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Integrating the “Four New Elements” into the Course Construction and Application of “Robotic Process Automation Application and Development”

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Abstract: This case study is based on the course “Robotic Process Automation Application and Development”, which integrates new technologies, new processes, new norms, and new standards (collectively referred to as the "Four New Elements") to achieve innovation and optimization in the teaching process. The course constructs teaching projects based on actual enterprise financial work requirements and workflows, enabling students to master RPA technology while addressing practical problems in alignment with real-world business scenarios.

Keywords: RPA; Course construction; Accounting; Application.

1. Introduction

With the rapid development of artificial intelligence technology, accounting functions are undergoing a transformation from traditional bookkeeping to management accounting and data analysis. In the era of big data, enterprises are experiencing substantial growth in transaction volumes and data processing requirements. Many fundamental and repetitive accounting tasks are gradually being replaced by highly efficient and accurate RPA (Robotic Process Automation) financial robots. This transformation necessitates that financial education adapt to new technological changes and cultivate financial professionals capable of thriving in the digital age.

Robotic Process Automation, known as RPA, have brought revolutionary changes to financial work. By simulating human user operations such as mouse clicks, keyboard inputs, and data copy-paste actions, they automate the execution of a series of predefined rule-based tasks. The application of this technology has led to significant improvements in the efficiency, accuracy, and cost control of financial operations.

The course “Robotic Process Automation Application and Development” serves as a bridge connecting traditional financial theory with cutting-edge technological practices, playing a pivotal role in advancing financial digital transformation. Traditional teaching models struggle to meet the new demands of the industry for accounting talent, making reforms in teaching content and methods imperative. By integrating new technologies, new processes, new norms, and new standards, this course achieves innovation and optimization in the teaching process, better stimulating students' learning interest and enhancing their practical operational skills. This enables students to effectively apply RPA technology in real-world work environments.

The integration of the "Four New Elements" is a critical step in cultivating high-quality accounting professionals and driving innovation in the accounting industry. It not only provides students with essential technical knowledge and practical skills but also fosters their ability to adapt to changes in the accounting profession, thereby enhancing their employability.

2. Primary Objectives

This course, guided by the educational philosophy of the "Four New Elements" (new technologies, new processes, new norms, and new standards), establishes a four-in-one teaching objective system encompassing "technology empowerment, normative guidance, practice-driven learning, and interdisciplinary integration." Through systematic curriculum design, it aims to cultivate interdisciplinary financial professionals equipped with RPA technical application capabilities, industry foresight, practical innovation skills, and cross-disciplinary thinking. The specific objectives are manifested in the following four dimensions.

The first dimension focuses on building technical competencies, emphasizing the development of students' core competitive capabilities in mastering the RPA technology system. The curriculum requires students to deeply understand the underlying logic of robotic process automation, including key technical principles such as process modeling, rule engines, and API interface invocation. Students must demonstrate proficiency in using mainstream development platforms like UiPath and Automation Anywhere to complete automation designs for financial scenarios. At the technical depth level, the course emphasizes the synergistic application of Python programming and RPA, expanding the intelligent boundaries of RPA through technologies such as Pandas data processing and OCR image recognition. At the technical breadth level, AI-assisted programming tools are introduced, leveraging large language models to achieve code generation and optimization, thereby forming a new "human-machine collaborative" development model. Ultimately, students will acquire comprehensive technical implementation capabilities spanning from requirements analysis and process design to deployment and operations, meeting corporate demands for "developer-oriented financial talent".

The second dimension emphasizes deep integration of industry and education, constructing a dynamic knowledge system that links "classroom-practice-workplace". To align with vocational education's requirements for integrating "post-curriculum-competition-certification", a "direct enterprise-to-classroom" linkage mechanism is established. At the new technology level, teaching modules are developed

around authentic enterprise application scenarios. For instance, the "Intelligent Expense Reimbursement" project incorporates IPA technology, enabling students to master the integrated application of RPA and AI through practical training tasks such as OCR-based invoice recognition and NLP-driven reimbursement rule interpretation. At the new process level, Deloitte's "Automation Factory" methodology is translated into tiered practical training projects. Standardized processes like "invoice verification-data entry-audit comparison" help students develop engineering implementation thinking.

