Research on the Teaching Reform of the Accounting Information System Course in the Context of the Big Data Era

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Abstract. In the context of the big data technology development, intelligent finance will become the mainstream form of enterprise accounting work. Based on analyzing the demand model for financial and accounting talents and the current situation of curriculum teaching in the new era, this article conducts in-depth research on the teaching reform of the Accounting Information System course in applied universities, so that the curriculum teaching can resonate with the development of the times. Therefore, a teaching reform plan is proposed, which aims to cultivate high-quality and versatile talents by constructing OBE teaching concepts, reconstructing teaching content, enhancing teacher skills, integrating ideological and political education, building a multi-dimensional curriculum evaluation system , and dynamically optimizing teaching reform methods.

Keywords: the big data era; Accounting Information System; teaching reform

1 Introduction

Driven by such technologies as big data, artificial intelligence, mobile Internet, cloud computing, the Internet of Things and blockchain, corporate accounting work is becoming more and more intelligent, it is urgent to develop digital transformation.The impact of big data on traditional financial fields mainly includes:

firstly, financial system applications in the context of big data have many advantages, such as easy operation and standardized processes, which greatly reduce the cost and error rate of manual operations in practical work[1];

secondly, financial robots have optimized traditional financial workflows, significantly reducing the data processing time and promoting overall work efficiency improvement;

finally, the big data analysis technology has been fully utilized and has significant advantages in terms of the integration and analysis of financial statements[2].

Accounting Information System is a professional compulsory course for finance and accounting majors, which integrates accounting knowledge with computer technologies, and needs

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constant evolution with the development of technologies. However, traditional teaching methods can no longer satisfy the society needs for talents, so there is an urgent need to update educational and teaching philosophy, reform teaching models, improve the teaching quality, and establish a novel accounting information system practical training teaching model to meet the needs of the big data era.

2 The current status of the course teaching of the Accounting Information System in the application-oriented colleges

2.1 Curriculum target positioning is obsolete.

Teaching objectives are an important basis for the orderly implementation of teaching work. Firstly, it is necessary to formulate appropriate teaching objectives in order to ensure the direction and purposes of the teaching work and to improve teaching effectiveness. The traditional course objective is mainly to enable students to master the operating methods and business processing processes of accounting software, emphasizing theory over practice. Students only engage in software operations in the classroom. It seriously weakens the quality of course teaching and may even lead to the loss of students' learning enthusiasm, which is not conducive to the implementation of talent cultivation activities. In the context of the big data era, financial and accounting personnel need to have the abilities to collect, analyze and predict financial data, and make decisions according to such data. In addition to applying theoretical knowledge to practice, the financial and accounting personnel further needs to integrate multiple disciplines; otherwise, it is difficult for them to meet the demands for accounting talents in the era.

2.2 Teaching content and teaching methods need to be optimized

Teachers usually conduct teaching activities according to the modules set up in the accounting information and financial software ERP-U8V10.1, and use cases of manufacturing enterprises to simulate accounting operations for common business transactions in textbooks. The common classroom teaching method is as follows: teachers demonstrate the operations of the software; then students practice operations; if students have difficulties during the operation process, teachers provide individual guidance. In this mode, students are trained to simply follow the steps listed in experimental materials, lacking the ability to solve problems in practice, and having low enthusiasm. Besides, there is a lag in the theoretical knowledge system update of the course itself. Currently, universities widely use the teaching version of the Yonyou or Kingdee financial software. However, due to the continuous development of information technologies, the software is constantly updated, and a software version will be substituted every one or two years. Compared with the previous version, the newly-developed software provides more powerful functions and features higher-level of informatization. However, due to the high upgrade cost, the previous version of software is still used, which seriously affects the learning efficiency of students[3].

