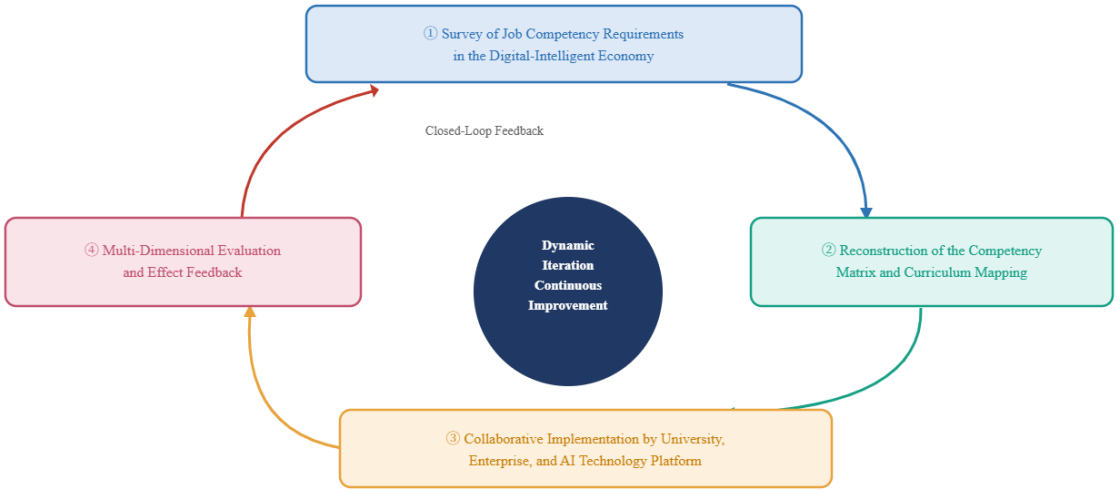


Figure 2. Operating mechanism of the "dual-wheel drive-three-dimensional synergy" talent cultivation mode

4. Specific implementation paths of the "dual-wheel drive–three-dimensional synergy" model

The implementation of the model requires translating the framework into executable teaching behaviors. In light of the school's teaching resource conditions and the project implementation plan, the specific implementation paths can be summarized into four main lines: curriculum system reconstruction, practice system construction, faculty upgrading, and evaluation mechanism safeguarding.

4.1. Curriculum system reconstruction path

Curriculum system reconstruction proceeds in three steps: gradient building, deep integration, and reverse mapping. First, frontier courses should be added—AI and Accounting Intelligence, Python Financial

Programming, Design of Intelligent Accounting Systems, and others—to form a curriculum gradient of "technical general education—professional integration—integrated development": the technical general education tier introduces the fundamental principles of Artificial Intelligence (AI) and financial digitalization awareness to all students [4]; the professional integration tier embeds intelligent tool application into the core directions of the accounting major; and the integrated development tier trains students with spare capacity in system design and algorithm development. Second, course barriers should be broken down, deeply integrating AI technology into core course modules such as accounting, financial management, tax management, and auditing, and demonstrating through case teaching the practical application of AI in budget forecasting, risk control, and abnormal transaction identification, so that professional knowledge and technical tools are taught in step. Third, a "competency matrix–curriculum mapping" system should be established under the Outcomes-Based Education (OBE) philosophy, reverse-designing course clusters and teaching sessions around specific competencies such as "development and maintenance of financial robots" and "application of business-finance data middle platforms," and an annual dynamic updating mechanism for course content should be established to ensure that courses keep pace with AI technology evolution and industry job requirements.

4.2. Practical teaching system construction path

A three-tier progressive practical system of "basic training—virtual simulation—real projects" should be built, enabling a competency leap from single-skill training to real business processing [5]. First, the basic training tier relies on existing financial software and training platforms to train students in the basic skills of accounting processing, such as voucher handling, bookkeeping, and statement preparation, and strengthens the foundational application of financial robots through hands-on training with Robotic Process Automation (RPA) tools. Next, the virtual simulation tier works with AI technology platforms to jointly build an "intelligent finance sandbox," completing algorithm testing and process orchestration in a virtual environment so that students can trial, verify, and optimize intelligent finance solutions under controllable conditions. Finally, the real project tier works with enterprises to build an "AI Accounting Laboratory," introducing real business data from a financial shared services platform (FSS) and organizing students to participate in project teams in real projects such as the deployment of AI financial robots, the construction of business-finance data middle platforms, and the testing of intelligent finance algorithms, completing requirement analysis, solution design, and effect verification. Enterprises dispatch chief financial officers to serve as off-campus mentors, engineers from technology platforms regularly hold special workshops on "Practical Application of Large Models in Financial Scenarios," and a university–enterprise "dual-mentor" system guides the projects, keeping practical teaching in step with the industrial frontier.

4.3. Dual-qualified and dual-competent faculty upgrading path

A three-track cultivation approach of "internal training—external recruitment—enterprise practice" should be implemented to form a dual-qualified and dual-competent faculty with a sound structure and complementary capabilities [10]. First, in terms of internal training, a mechanism for certifying in-house teachers in AI technology should be established, requiring teachers to complete no fewer than 30 credit hours of advanced study per academic year in courses such as Machine Learning (ML) and financial big data analysis, and to obtain an "AI Accounting Teaching Qualification" upon passing the assessment; the certification results

should be linked to post-performance assessment and professional title review. Next, in terms of external recruitment, the focus should be on recruiting composite talent who possess both the Certified Public Accountant (CPA) qualification and an AI technology background; enterprise finance leaders and platform engineers should also be engaged as industry professors, forming an "AI + accounting" teaching innovation team that undertakes frontier course development and project-based teaching. Finally, in terms of enterprise practice, faculty practice bases should be jointly built with AI technology enterprises, with teachers entering enterprises each semester to participate in the research and development of AI finance projects and translating real project cases into teaching resources, forming a virtuous cycle in which practice feeds back into teaching, while a mechanism for continuous tracking and retraining of teachers' technical capabilities should be established.