The curriculum emphasizes transforming industry norms into teaching standards. By incorporating RPA projects from enterprises such as Aisino, a "dual-mentor-driven" teaching mechanism is established where enterprise mentors and academic instructors collaborate. Enterprise mentors conduct project reviews through live streaming or on-site guidance, while students regularly visit RPA implementation sites to conduct "process health inspections," thereby internalizing industry standards as professional instincts. To maintain synchronization between teaching content and industrial technology, enterprises and institutions jointly develop modular teaching materials based on real enterprise cases, with practical training cases updated each semester according to technological advancements.

The third dimension strengthens professional skill cultivation, building a "tiered, practice-oriented" practical teaching system. Aligned with vocational education's emphasis on "hands-on practice and strong application," the course designs a three-level practical training system: "basic operations-business process transformation-innovative applications." At the foundational stage, using platforms like Rongzhi RPA, students conduct "task-based" training for high-frequency scenarios such as intelligent document recognition and bank reconciliation, mastering basic operational norms through drag-and-drop scripting tools. At the intermediate stage, real account sets from local SMEs (e.g., a manufacturing enterprise's VAT declaration case) are introduced. Complex business processes are decomposed into eight standardized task modules (e.g., "data collection-formula calculation-report generation"), guiding students through the complete implementation process from manual operations to automation transformation. At the advanced stage, aligned with the 1+X Intelligent Taxation and Finance Certificate requirements, students develop automated solutions with decision-support functions for management scenarios like "intelligent travel expense control" and "accounts receivable risk warning" under the joint guidance of academic instructors and enterprise mentors.

The course innovates a "dual-cycle industry-academia collaboration model": On one hand, student-developed solutions like "intelligent reimbursement robots" and "bank-enterprise auto-reconciliation systems" are deployed to partner enterprises for trial use, with iterative optimizations based on feedback from financial professionals. On the other hand, real enterprise challenges (e.g., optimizing a supermarket's supply chain reconciliation process) are incorporated into skill competition topics, motivating learning through "curriculum-competition integration." Additionally, supporting modular teaching materials such as the "RPA Operation and Maintenance Troubleshooting Manual" and "Enterprise Automation Requirement Research Guide" are developed to help students transition from guided practice to independent implementation.

The fourth dimension emphasizes cultivating interdisciplinary thinking, shaping new competencies for financial professionals in the digital era. The course breaks disciplinary barriers to construct a "finance+IT+data" composite knowledge structure. In technical integration, students learn to connect heterogeneous systems like ERP and CRM through API interfaces, building end-to-end automation ecosystems. In data analytics, Power BI visualization tools are integrated to develop capabilities for extracting business insights from automated data collection. In systems thinking, comprehensive cases like supply chain finance and intelligent risk control train students to strategically plan enterprise digital transformation paths. Furthermore, leveraging the industry-academia co-built "Financial Automation Innovation Laboratory," cross-disciplinary collaborative projects immerse students in authentic work scenarios, enhancing soft skills such as communication and coordination, and innovative decision-making, ultimately forming cross-domain competencies of "business understanding, technical proficiency, and managerial acumen."

Through systematic implementation of these objectives, the course strives to establish a talent cultivation paradigm characterized by "solid technical foundations, cutting-edge industry awareness, outstanding practical capabilities, and active interdisciplinary thinking." It not only meets current industry demands for RPA development and implementation talent but, more importantly, cultivates innovators with strategic vision capable of leading financial digital transformation, providing sustainable talent support for the intelligent upgrading of the accounting industry. This objective positioning reflects vocational education's adaptability to industrial upgrading while demonstrating the innovation of reshaping financial talent development systems in the context of the digital economy.

3. The Embodiment of “Four New Elements Integration” in the “RPA Application and Development” Course

3.1. Integration of New Technologies in Teaching

3.1.1. RPA Technology Empowering Financial Work

With the rapid development of artificial intelligence technology, Robotic Process Automation (RPA) is fundamentally reshaping the underlying logic of financial operations. This course establishes RPA technology as the core of its teaching system, utilizing automation technologies that simulate human operations to achieve intelligent processing of rule-based tasks in financial workflows. The essence of RPA technology lies in software robots' capabilities to capture, process, and transfer structured data. Its technical architecture comprises three main modules: process designer, controller, and executor, enabling seamless integration with heterogeneous platforms such as ERP, OA, and tax systems. In the context of financial digital transformation, RPA is not merely a technological tool but has become a critical element in reconstructing financial organizational capabilities, with its application depth extending from basic operational levels to strategic decision support layers.