2.3 The structure of the teacher team is unreasonable

The era of big data requires the construction of a cross-disciplinary teaching team that integrates "accounting theory, financial practice and information technology". Teachers need to integrate the impact of big data, artificial intelligence, mobile Internet, and cloud computing on accounting into their teaching activities in order to achieve high-quality teaching work. However, most teachers have a background in finance and accounting. Although they have solid accounting knowledge, they often lack practical experience in finance and accounting. In addition, they also lack information technology knowledge such as computer, big data, and financial sharing, are unable to collect, transmit, and process data efficiently. As a result, the teacher team is unable to adapt to the teaching requirements in the context of intelligent financial transformation.

2.4 The teaching evaluation system is unscientific

The main purpose of the Accounting Information System course is to cultivate students' business result thinking and data thinking habits, enhance their ability to discover, analyze, and solve problems, master the application of enterprise accounting information systems, and cultivate the ability to conduct information accounting and management for enterprises in different industries. The current course assessment usually focuses on students' account set operations on the computer. This assessment form emphasizes software operations and results, and cannot comprehensively evaluate students' data analysis and problem-solving abilities, which cannot meet the requirements of talent cultivation goals in application-oriented universities in the context of big data era.

3 Accounting Information System curriculum reform plan

3.1 Build an OBE teaching philosophy

OBE is a result-oriented teaching philosophy that is aimed at teaching outcomes and is student-centered. It provides diversified training for students, enabling them to master various vocational skills in the learning process and gradually become practical and application talents.

With the development of big data and artificial intelligence technologies, human-machine collaborative financial and accounting work scenarios have become the trend. To construct the OBE teaching philosophy, the first step is to keep up with the times, revise the talent training plan based on the background of the big data era, improve the level of financial and accounting talent training, cultivate high-quality and comprehensive financial and accounting talents with technical skills such as data analysis and intelligent decision-making, and professional qualities such as innovative management and value creation[4]. Secondly, under the guidance of the OBE teaching philosophy, teachers must reconstruct the teaching outline and plan, break down professional knowledge boundaries, develop interdisciplinary integration thinking habits and connect with the intelligent financing curriculum system in the actual teaching process.

3.2 Reconstruct course teaching content and carry out practical integration teaching of virtual simulation technologies such as VBSE

VBSE refers to "Virtual Business Social Environment", which refers to the comprehensive simulation design based on the actual business management process of enterprises in the real business society by means of hardware and software platforms in practical training and teaching. Students simulate various roles in the enterprises, put themselves in the simulated market economy environment, and run and manage the enterprise according to specific business strategies, make reasonable decisions[5]. On this basis, it is necessary to reconstruct the course teaching content.

- Integrate experimental projects and content, and conduct experimental teaching activities in the form of topics and modules. The topics consists of 9 modules, such as system management, general account management, statement management, salary management, and fixed asset management, and so on (Table 1). Students are divided into groups, operate proficiently common modules of the ERP system in the case enterprise by playing the roles of finance and accounting personnel in various positions, and understand the data processing logic of information systems, further optimizing business processes and data analysis, and providing financial decision-making results.

Table 1. VBSE-Based Experimental Projects

Experiment SN	Experiment Name
1	System Management and Basic Settings Experiment
2	General Accound Experiment
3	Statement System Experiment
4	Salary Management Experiment
5	Fixed Asset Management Experiment
6	Procurement and Accounts Payable Management Experiment
7	Sales and Accounts Receivable Management Experiment
8	Inventory Management and Inventory Accounting Experiment
9	Comprehensive Simulation Experiment

- Build a case library and carry out case teaching. To carry out case teaching, the first step is to establish an operational, typical, and comprehensive case teaching database. Cases can be obtained by organizing enterprise information or designed by teachers themselves based on relevant information and socio-economic conditions. Secondly, it is necessary to prepare for case teaching. On the one hand, teachers should be familiar with cases and design teaching methods; on the other hand, students should prepare questions about case studies before class and supplement their theoretical knowledge. In terms of the case teaching implementation, theoretical knowledge should be integrated into the case, teachers should guide students to read and analyze the case, reaching consensus after group discussions, and then students give

classroom speeches, exchange experimental design philosophy with the whole class, and finally provide the case experiment report through software operation[6].

