

Teaching Reform Practice of Financial Management Course in Higher Vocational Colleges Integrating with "OBE Concept+ Big Data Technology"

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Abstract: In the early 1980s, the famous American scholar Scott Spaetty first proposed the concept of OBE (Outcome based education), which is a student-centered and results-oriented advanced education concept. Under this kind of education idea, the goal of teaching design and the implementation of class is the last learning outcomes of students through teaching, which requires all the teaching process, teaching methods and learning evaluation needs to study achievement as a benchmark to final design, and the final study achievement is closely related to the professional training goal and graduation requirements. Students can fully define their goals in the process of learning. The teaching mode of "student-centered, accounting industry demand-oriented, concerned about students' learning results, students' ability training, students' growth" can better realize the national policy-oriented talent training target demand. The era of big data brings a lot of opportunities and unknown challenges to the accounting industry, and the cultivation of management and analytical accounting talents has become the most fundamental strategy to promote the development of intelligent accounting, and colleges need to innovate the teaching mode of "Financial Management" course of the accounting profession. This paper takes Financial Management as an example, and integrates "OBE theory and big data technology" into the teaching reform, in order to make a model for the rest of the teaching reform of accounting courses in higher vocational colleges.

Keywords: OBE; Reform; Practice; Big Data Technology.

1. The Necessity of "Financial Management" Course Teaching Reform

"Financial Management" is the core course of finance and accounting majors, which plays a fundamental and core role in the professional curriculum system, and plays a supporting role in cultivating students' comprehensive financial business literacy and financial analysis and decision-making ability. The teaching of Financial Management in our college has been carried out for many years. It is divided into theoretical teaching and practical teaching, and adopts the online and offline mixed teaching mode, which has the following shortcomings:

At the level of students: first, students' overall evaluation of the course is difficult, and the calculation formula is too many. Students can understand it in class, but they can't solve practical problems, and lack of self-confidence. Second, the overall scores of the students are low, the average score over the years is not more than 70 points. Third, in the practice teaching link, students' understanding ability, oral expression ability, writing ability, software processing ability, self-evaluation are weak. Forth, according to the questionnaire survey of students, students think that the teaching method of teachers is relatively simple and expect the diversification of teaching.

At the employer level, the graduates' practical application ability, problem analysis and problem-solving ability are evaluated relatively low.

At the level of teacher, the classroom atmosphere is dull, it is difficult to organize students to participate in activities, and it is difficult to stimulate students' enthusiasm and creativity,

and it is difficult to achieve the expected improvement of students' ability. According to the teaching effect data over the years, students' self-knowledge mastery and application evaluation are low.

At professional reform level, the teaching content is outdated, there is no specific application of real integration of big data, the teaching method is relatively simple, and the teaching evaluation is still based on the paper-based evaluation. The traditional teaching model is teacher-centered, with teachers setting goals, designing teaching content, teaching forms and evaluation. The implementation process is not adjusted according to the actual situation of students, which is not conducive to the realization of teaching goals and the final achievement of learning outcomes. OBE is a student-centered and student-oriented education concept. Through reverse design of education process and positive implementation of teaching process, the course teaching purpose and talent training goal can be more effectively realized. Under the background of the intelligent era, the requirements of enterprises for financial management talents are to cultivate students with comprehensive ability and quality, especially with continuous learning ability, guide the financial management of enterprises with new Internet and information technology, and ensure the core function of financial function in enterprise strategy. In today's era of massive data, the requirements of enterprises for financial management talents have changed from traditional financial management talents to innovative financial management talents. Professional graduates need to solve the needs of various financial activities of enterprises and deal with financial relations under the complex economic environment. Financial management enterprises need more talents who know how to mine and analyze data, provide decision support

for managers, and create value for enterprises. The teaching reform must be integrated into the application of new technology.

2. "Financial Management" Course Reform Ideas based on OBE

OBE (Outcome-based education) is an education model based on learning outputs, which is organized, implemented, and evaluated based on students' learning outcomes or educational outputs. Based on the OBE teaching model, it is required to formulate the training objectives and programs of professional courses according to the needs of enterprises firstly. In accordance with the course objectives, in the process of teaching implementation, we always adhere to the results-oriented, student-centered, and continue to improve and improve the teaching model, teaching methods and teaching means. The reform emphasizes results-oriented, student-centered, continuous improvement and student evaluation. To carry out the course reform of "Financial Management" based on OBE, we should update the teaching content, enrich the teaching means, innovate the teaching method, and reform the course assessment method.

3. Specific Measures

We divided the class into groups according to their personality traits. The assignment is to ask them to write the work content that must be completed as a financial management worker through the network and interview. Financial work in the enterprise is divided into four core contents: financing management, investment management, daily management, financial analysis. A team consists of 4 students, and one student is selected as the financial manager (mainly responsible for leadership and approval authority) by the students themselves. The division of labor among the four students is that each student is responsible for a core content, and the other three students are responsible for assistance, perform role-playing of corporate financial management.