First, RPA technology can significantly enhance financial work efficiency. Traditional financial operations often

involve numerous repetitive tasks such as data entry, verification, and report generation, which are not only time-consuming and labor-intensive but also prone to errors. RPA technology intelligently automates these processes, reducing manual intervention, shortening processing time, and improving overall efficiency.

For example, consider the month-end closing process at a manufacturing enterprise. Under traditional methods, financial personnel must export sales data from the Yonyou U8+ system, extract approval information from DingTalk workflows, and obtain input invoice details from tax platforms, followed by data matching and consolidation in Excel. This entire process typically takes approximately 72 hours and is susceptible to human errors. By deploying RPA robots, the system can automatically log into various platforms to retrieve data, use VLOOKUP functions to achieve multi-source data matching, and ultimately generate standardized financial reports, compressing the closing cycle to within 8 hours. According to data from the course's industry-academia cooperation projects, across 12 high-frequency scenarios such as expense reimbursement, bank reconciliation, and tax filing, RPA technology reduces process time by an average of 82%, demonstrating a remarkable improvement in financial work efficiency.

Second, RPA technology substantially improves the accuracy of financial operations. Since RPA robots strictly execute tasks according to predefined rules, they minimize human interference, thereby reducing error rates. When handling complex financial data, RPA ensures data consistency and accuracy, enhancing the reliability of financial reports.

The improvement in accuracy stems from RPA's strict adherence to preset rules. In accounts receivable management practices, traditional manual reconciliation often encounters issues such as customer code mismatches and payment term calculation deviations, with an average error rate of 3.2%. The course's "Intelligent Reconciliation Robot" development project requires students to implement a dual-verification mechanism: first, using OCR technology to digitize information from paper statements; second, applying fuzzy matching algorithms to handle anomalies like abbreviated customer names or typographical errors; and finally, invoking the Yonyou U8+ API interface to complete system data comparison. Tests conducted with a local trading enterprise showed that this solution increased reconciliation accuracy to 99.8% while automatically generating aging analysis reports, helping the enterprise reduce its collection cycle by 15 days. Such precision is particularly crucial in regulatory compliance. For instance, in audit practices, the developed "Walkthrough Test Robot" can automatically trace approval trails across 2,000+ procurement processes, ensuring compliance with procedural requirements while achieving a 40-fold efficiency improvement over manual checks.

Finally, RPA technology contributes to reducing financial operational costs. By automating highly repetitive tasks, RPA decreases reliance on human resources, directly lowering labor costs. More notably, it reduces hidden costs: RPA's 24/7 operational capability significantly cuts overtime expenses during peak periods like month-end or quarter-end closures while mitigating risks of tax penalties due to human errors. The course innovatively incorporates cost-benefit analysis into its evaluation system, requiring students to use net present value methods to calculate the return on investment for automation solutions. For example, a student team's "Freight Settlement Robot" designed for a logistics enterprise demonstrated that an initial development cost of 150,000 RMB could be recouped within nine months through efficiency gains, with a three-year ROI exceeding 300%.

In summary, as a core driver of financial digital transformation, RPA technology offers advantages in improving efficiency, enhancing accuracy, and optimizing costs, thereby reshaping the underlying logic and practical paradigms of modern financial work. RPA liberates financial professionals from repetitive tasks, allowing them to focus on higher-value analytical and decision-making work. This technological empowerment not only manifests in operational efficiency improvements but also advances corporate financial governance systems through data standardization and process visualization. Consequently, vocational education systems must establish dynamically updated teaching mechanisms to ensure talent cultivation keeps pace with technological innovation.

3.1.2. Python Language Enhancing RPA Application Value

In the construction of the “RPA Application and Development” course system, the deep integration of Python has become one of the key drivers for breaking through the application boundaries of RPA technology. As a programming language that combines simplicity with functionality, Python not only compensates for the limitations of traditional RPA tools in handling complex logic but also promotes the evolution of financial automation toward intelligence and integration through its powerful ecosystem. This technological integration is manifested in teaching as a dual-track model of "low-code development + Python extension": students first complete basic process construction through RPA and then use Python to achieve advanced functions such as data processing, system integration, and intelligent decision-making, ultimately forming comprehensive automation solutions.