- In order to enhance theoretical knowledge, improve skills, cultivate professional qualities, and comprehensively improve the comprehensive practical abilities of students, the operations of experiments are divided into verification experiments and design experiments.

In the verification experiments, students carry out operations according to the prompts and guidance of the experimental operation steps, and correct the experiment operations by themselves to give a report. The verification experiments are designed to cultivate students' solid professional knowledge and professional ability(Table 2).

Table 2. Report Sample of Verification Experiments of Accounting Information Systems

Verification Experiment Report on Accounting Information Systems	
Experiment name:	
Experiment purposes:	
Experiment content:	
Experimental operation steps:	
Problems encountered and their solutions:	
Experiment summary:	

Design experiments are information-based solutions to specific and cutting-edge problems in enterprises(Table 3). Students design their own experiment data independently, configure information system parameters, and design information implementation paths according to the management demands of the case enterprise, and do not need provide standardized experimental results. For example, when a start-up high-tech enterprise purchases a large number of assets, how can an accounting information system manage these assets? Can the system be used to achieve depreciation calculation? Is it possible for the system to provide instructions on tax incentives? How can the enterprise use the system to achieve consistency between accounts and reality?

Table 3. Report Sample of Design Experiments of Accounting Information Systems

Design Experiment Report on Accounting Information Systems	
Experiment Name:	
Research outline of the case enterprise:	
Case enterprise management demands:	

Design Experiment Report on Accounting Information Systems	
Design ideas:	
Experiment operation steps:	
Analysis of experiment results:	

3.3 Teachers learn further, improve their application ability and teaching level

In the context of the big data era, higher requirements have been put forward for teachers. Teachers need to establish a cross-discipline and cross-domain professional knowledge structure system, and integrate information technologies with professional knowledge[7].

- Increase the teaching team members and hire personnel who have been engaged in financial work in enterprises for many years to serve as teachers for this course, assisting in teaching[8].
- Actively implement the integration of industry and education and school-enterprise cooperation, organize teachers to practice temporarily in enterprises during winter and summer vacations, and encourage teachers to learn accounting information system application software in a targeted manner to promote teachers to improve their practical enterprise business processing abilities.
- Regularly or irregularly visit software companies for training and learning, and learn the development of accounting information system technologies in a timely manner[9].
- communicate and exchange ideas between course team member, and have teachers with excellent teaching abilities and outcomes share their teaching experiences in a timely manner so as to promote the improvement of the entire teaching team.
- Strengthen the teaching exchange of accounting information system application courses with universities of the same type, and learn useful experiences.

3.4 Lead value shaping, integrate ideological and political education into course teaching

In the new era of big data, accountants are facing greater moral challenges. The teaching team should carefully designed courses and skillfully utilize "ideological and political" elements to vividly carry out teaching activities, emphasize the classroom atmosphere and teacher-student interaction. In addition, the teaching team should also integrate the "ideological and political" elements with professional knowledge seamlessly, achieving a peaceful and silent atmosphere(Table 4).

Table 4. Some ideological and political elements in the Accounting Information System

Project Name	Knowledge Point	Ideological and Political Element	Ideological and Political Objectives
Overview of Accounting	Development of Accounting	Made in China, National Strategy	Cultivating patriotic emotions, and stimulating

Project Name	Knowledge Point	Ideological and Political Element	Ideological and Political Objectives
Information Systems	Information Systems		national pride
	Financial Sharing Service Center, Financial Robot	Enterprise Digital Transformation Strategy	Industry Confidence, Accounting Data Security Risks
General Account Management	Daily Business Processing Process of Accounting Vouchers	Stipulation Procedurization, Procedure Formalization, Form Informationization	Adhering to professional ethics, cultivating professional thinking, and enhancing risk awareness
Fixed Asset Management	Fixed Asset Procurement	Evolution of the Treatment of Input Tax for Purchasing Fixed Assets	Establishing the lofty aspiration of building a socialist modernized strong country and strengthening institutional confidence
Salary Management	Personal Income Tax Setting	Special Additional Deductions	Superiority of the socialist system, enhancement of national pride
Statement Management	Financial Fraud Cases	Adherence to the Code of Professional Ethics	Honest practice, integrity and self-discipline

