Research on the Teaching Reform Path of Accounting and Finance Major Courses under Artificial Intelligence

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Abstract. In the era of artificial intelligence and big data, significant changes have been brought to the teaching mode of finance and accounting. The traditional training model for finance and accounting talents is severely out of sync with the needs of the digital society. Colleges and universities lag behind enterprises in practical aspects, with weak practical and innovative abilities, making it difficult to adapt to intelligent financial accounting work. Based on this, this paper investigates the current state of professional courses and talen·t development needs, analyzes the current situation of finance and accounting professional courses and the new challenges faced by teaching, and explores the reform path for finance and accounting professional courses in the new era from four aspects: teaching content, teaching mode, practical teaching, and course assessment. It is recommended to establish a curriculum system that integrates business and finance, has a broad scope, integrates teaching and learning, and emphasizes practice. A blended teaching mode should be adopted, with an increase in practical and experimental courses, and a course assessment system that combines process and summative evaluation should be implemented.

Keywords: Teaching Reform, Practical Teaching, Artificial Intelligence, Accounting Major.

1 Introduction

Under the background of artificial intelligence development and big data, the organizational structure and business model of enterprises are increasingly complicated, production and daily management activities are more dependent on innovation and complex technology. The pace of financial and business model innovation is getting faster and faster. The environment of finance and accounting has also undergone tremendous changes: electronic bills as the main carrier of accounting information have become mainstream; financial sharing among large enterprises and outsourcing of accounting for small businesses have become the norm. The job content of accounting positions has changed significantly, most of the accounting work has been replaced by computer and robot. a large number of technical support based on data analysis, mining and data management has emerged. The traditional teaching content setting based on accounting is in conflict with the market demand for management decision-makers.

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How to integrate the existing teaching methods with the financial accounting management in the big data environment has become an issue that cannot be ignored in teaching and practical work.

Based on this, this paper aims to improve students' comprehensive quality and ability, and studies the path of reform in response to the current problems in accounting professional courses. It focuses on stimulating students' interest in learning, and explores the reconstruction of future accounting professional courses and the selection of teaching methods and means from four aspects: teaching content, teaching mode, practical teaching, and course assessment. It is required to build a curriculum system based on the ability framework in the era of digital economy, promote the transformation of accounting professional teaching with advanced concepts as the guide, realize classroom revolution with the Internet and information technology as the carrier, cultivate innovative accounting talents through practical internships, and create management talents with high emotional intelligence and comprehensive quality through shaping comprehensive qualities.

2 The New Situation Confronting the Teaching of Accounting Professional Courses

2.1 Deep Integration of Information Technology and Education and Teaching

The rapid development of the Internet and the widespread application of modern information technology are promoting profound changes in teaching in universities. Based on advanced information technologies such as "big data, artificial intelligence, mobile internet, and cloud computing", a vast array of advanced teaching equipment and a myriad of educational resources have emerged. Based on advanced information technologies such as MOOCs, SPOCs, Rain Classroom, and micro-lectures, the teaching model innovation cases are constantly emerging [1]. It presents diverse new teaching models such as "online course + classroom exercises" "online course + case discussion" "online courses + skills practical operation" and "online course + research projects", and other new teaching modes continue to appear. These new teaching models can show a variety of Contextualized teaching teaching and efficiently carry out various teaching and learning activities, realizing the deep integration of information technology with education and teaching. They provide personalized, diversified, and high-quality educational services to learners of different levels and types, bringing about a refreshing change. The teaching of accounting and finance majors, in the new context of "Internet+", must rely on modern information technology to further enhance the effectiveness of teaching [2].

2.2 Students have more Diverse Learning Styles

College students living in the information age have distinctive personalities, strong self-awareness, broader horizons, and more active minds, making them highly receptive to new ideas and possessing a strong ability to accept new things. The advent of

high-tech information environments has led to the proliferation of learning tools such as online courses, web-based courses, and mobile apps, facilitating students' access to professional courses, knowledge information, and practical skills [3]. The diversification of learning styles has become increasingly evident, with trends towards ubiquitous and autonomous learning becoming more pronounced. Students can now access vast amounts of course information and professional knowledge directly, without solely relying on teachers and classrooms. Therefore, the teaching of accounting and finance majors must adapt its strategies to accommodate the flexibility of students' learning styles.