3.1. To investigate the Professional Demand for Financial Management Positions in School-Enterprise Cooperative Enterprises (Such as Industry, Commerce, Service Industry)

Familiar with "Company Law", "Economic Law", "enterprise accounting system", the establishment of enterprise financing management system, investment management system, financial budget management system. Assist finance director, general manager, finance manager to make financial planning, including financing planning, investment project financial feasibility report, financial budget, tax planning; Control financial risks and organize financial analysis; Assist Finance Minister to be responsible for loan contract, project contract and sales; Reasonably arrange the use of funds to meet the needs of production and business activities; Participate in the company's decision-making and program formulation; Check and supervise the financial personnel to implement the financial rules and regulations carefully.

3.2. The Ability to Issue Questionnaires to the Accounting Students Who Graduated 5-10 Years Ago to Investigate the Accounting Career Development

The ability scores in order of importance are basic professional ability, self-study ability, practical application ability, data-processing capacity, communication ability and writing ability.

3.3. Refine the Expected Results to be Achieved by Students in This Course and Design the Student-Centered Project-Based Teaching Content

Each class is student-centered and goal-oriented, with activities designed (before, during and after class). Post tasks before class for students to do research. The class is mainly in groups to solve practical problems, teachers do a good job of guidance and comment. Have the students finish the report after class. The following two projects to fund raising management and investment management are elaborated.

We divide the overall goals of fundraising management into memory goals, understanding goals, application goals, analysis goals and evaluation goals, and set the results and methods that students must achieve in order to achieve each goal.

3.3.1. Fundraising Management

The memory goals are classification of market financing methods, each type of financing and the advantages and disadvantages of each financing method. Students mainly consult books and learn videos before class. After class, students take tests and make mind maps of fundraising methods and take the test results as their own evaluation.

The understanding goals are the cost of financing and the cost of capital; Cost principles and formulas of various financing methods; Principle of capital requirement and financing decisions. This goal is mainly accomplished in class, where students must figure out the key points and difficulties of the class, and figure out the context of each knowledge point.

The application goal is to accomplish practical tasks through discussion by group members with understanding and mastery of the knowledge points. Specific goals are the design of the content of the fundraising management system; Preparation of a financing schedule; Interpreting the terms of a loan contract; Determine the amount of financing for different industries; To be able to make a financing plan and make a choice with application of EXCEL technology. To complete the analysis of the case during the class, and to complete the financing report for the purchase of a family home after the class.

The goal of the analysis is for students to make a field investigation to solve the financing problem of a real project of a company. Students need to investigate the cost of financing, develop a financing plan, make a financing decision and submit a financing report. The teacher will use the reports submitted by the group as the basis for whether the students meet the professional competence standards.

The creation goal focuses on the determination of the amount and the choice of the way to finance the self-starting project. This project is completed independently by the student and culminates in the submission of an innovative entrepreneurial funding project. The report includes why did

you choose this project? How will the funding come? How is the program determined? This objective focuses on improving students' professionalism, data collection skills, and writing skills while stimulating students' enthusiasm for entrepreneurship.

The last goal is a self-assessment goal, which is a summary of what the student has learned about fundraising. Ask yourself what you have learned, and what you have not learned. To make a summary of the entire fundraising content. Students make a report on the requirements of the position for the fundraising management position and can also incorporate a thought leadership element. First and foremost, money has

a time value and every penny we raise has an additional cost, so we need to pay the cost as agreed in the contract. At the same time, we invest the money into the project, and we need to use every penny wisely so that every penny can be used to its maximum value. Second, the cost of raising money directly affects the cost of doing business for a company, and the right method must be chosen to make the right funding choices. Once again, fund raising selects reasonable and legal fund raising channels. Finally, in different stages of development of the enterprise, choose different financing methods carefully to reduce the risk of the enterprise. The financing method needs to be adjusted at any time.