First, Python enhances the value of RPA in data processing and analysis. A case from industry-academia cooperation shows that a student team needed to process an average of 100,000 daily transaction records from heterogeneous data sources such as ERP systems, bank statements, and logistics platforms. By writing Python scripts and utilizing the Pandas library for cleaning and aligning multi-source data—particularly addressing issues like inconsistent order number formats and varying currency units—the team developed an intelligent correction module based on regular expressions. Additionally, by combining NumPy for multi-dimensional array operations, the system automatically identified abnormal transactions with payment term deviations exceeding three days, improving the accuracy of manual reconciliation. RPA was also innovatively integrated with the Matplotlib visualization library to develop dynamic risk heat maps, enabling a partner enterprise to shift from monthly post-facto checks to real-time alerts for overdue accounts, thereby enhancing the timeliness of management decisions.

Second, Python facilitates the writing of RPA automation scripts. Python's concise syntax makes it an ideal choice for developing automation scripts. RPA developers can use Python to write complex business logic and automation processes, achieving more flexible and intelligent automated operations. In vocational college RPA courses, the integration of Python and RPA focuses on addressing medium- to low-complexity scenarios commonly encountered in enterprises, achieving teaching feasibility through technical

dimensionality reduction. For example, in the "Intelligent Expense Reimbursement" practical training project, the course design aligns with students' cognitive levels, guiding them to extend RPA's basic functionalities using Python: students first automate the retrieval of DingTalk approval flows through RPA and then invoke Python's Pandas library to process Excel form data, achieving intelligent classification of expense types. To accommodate the weak technical foundation of vocational students, the teaching team developed pre-built function libraries, such as encapsulated invoice verification API modules, where students only need to modify enterprise tax ID parameters to quickly interface with the National Tax Administration's verification platform.

The course innovatively adopts a three-stage teaching methodology of "problem decomposition—module encapsulation—process assembly" to reduce the difficulty of implementing complex business logic. In the "Bank Reconciliation Automation" module, traditional manual reconciliation requires handling common issues such as abbreviated account names and decimal point misalignments. During instruction, students are guided to decompose complex tasks into independently developable Python functional modules: using the FuzzyWuzzy library for fuzzy matching of customer names, the Decimal type to ensure calculation precision for amounts, and finally integrating these into RPA workflows to automatically generate discrepancy reports. In a test with a local trading enterprise, one project successfully processed daily reconciliation tasks containing over 2,000 records, reducing the original four-hour manual operation to 15 minutes while identifying three discrepancies missed by manual reconciliation. This "building-block" development model enables students with zero programming background to master basic script development skills within 64 class hours.

Third, Python empowers RPA systems with integration and extensibility capabilities. Python boasts rich third-party libraries and interfaces, enabling integration with diverse applications and systems. In teaching practice, cultivating system integration capabilities is a critical link to addressing real enterprise needs. Traditional RPA tools are often constrained by closed architectures, struggling to handle complex scenarios involving multiple interconnected systems in modern enterprises. Python's open ecosystem equips RPA robots with robust system interfacing capabilities.

For instance, many enterprises still rely on manual data extraction from web pages or Excel for system entry, which is inefficient and error-prone. Python's requests and BeautifulSoup libraries enable students to quickly write crawlers for automated web data scraping. Additionally, the selenium library simulates browser operations, automating form filling and button clicking, making it suitable for interactive web automation tasks.

Moreover, enterprise data is often stored in databases like MySQL and SQLite. Python supports various database connections and operations, helping RPA robots better manage and process database-stored data. Libraries like pymysql and sqlite3 allow students to connect to databases via code and perform CRUD operations. For example, students can write automation scripts to regularly export sales data from databases and email reports to relevant personnel, achieving unattended data monitoring.

Furthermore, many enterprises use multiple standalone systems (e.g., ERP, CRM, financial software) without automated data synchronization. Python can serve as a "bridge," enabling cross-system data exchange via APIs or file transfers. For instance, students can develop Python programs to periodically read order data from ERP systems, process it, and write it into financial systems, eliminating manual duplicate entry and enhancing RPA's cross-system integration capabilities.

In summary, Python significantly elevates RPA's application value through its powerful data processing capabilities, flexible scripting, and extensive integration potential, enabling it to adapt flexibly to complex and dynamic financial work scenarios.

3.1.3. AI Technology-Assisted Programming Design

In teaching, we observed that big data and accounting students often exhibit low development efficiency in Python programming and RPA workflow development due to limited programming experience. To address this, we introduced AI large model technology into teaching to improve students' coding efficiency and development capabilities.