2.3 Teachers Face Severe Challenges in their Teaching Work

As online courses and related educational technologies enter classrooms, they are significantly altering the status, role, and value of teachers, as well as bringing about changes in various aspects such as teacher-student relationships, teaching methods, teaching environments, and teaching evaluations. Teachers' self-awareness, role definition, professional development, and skill upgrading all require continuous adjustment, renewal, and upgrading. In an era of change, teachers themselves must also undergo transformations, shifting from knowledge transmitters to guides for students' autonomous learning, from course executors to course developers and users, from focusing on teaching outcomes to paying more attention to the teaching process, and from being education "workers" to education "researchers"[4]. Teachers in charge of courses must re-examine the relationship between teaching and learning from a micro-perspective of curriculum construction and teaching, with the fundamental goal of "cultivating virtue through education"[5]. They should deeply reflect on what the course can truly bring to students in order to truly achieve technology-empowered role transformation for teachers, improve the quality of curriculum construction and teaching, and thereby promote the realization of talent cultivation goals.

3 Analysis of the Current Teaching Status of Accounting and Finance Courses

3.1 Teaching Content

When setting courses, most accounting majors focus on accounting, ignore "cross-border" training, and rarely integrate into other disciplines and modern information technology, or even if some of other disciplines are integrated, they are simply superimposed, without a strong logical framework in the curriculum system [6].

3.2 Focus on Theoretical Teaching, with an Immature Student-centered Teaching Model Construction

The theoretical courses occupy a relatively high proportion. During the teaching process, teachers have also adopted a "student-centered" teaching model, but its imple-

mentation is incomplete and not comprehensive. Student classroom participation is low, failing to fully realize the OBE (Outcome-Based Education) teaching philosophy [7]. The cultivation of students' professional skills and qualities has not fully met the expected goals [8].

3.3 Single Course Evaluation Method, Emphasizing Results over Process, with Process Assessment being Difficult to Measure

Traditional courses adopt an evaluation method that combines usual performance (30%) and final exams (70%). This single evaluation method prioritizes students' final exam scores. Although innovations have been made in the teaching process, they lack sufficient challenge, and process assessment is not easily measurable [9].

4 Analysis of Countermeasures for the Teaching Reform of Accounting Major Courses

4.1 Reform of Teaching Content for Accounting and Finance Courses

In the digital economy era, universities aim to cultivate versatile management talents with both emotional intelligence and high competency. Consequently, the curriculum system must be student-capability-driven, integrating interdisciplinary knowledge across boundaries to establish a curriculum that combines business and finance, boasts a broad scope, unifies teaching and learning, and emphasizes practical application. The following Table 1 summarizes the approach to curriculum reform in traditional financial and accounting courses.

Table 1. Reconstruction of courses in finance and accounting majors.

Course Types	Traditional courses	Integration of Digital Intelligence Courses	Business-Finance Integration, with Emphasis on Practice
Accounting	Fundamentals of Accounting; Intermediate Financial Accounting; Advanced Financial Accounting; Cost Accounting; Management Accounting; Financial Statement Analysis; Governmental Accounting; Non-Profit Organization Accounting; Budgetary Accounting; Specialized Accounting for Industries	Accounting courses reduce emphasis on accounting calculations and increase content on financial reporting and analysis. Incorporate elements of accounting informatization, such as intelligent accounting, financial shared services, financial big data analysis and decision-making, blockchain, RAP financial	Increase courses that integrate accounting and business, such as: Accounting Information Systems, Comprehensive Training in Management Accounting, Virtual Simulation Training in the Financial and Taxation Business Circle, ERP Sand Table Simulation Training, Virtual Simulation Training in Enterprise Operations

		robots, etc.	
Audit	Auditing, Audit Practice, Government Audit, Internal Audit, Economic Responsibility Audit.	IT Audit, Big Data Audit, Information System Operation and Service Audit,Internal Control	Audit Case Analysis
Financial Management	Elementary Financial Management, Intermediate Financial Management, Advanced Financial Management.	Big Data Financial Decision-Making	Comprehensive Financial Management Training
Taxation	Tax Law, Tax Accounting.	Comprehensive Experimental Platform for Digital Intelligence and Finance & Taxation	Enterprise Tax Payment Practical Training

Establish specialized directions that adapt to the environment of big data and artificial intelligence, such as management accounting, tax accounting, corporate finance, big data + artificial intelligence + accounting, financial management, tax management, IT audit, etc., and reconstruct the traditional core curriculum.

In the public basic courses, focus on developing interpersonal communication skills, language proficiency, data processing capabilities, humanistic literacy, and business acumen.

Introduce big data-related tools or analytical methods courses into professional foundation or specialized courses, such as mathematical analysis, data structures, and introduction to information science. For instance, courses like Big Data Analysis Techniques and Tools, Big Data Financial Decision-Making, and Financial Shared Services can be included.