3.5 Building a multi-dimensional course assessment system

The course evaluation system should combine process evaluation with exam score evaluation, and construct a multi-dimensional evaluation method to comprehensively evaluate students[10]. The evaluation content and methods should be diversified, not only evaluating the professional knowledge mastered by students, but also evaluating their information literacy and comprehensive abilities. The course evaluation system no longer just focuses on the final exam, but emphasize the continuity and diversity of the process assessment. With the assistance of the Chaoxing platform, process control is carried out to form statistical data information, and students can also complete self-assessment through the platform.

- Process assessment(Table 5):

Scores = homework (30%) + classroom participation (30%) + in-class experiment scores (40%), take the integer as the final result.

- Final assessment(Table 6):

Scores = operation (50%) + 1+X test (50%).

Process assessment accounts for 40%, and final assessment scores account for 60%.

Table 5. Scoring Standards for Process Assessment

Assessment items	Proportion	standard
Homework	30%	N assignments in total, evaluated based on completeness and accuracy
Classroom participation	30%	Attendance,Classroom interaction (participating in voting, questionnaires, quizzes, selecting candidates, discussions, in class exercises, etc.)
Class experiment	40%	includes validation experiment reports and design experiment reports.

Table 6. Scoring criteria for final assessment

Assessment Items	Proportion	Standard
Account set operation	50%	Teachers independently set questions and evaluate the achievement of knowledge, abilities, and quality goals
1+X	50%	By relying on the financial digital platform of Yongyou Group, Mainly test the collaborative application abilities of students based on the implementation of business processes, comprehensive business processing, tax business processing, contract business processing, and after-sales service processing on the integrated information platform of business and finance.

3.6 Building a multi-dimensional course assessment system

The report of the 20th National Congress of the Communist Party of China emphasizes accelerating the construction of a strong online country and a digital China. The demand for talent driven by the construction of Digital China has sparked a wave of teaching reform in the "Intelligence+Finance" course. The ultimate goal of curriculum reform is to enable students to focus on contextualized experiences of the integration of new technologies and professional knowledge, while improving their decision-making and management abilities. Due to deviations in design and implementation, there are often some detours that need to be taken in the practical process. Therefore, curriculum reform is a process of continuous transformation and optimization.

Through peer evaluation or supervisory evaluation, external expert evaluation, student evaluation, and other methods, teachers can understand and master the construction process and teaching status of accounting information system application courses, and continue to improve and optimize in response to shortcomings. The evaluation system plays an undeniable role in the construction of accounting information system application courses. On the one hand, it can help teachers understand and master the construction process and teaching status of accounting information system application courses. On the other hand, it can lay a foundation for teachers to timely repair construction loopholes and fill in construction shortcomings, and provide a basis for teaching promotion plans.

4 Conclusions

In the context of the big data era, corporate finance and accounting personnel urgently need to transform their work processes, and universities that cultivate application-oriented finance and accounting talents also need to reform their curriculum. Accounting Information Systems, as a cross disciplinary and comprehensive discipline, should take into consideration the needs of enterprises for financial and accounting talents, re-define the teaching philosophy, reconstruct the content of the course teaching, enable teachers to conduct in-depth study, guide value shaping, build a multi-dimensional course evaluation system, dynamically optimize teaching reform methods, and make the course system more perfect.. By means of curriculum and teaching reform, we aim to stimulate students' enthusiasm and initiative in learning, enhance their ability to solve practical problems, and ultimately achieve the goal of cultivating high-quality and versatile financial and accounting talents in the context of the big data era.

Acknowledgments. Research and practical application of virtual simulation technologies such as VBSE in the context of the big data era ——Taking the Accounting Information System course as an example.

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