4.4. Evaluation mechanism and quality assurance path

A multi-dimensional evaluation system covering "knowledge—competency—values" should be established, combining process-based evaluation with project outcome evaluation and incorporating AI tool operation, data modeling, and the writing of financial analysis reports into the scope of assessment, thereby replacing the single structure in which "one examination decides the grade." Specifically, students should be required to master the operational skills of no fewer than three AI financial tools and to be able to independently complete an AI-based financial analysis report; at the course level, a combined assessment of "process records + project defense + scenario-based test" should be adopted, focusing on students' data processing, professional conduct, and compliance awareness in real business scenarios. At the same time, enterprise mentors and technical engineers should be invited to participate in course evaluation, and employers' satisfaction with graduates' digital-intelligent capabilities should be used as an external quality indicator. The school should establish an "evaluation—feedback—improvement" closed loop, regularly feeding evaluation results back into the revision of the competency matrix, curriculum mapping, and teaching sessions, supported by course quality monitoring, teaching supervision, and graduate follow-up surveys, so that evaluation results truly serve the achievement of competency cultivation goals.

5. Conclusion

Artificial intelligence is not an external variable of accounting education but an endogenous variable that reshapes its knowledge structure and competency standards. The "dual-wheel drive–three-dimensional synergy" accounting talent cultivation model proposed in this paper attempts to clarify the direction of reform at the conceptual level through the dual-wheel coupling of AI technology empowerment and the OBE educational philosophy, to reconstruct courses and teaching at the system level through the competency matrix–curriculum mapping, to guarantee the implementation of practice at the implementation level through the three-dimensional synergy of universities, enterprises, and AI technology platforms, and to keep pace with technological evolution and industrial demand through a dynamic iteration mechanism.

In terms of reform prospects, the significance of this model is reflected at three levels: for students, digital-intelligent hands-on capabilities and employment competitiveness are substantially improved; for the major, it can accumulate "AI + accounting" premium courses and teaching cases and build a replicable and promotable cultivation feature; and for the region, it serves the high-quality development of Guangdong Province's digital-intelligent economy by supplying the industry with accounting talent capable of AI

application and by providing consulting on the digital-intelligent transformation of finance.

It should be pointed out that the implementation of the model still faces realistic constraints such as the boundary of enterprise data openness, the sustainability of technology platform cooperation, and the growth cycle of teachers' technical capabilities. Subsequent research will, based on the effect data of the first round of implementation, further test and revise the weight structure of the competency matrix, the governance design of the synergy mechanism, and the measurability of evaluation indicators, in the hope of forming a more robust and more widely applicable applied undergraduate accounting talent cultivation program.

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Disclosure statement

The authors declare no conflict of interest.

References

[1] Pan AL, Song GR, 2026, Accounting + Software Engineering + Big Data: A Discussion of the Interdisciplinary Composite Talent Cultivation Model for the Accounting Major. New Liberal Arts Theory and Practice, 2026(2): 79–87 + 127.

[2] Mei F, 2026, Research on the Talent Cultivation Model of Applied Undergraduate Accounting Programs in the Era of the Digital-Intelligent Economy. China Agricultural Accounting, 36(1): 99–101.

[3] Liu HL, 2026, Jointly Exploring the Path of Accounting Talent Cultivation Reform: A Review of the Symposium on Reform and Innovation in Undergraduate Accounting Talent Cultivation in the Era of Artificial Intelligence. China Accounting News, June 12, 2026, 10.

[4] Li M, Li BX, Huang R, 2026, Research on the "I-Shaped" Talent Cultivation Model for Accounting Programs in Science and Engineering Universities Against the Background of the Digital Economy. Shaanxi Education (Higher Education), 2026(5): 64–66.

[5] Jia M, 2025, An Analysis of the Innovation of the Talent Cultivation Model for Accounting Programs in Applied Undergraduate Universities in the Digital-Intelligent Era. Knowledge Economy, 2025(32): 174–177.

[6] Wang Y, 2025, Development Trends and Transformation Paths of the Accounting Major in the Era of Artificial Intelligence. Digital Communication World, 2025(7): 168–170.

[7] Zhu ZY, 2024, Research on the Transformation and Upgrading of Applied Undergraduate Accounting Programs in the Digital-Intelligent Era: A Case Study of AHSL College. East China Science and Technology, 2024(6): 95–97.

[8] Xu DR, Liu HJ, 2023, Exploring the Path of the Talent Cultivation Model for Accounting Programs in Applied Universities from the Perspective of New Business Studies: A Case Study of Anhui Xinhua University. Journal of Jilin Agricultural Science and Technology University, 32(5): 71–74 + 101.

[9] Wang DN, 2023, Research on the Talent Cultivation Model for Accounting Programs in Private Undergraduate

Universities Against the Digital-Intelligent Background. Chengcai, 2023(19): 108–109.

[10] Zhang XH, Li RR, 2023, Research on the “Four-Wheel Drive” Talent Cultivation Model for the Accounting Major. Industrial Innovation Research, 2023(13): 187–189.

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