Reconstruct professional core and elective courses. Currently, accounting and related courses dominate the curriculum of finance and accounting majors. With the advent of the digital age, much of the knowledge in these modules has been replaced by AI. Practice has proven that it is not very useful for students to learn so many accounting courses. Therefore, it is necessary to integrate traditional core courses, reduce class hours by merging redundant financial and accounting courses, or make significant adjustments to the courses by incorporating new content. For example, incorporate IT audit into auditing courses. Furthermore, in financial accounting courses, we can reduce the focus on accounting calculations and increase the emphasis on business processes, enabling students to understand the logical relationship between business operations and funds, thereby achieving integration between business and finance. We should enrich the content of financial reporting and emphasize analysis and decision-making, shifting the focus from accounting-oriented to management-oriented. Additionally, we should incorporate accounting informationization and reconstruct

outdated courses into interdisciplinary ones that are adapted to the data and intelligence environment, professionally competent, and appealing to students' interests. This will integrate theory, technology, and practice.

In terms of curriculum planning, we should reduce the number of theoretical courses and increase practical courses. It is recommended to use more practical cases in theoretical teaching content, with practical teaching hours accounting for no less than 30% of the total. Minimize the number of teaching hours, establish high-quality courses, eliminate low-quality courses, strengthen the management of the learning process, increase the academic rigor, and shift students from passive learning to active learning.

4.2 Teaching Mode Reform

Reform classroom teaching by turning the classroom over to students, making them the masters of the classroom. Teachers should transform their roles from instructors to directors and moderators. Their primary role is to answer questions, clear doubts, and provide commentary. Adhere to a student-centered approach, emphasizing the cultivation of abilities. Focus not only on "teaching well" but also on "learning well," stimulating students' interest and potential.

Adopt a Blended Teaching Mode Combining Online and Offline Approaches.

Utilize online platforms for "learning" and offline sessions for "practice." Online, teachers create a teaching resource library, and students watch self-guided learning materials ("micro-lectures" "MOOCs," "case study videos" and other educational resources) during their extracurricular time to understand the basic content of knowledge points, emphasizing the transmission of knowledge. Students return to the classroom for face-to-face sharing and exchanging of learning outcomes and insights among teachers and students offline, as well as among peers, to address issues related to the application of knowledge and problem-solving abilities, with a focus on the cultivation of abilities. University teachers are not merely tasked with imparting knowledge; most importantly, they educate and cultivate students. The "practice" aspect allows students to experience, grow in wisdom, and focuses on nurturing their learning abilities.

Promote Small-class Teaching, Smart Classrooms, and Flipped Classrooms.

Small-class teaching facilitates management, while smart classrooms enhance student-teacher interaction through mobile multimedia and other means, increasing student participation in the classroom and fully embodying a student-centered teaching philosophy. The flipped classroom combines the advantages of online and traditional teaching, shifting the focus of classroom instruction from theoretical lectures to analyzing student problems, helping students discover, analyze and solve problems, and fully cultivating their thinking and communication skills. Through diversified teaching activities, teachers focus on guiding analysis in the problem-solving process, encompassing various stages such as preparation, analysis, discussion, and revision, with teachers' guidance permeating throughout the entire process. This teaching method can

be applied to numerous courses such as financial management, managerial accounting reports, financial statement analysis, and more, nurturing students' analytical, logical thinking, and communication abilities. Figure 1 proposes recommendations for reforming the teaching mode of financial and accounting courses.

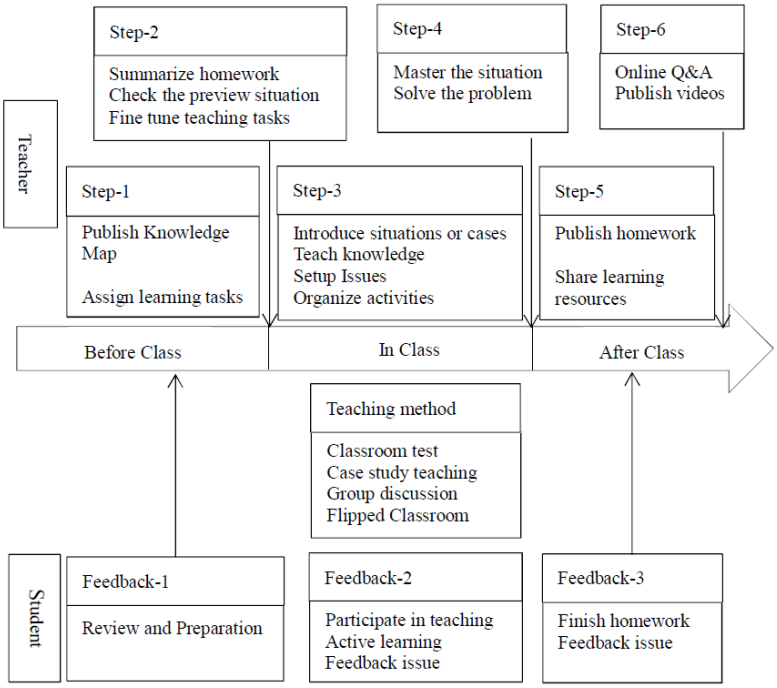

Fig. 1. Reform of Teaching Modes for Accounting and Finance Courses.