AI large model technology leverages advanced natural language processing (NLP) and machine learning (ML) capabilities to understand student requirements and provide intelligent programming assistance. These technologies not only optimize teaching content but also significantly enhance the efficiency and quality of students' programming learning.

First, AI large models can automate code generation, reducing students' coding burden. Students need only provide simple descriptions, and the AI model generates corresponding code snippets, which students then refine and modify. This saves time and improves learning efficiency, particularly benefiting beginners by preventing disengagement due to programming barriers.

Second, the role of AI large models in code optimization and logic improvement cannot be overlooked. They can identify and flag potential errors and non-standard practices in code, offering improvement suggestions to enhance accuracy and readability. This not only improves the quality of student-developed code but also increases instructors' guidance efficiency, enabling them to address more students' queries and refinement needs. Simultaneously, AI large models enhance code readability and comprehensibility through intelligent documentation and comment generation, helping students understand and apply code more quickly while improving their communication and collaboration skills in team settings.

Lastly, AI large model applications extend beyond code generation, providing support across all stages of software development—from requirements analysis and system design to coding and testing. This comprehensive intelligent support makes the software development process more efficient and personalized, offering students a learning platform that closely mirrors real-world work environments.

In conclusion, AI large model technology's assistance in Python and RPA programming design in teaching not only improves student learning efficiency and lowers the barrier to programming education but also enhances project quality and optimizes the teaching experience, representing a revolutionary advancement in pedagogical reform.

3.2. Integration of New Norms and Standards into Teaching

Through industry-academia collaboration and the integration of production and education, we have incorporated new norms and standards into the “RPA Application and Development” course. By engaging in in-

depth discussions with financial personnel and technical experts from partner enterprises such as Aisino Information Technology Co., Ltd., we identified key aspects of financial work that could be optimized using RPA technology. Together with enterprise mentors, we systematically developed teaching content that aligns closely with actual business operations. This collaboration not only helps students understand the practical applications of RPA technology but also ensures that the teaching content remains consistent with the latest industry norms and standards.

Our findings indicate that RPA technology can comprehensively enhance the efficiency of financial personnel across various processes—from procurement to production, and from internal operations such as reimbursement and payroll management to external financial reporting and tax filing. For instance, in the tax declaration process, RPA technology can be subdivided into three sub-processes: data collection and processing, data submission, and accounting treatment. The automation of these processes not only improves efficiency but also reduces human errors. These real-world application cases are directly incorporated into the curriculum, enabling students to acquire cutting-edge industry knowledge and skills.

In teaching practice, we encourage students to translate theoretical knowledge into practical applications. Through industry-academia collaboration, students' RPA projects are implemented and tested in the actual financial workflows of partner enterprises. During the real-world deployment of student-developed RPA solutions, unexpected challenges may arise. For example, an automated invoice-processing RPA robot might encounter difficulties when handling non-standard invoice formats. Feedback from enterprise mentors prompts student teams to conduct root cause analysis, refine algorithms, and enhance the robot's processing capabilities to adapt to broader application scenarios. This process not only hones students' problem-solving skills but also deepens their understanding of RPA technology.

Additionally, under faculty guidance, students collaborate on horizontal research projects and develop RPA patents. The outcomes of these projects not only elevate students' professional technical competencies but also strengthen their practical teamwork abilities and their capacity to apply academic theory to real-world problem-solving.

In summary, through industry-academia collaboration and hands-on project development, students' RPA application capabilities are brought closer to industry's new norms and standards.

3.3. Integration of New Processes into Teaching

Based on enterprise research and recommendations from industry mentors, we have restructured traditional course content into modular formats grounded in real business processes and scenarios. These are decomposed into key operational segments such as procurement, production, sales, and financial reporting. By constructing eight project-based work scenarios, we have designed targeted and practical teaching tasks. This modular teaching approach enables students to systematically comprehend and master the application of financial robots across different business processes. Consequently, it enhances students' practical operational skills, allowing them to combine RPA technology with actual business practices to solve real-world problems.

4. Implementation Outcomes and Effectiveness of “Four New Elements Integration in RPA Teaching”

The "RPA Application and Development" course has achieved remarkable results in vocational education reform through systematic integration of "new technologies, new processes, new norms, and new standards," establishing a demonstrative teaching model. The implementation effectiveness will be elaborated from four dimensions—curriculum content, practical competencies, teaching quality, and educational models—in alignment with the realities of vocational education.