Table 1. Finance Management Objective Design

Object	Specific object	Achievements	Students how to do
Memory Objectives	1. market financing methods 2. Differences between various financing methods	Funding Methods Mind Map	1. Access to books 2. Pre-course video preview
Comprehension Objectives	1. the cost of raising money is the cost of raising money and the cost of using money 2. Principles and formulas for the cost of various funding methods 3. the principle of capital requirements 4. Principles of funding decisions	Classroom Test	1. Pre-teaching video before class 2. Classroom explanations of key points and difficulties 3. Application of big data technology
Application Objectives	1. Be able to determine the amount of fundraising for different industries 2. Be able to make a financing plan and make choices	1. Report on financing the purchase of a home by a family 2. Report on financing the purchase of fixed assets by a business 3. Post-test	Group discussion
Analyze Objectives	To be able to determine the financing options for the project investment issued by the enterprise	Practical research on the market cost of different financing methods	1. Data collection 2. Group discussion
Evaluation Objectives	1. money has a time value. 2. The cost of financing has a direct impact on the operating costs of an enterprise, and choices must be made correctly. 3. scientific and reasonable fund-raising methods must be chosen. 4. how should financing decisions be made to reduce risks at different stages of enterprise development?	Self-summary (What are the duties and obligations as a fundraising post employee?)	Self-summary
Create Objectives	Determination of the amount of funding for a self-starting project and choice of method to stimulate entrepreneurial awareness	Report on the funding of the entrepreneurial project	Individual independent completion (Why did you choose this project? How will the funds come? How was the programme determined?)

3.3.2. Investment Management

Table 2. Investment Management Objective Design

Object	Specific object	Achievements	Students how to do
Memory Objectives	1.Investment considerations 2.Investment evaluation indicators (dynamic and static) 3.Investment decision methods	Pre-class test results Investment indicator mind map	Check out the book's Pre-course online resource learning
Comprehension Objectives	1.Calculation of investment indicators 2.Principles and formulas of investment methods 3.Selection of investment return rate	Understanding of knowledge points	Classroom understanding of key points and difficulties
Application Objectives	1.Able to perform calculation of investment indexes 2.Be able to make decisions on investment projects in different industries 3.Application of EXCEL technology	Household investment decision report	Look up information Group discussion Post-class test
Analyze Objectives	Ability to make decisions on project investments for public companies	Enterprise project feasibility report	Practical research Internet research Group discussion
Evaluation Objectives	1.Investment has to pay a price, investment affects the enterprise in the long run. 2.Investment directly affects the business results of the enterprise for many years, and must be carefully chosen. 3.To invest rationally and according to the actual needs of the enterprise.	self-summary (what are the duties and responsibilities as an investment post employee?)	Self-summary
Create Objectives	1.Analysis and evaluation of gold medal projects of innovation and entrepreneurship competitions in the past years to stimulate students' enthusiasm for entrepreneurship. 2.Application knowledge expansion of intelligent financial decision making.	Feasibility report for a business project	Learning from excellent innovation and entrepreneurship project PPT production Collecting, analyzing, and summarizing information Individual completion

3.3.3. Integration of Big Data Technologies in “Corporate Finance Management”

Table 3. Integration of big data technologies in “Corporate finance management”

Content	Big data technology	Goal achievement
First, Determination of FundRaising Requirements: 1.percentage of sales method	1. using Python to crawl the balance sheet and income statement data of listed companies on the (Chint Electric) (stock number: 601877) for the past five years 2.Clean the data 3.Use EXCEL to calculate the data	1.Measure the average revenue growth rate, sales profit margin, profit retention rate in the last five years 2. Forecast sales revenue in 2024 3.Analyse the ratio of operating assets, operating liabilities 4.Measure the total capital requirement in 2024 5. Measure the external capital demand in 2024
2.Linear regression method	1. Use Python to crawl the sales revenue and total fund demand of listed companies on the (Chint Electric) (stock number: 601877) in the past five years 2. regression analysis of data using EXCEL function	1. find the correlation coefficient (pearson function) 2. calculate b value (slope function) 3. calculate a value (intercept function)
Second, the choice of debt financing programmes 1. short-term bank borrowing	1. using Python to crawl the borrowing rate of each bank's website 2. Using EXCEL to calculate the effective interest rate	1. collection method of interest rates 2. Discount method of interest rate calculation 3. Calculate the interest rate of the hike method 4. Decision-making for choosing a bank
2.Decision-making on business credit	1. Field research on credit discounts for business credit of enterprises 2. Calculate the credit cost ratio of waiving cash discounts using Excel.	Decide whether to take advantage of discounts or waive them.
3. Bond Issuance	1. Find the issuance data of listed companies that issue bonds on the internet. 2. Calculate the issue price of bonds with EXCEL. 3.Crawling the interest rate of treasury bonds using Python.	1.Time value of money application 2. PV function application
4. Finance lease	1.Network to find the data of finance lease 2. The use of EXCEL to calculate the amount of rent paid at the end of the year and the beginning of the rent payment	1. Application of the time value of money 2.PMT function application
5.mortgage Car Loan	1. Using Python to crawl the banks' websites for benchmark interest rates for home loans 2. the choice of repayment methods 3. comparison of early month repayment and end of month repayment	1. the difference between equal principal repayment and equal interest repayment 2. Application of PMT function
Third, Equity Funding	Ordinary share issuance Using Python to crawl the dividend policy and new share issuance price of listed companies on the Chint over the years	Calculation of the cost of capital of ordinary shares
Fourth, Selection of financing options	1. Calculation of various financing costs 2. Calculation of the weighted cost of capital Application of sumproduct function	1. Calculation of the cost of debt 2. Calculation of the cost of equity financing 3. Calculation of the proportion of various financing methods 4. Application of the function