4.3 Practical Teaching Reform

Accounting and finance courses are highly technical, requiring both theoretical explanations and practical experiences during class sessions. Through case studies, training sessions, and practical applications, students can digest and utilize the knowledge acquired. Therefore, it is imperative to increase the number of practical teaching hours to provide students with more opportunities for hands-on experience, practical applications, and exposure to society. Only in this way can we cultivate students' actual abilities.

Firstly, integrating professional backgrounds, we should leverage modern educational technology and network technology to conduct case studies, brainstorming sessions, and scenario simulations. These methods can help foster students' innovative thinking and a holistic view of the field.

Secondly, we need to build a "four-in-one" platform to deepen the reform of innovation and entrepreneurship education. This includes:

Establishing an On-campus Training Platform: Utilize professional training laboratories to create a cultivation model that combines "professional knowledge modules" with "basic practical platforms." This approach can effectively motivate students' autonomy and enthusiasm, enhancing their overall capabilities in knowledge and skills.

Constructing a Professional Competition Platform: Leveraging the leading and driving role of the "Internet+" competition, we should actively participate in high-level academic contests. Through these competitions, students can apply their theoretical knowledge in practice, achieving the goal of "promoting learning through competition, promoting teaching through competition, and promoting reform through competition." This, in turn, enhances the level of innovation and entrepreneurship education.

Establishing an Off-campus Practice Platform: Invite scholars, experts, and other renowned business figures from outside the school to participate in the formulation of talent cultivation programs and conduct on-campus practice forums. By adopting the approach of "inviting in," we can foster closer collaboration between schools and enterprises. Furthermore, relying on the school's practical teaching platforms, we should strengthen ties with enterprises and establish industry-academia-research projects as well as school-enterprise cooperation projects. These initiatives encourage students to participate in internships at enterprises, bridging the gap between students and industry professionals, and shortening the distance between academia and the corporate world.

Building an Innovation and Entrepreneurship Platform: Make full use of platforms such as university-based innovation and entrepreneurship bases to encourage students to form entrepreneurial teams and engage in independent startup practices. Through hands-on experiences, students encounter, identify, ponder over, and solve problems, thereby fostering their teamwork spirit, organizational and coordination abilities, psychological resilience, risk management capabilities, as well as competitive edge and development potential in external business environments. The seamless integration of these four platforms enhances students' comprehensive quality for employment and entrepreneurship, effectively bridging the gap between academic talent cultivation and societal needs. Figure 2 summarizes the "Four-in-one" practical platform.

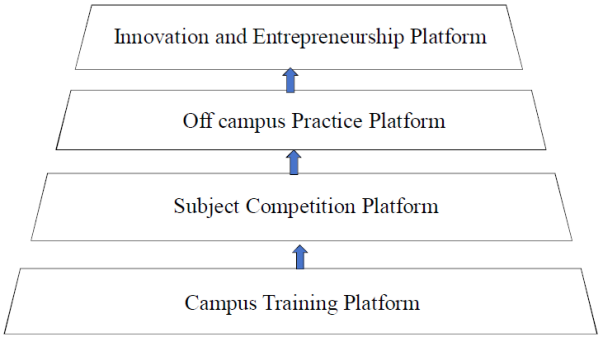

Fig. 2. The "Four-in-one" practice platform.

4.4 Diversification of Course Assessment

A trinity of assessment system centered on knowledge, abilities, and qualities is established, encompassing all stages of the course: pre-class, in-class, and post-class. This system integrates both process-oriented and summative evaluations. Process-oriented evaluations encompass pre-class quizzes, chapter tests, case studies, classroom discussions, and essays, while summative evaluations involve personal summary reports and final exams. The final grade is comprised of 40% process-oriented assessments and 60% summative assessments. Practice has demonstrated that this mode of course assessment plays a vital role in motivating students' learning initiative, enhancing their logical thinking and language proficiency, standardizing and improving their essay writing skills, and ultimately elevating the quality of teaching.

5 Conclusion

In summary, the teaching of accounting and finance courses must keep pace with the times, guided by the new ideas and practices of "Internet+". Leveraging online teaching platforms, we should implement blended learning that combines online and offline elements. This approach should emphasize student practice and innovation, strengthen curriculum-based practical training, and within the limited teaching hours, not only impart financial and accounting theories but more importantly, teach students to grasp financial logical thinking and management methodologies. By nurturing correct values, we aim to equip students with "learning ability" and career development potential, thereby continuously elevating the quality and standard of our course instruction.

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