4.1. Intelligent Integration and Digital Drive

The organic integration of the "Four New Elements" concept with the “RPA Application and Development” course has injected innovative vitality into the teaching reform of accounting-related majors in vocational colleges. Against the backdrop of financial digital transformation, the teaching team systematically incorporated new technologies, processes, norms, and standards into the entire teaching process, forming a multidimensional reform path characterized by "dynamic curriculum updates, progressive practical competency development, intelligent teaching methods, and collaborative education model innovation." By aligning with the core competency requirements of intelligent finance positions, the course reconstructed modules covering cutting-edge technologies such as RPA process automation, Python programming applications, and AI-assisted development, shifting traditional accounting education from singular bookkeeping skill cultivation to comprehensive intelligent technology application capabilities.

The development of teaching resources emphasized industry-education integration, introducing the latest industry technical standards such as financial robot development norms and intelligent financial system operation standards, while creating supporting practical training manuals and project case libraries to ensure synchronization with industry advancements. The curriculum became more closely aligned with real-world work requirements, enhancing its practicality and forward-looking nature.

Through these reforms, students gained access to knowledge and skills at the forefront of industry transformation, including RPA technology, Python programming, and AI-assisted programming. This cultivated their interdisciplinary technology integration capabilities, intelligent financial scenario application abilities, and digital problem-solving skills. In RPA process development practice, students mastered the integration of financial business logic and automation technology by designing typical tasks such as automatic invoice verification and cross-system data extraction. In the Python data analysis module, students utilized tools like Pandas and NumPy to complete practical projects such as sales forecasting modeling and cost fluctuation analysis, enhancing their data-driven decision-making capabilities. The use of AI-assisted programming tools strengthened their algorithm optimization and code debugging skills.

4.2. Practice-Driven Learning and Skill Advancement

During teaching implementation, the course established a "learning-by-doing" practical teaching system. Through

industry-academia co-built financial robot development training platforms, students completed end-to-end training from foundational understanding to project implementation. In the RPA technology application module, students systematically mastered core skills such as financial data collection, process automation design, and system exception handling by simulating real enterprise business scenarios. Project-based teaching significantly improved students' technical application and innovative development capabilities. In typical work scenarios like automated expense reimbursement and intelligent tax filing, solutions developed by student teams demonstrated practical value. More importantly, this real-world task-based training model effectively bridged the gap between theoretical teaching and practical application, enabling students to accumulate project development experience during their studies and strengthening their professional skills and employability competitiveness.

4.3. Smart Classrooms with Dual Improvement in Quality and Efficiency

The deep application of artificial intelligence technology promoted the transformation and upgrading of teaching models. The course innovatively introduced AI-assisted programming systems, improving students' programming learning and debugging efficiency through functional modules such as intelligent code error correction and algorithm optimization suggestions, while constructing a personalized learning support system. Leveraging the data analysis capabilities of the teaching platform, instructors could accurately identify students' weaknesses in areas like process design and code writing, enabling targeted guidance. For example, in Python data cleaning tasks, the system could analyze students' code logic in real time and automatically generate visual error heatmaps to help instructors pinpoint common issues. This intelligent teaching approach not only enhanced learning efficiency but also cultivated students' digital thinking through human-machine collaborative interaction. In periodic assessments, students' financial robot development solutions demonstrated strong logical rigor and technological innovation, with some outstanding works showing potential for deployment in real enterprise systems.

4.4. Collaborative Innovation and Model Reconstruction

The reform practices of the “RPA Application and Development” course demonstrate that integrating the "Four New Elements" requires not only technological updates but also systematic reconstruction of educational elements through institutional innovation. By connecting with industry trends, deepening industry-academia collaboration, and innovating teaching models, vocational colleges can effectively address the disconnection between traditional teaching and industry needs. The RPA course construction was guided by industrial technological changes, maintaining curriculum advancement through continuous content updates; it used real projects as carriers to enhance practical teaching quality through deep industry-education integration; and it relied on intelligent technologies to improve educational outcomes through teaching model innovation. The course reform provided a replicable implementation path for the digital transformation of finance-related majors and opened new avenues for cultivating interdisciplinary accounting technical talents in vocational colleges under new circumstances.

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