3.3.4. Integration of Big Data Technologies in “Corporate Investment management”

Table 4. Incorporation of Big Data Technology in Investment Management

Content	Big data technology	Goal achievement
I. Calculation of cash flow statement	1. Mining cash flow statement data 2. Revenue and cost forecasting 3. Application of Excel functions	1. Correctly calculate the net cash flow of the investment period 2. Calculate the net cash flow of the operating period 3. Calculate the net cash flow of the recovery period
Second, the calculation of net state indicators Third, the calculation of dynamic indicators	1. Application of PV function 2. Application of NPV function 3. Application of IRR function 4. Mining enterprise return on investment	1. Calculation of static payback period 2. Calculation of dynamic payback period 3. Calculation of net present value 4. Calculation of embedded rate of return

4. Implementation of the Class

Through the course, students can master the basic theories and methods of financial management, have the basic skills of investment decision, financing decision, current assets decision and profit distribution decision, and be able to analyze the successes and failures and lessons learned in the process of financial management, so that they can apply what they have learned or learn from it. The students will be able to apply their knowledge to analyze the successes and failures of the financial management process, so that they can apply or learn from them. In addition, students will learn from the course in terms of humanistic dimensions, subject areas, and learning methods. The focus of the class is firstly to test the learning effect before the class, secondly to address the key points and difficulties in the comprehension objectives and to provide targeted training, and thirdly to effectively organize activities between groups and evaluate between groups, while at the same time to implicitly integrate the Civic Education into the activity process. Fourth, the integration of big data technologies into the curriculum.

5. Distribution of Questionnaires and Evaluation of Students' Satisfaction. Including Questionnaire Evaluation of Teaching Before, During and After Class. Bad Evaluations Made by Students to Improve Teaching Methods and Content

Pre-class content evaluation including the timeliness of pre-class release materials, the difficulty of the test questions before class and the strength of the pre-class -preview to help learning in class.

In-class content evaluation includes: The effectiveness of the teacher's class implementation; Duration of class teaching; Length of student group activities; Arrangement of teacher's

inspirational comments; Arrangement of teacher's class performance evaluation; Selection of teaching cases; Recognition of teachers' teaching ability and I can master the relevant knowledge points.

Post-lesson content evaluation includes: Ability to complete homework assignments; Willingness to complete homework actively; Arrangement of the length of homework submission; Review of homework; Recognition of group work and Evaluation of self-involvement in group work.

6. Course Assessment Evaluation

The course is mainly assessed based on teacher evaluation and group evaluation. Teacher evaluation is based on individual class performance and group assessment results. Group evaluation is based on group leader evaluation and intergroup member evaluation.

Teacher's evaluation (50% of total grade) include: Class performance, post-class assignments, pre-class tests, post-class tests Quality grade of each group's report.

Group evaluation (50% of the total grade) include: Group leader's evaluation of members from Contribution to the group report, Activity of participation in the group, Personal knowledge level, Individual's ability to understand, tolerance, analysis, word processing levels and data-processing capacity. Inter-group members' mutual evaluation from Proactivity in completing tasks, Timeliness of completing tasks, Contribution to the group report, Ability to solve problems and Teamwork ability levels.

7. Reform Effectiveness

Through the teaching reform, at the enterprise level: the training objectives of financial management talents and enterprise objectives are kept in line, the employability of graduates is enhanced, and the demand of accounting talents from employers is met. Teacher level: create a lively classroom atmosphere, design more suitable teaching activities for students, stimulate students' creativity, and improve students' evaluation of teachers' teaching performance. Student level: enhance learning motivation, initiative, research, confidence in overcoming difficulties and innovation, and improve learning effectiveness. Successfully carry out graduation comprehensive practice and capstone internship. Professional level: Matching the profession with the industry is conducive to the supply of talents demanded by the accounting industry and promotes the rapid development of the accounting profession. This reform stimulates students' enthusiasm for learning, cultivates students' active learning inquiry ability, improves students' analytical ability, communication ability, report writing ability, teamwork ability among groups and new technology application level; improves students' professional ability and self-confidence, and has won awards in various accounting competitions along the belt and road; improves students' recognition of accounting profession, and chooses "Financial Management" as the major. Financial Management" as the major direction of professional education; improve students' enthusiasm of entrepreneurship, and win the gold medal in the national innovation and entrepreneurship project, and improve the overall employment rate and professional matching rate of graduates.

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