

# Research on Teaching Reform of Financial Management Major in Applied Universities

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**Abstract.** With the popularization of big data, the requirement to accounting is getting higher and higher. How to improve professional ability and cultivate talents in line with the needs of the age is an important goal of current teaching reform. Based on the results of financial big data competition in Hunan Province, this paper analyzes the shortcomings in current teaching. The conclusion is students' application of professional knowledge needs to be strengthened. It is suggested that from the perspective of the needs of practical work, we should consolidate professional knowledge base, and teach students to flexibly use big data tools to assist financial work.

**Key words.** Financial big data; Applied university; Financial management major

## 1. Introduction

The competition of College Students' financial big data application ability in Hunan Province is a competition of comprehensive ability to use a number of big data technologies in a given application scenario, which focus on the ability of participating teams to develop and utilize financial big data, form data assets, solve social hot issues and meet the actual financial needs of enterprises. The theme of the competition is to take the investment and financing decision-making as the main line, and use big data technology to carry out data analysis and project decision-making on investment risk, financing risk and operation risk. The competition team consists of big data analyst, financing manager, investment manager and operation manager. Among them, big data analyst accounts for 30 points, and the other three positions total 70 points. The competition requires the teams to collect all kinds of data on the designated cloud platform, and these data sets are generated in the process of enterprise operation data, internal and external environment and business operation, financial data processing, etc. The competition is carried out by computer scoring and manual scoring. The questions are completed by experts designated by the expert committee, and the questions are kept secret and judges are avoided strictly to ensure the fairness and justice of the competition.[1][2]

Due to the need of epidemic prevention and control, the undergraduate group competition in 2020 is an online competition in which four teams are selected by the

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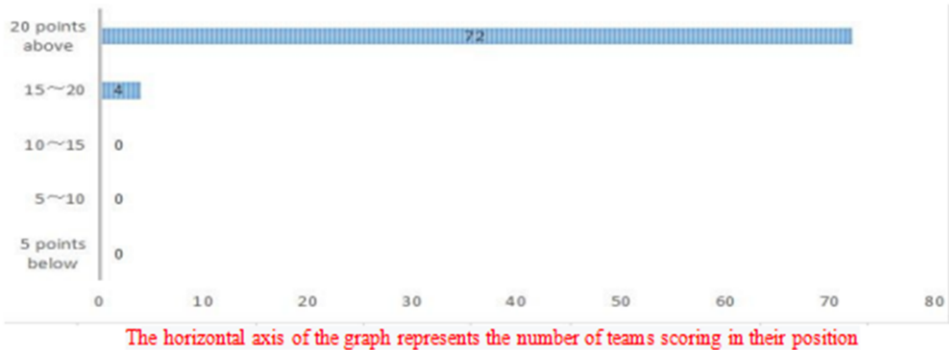
It is the research result of The Key Cultivation Base for "The 14<sup>th</sup> Five-Year Plan" of Educational and Scientific Research (Lifelong Education Research Base (Fundamental Theory Area)) in Hunan Province.

colleges and universities to participate, Network game cooperation with exclusive network, using the skill competition website (<http://race.chinazdap.com/>). then the top 76 teams from all teams go to the Yuntang campus of Changsha University of technology for on-site competition. This paper is a data analysis based on the score of 76 teams in four decision-making links.

## 2.Methods

### 2.1 Big data analyst

The competition is conducted on the cloud platform of "exclusive network". The platform requires participants to be familiar with Python environment installation and configuration, big data acquisition, storage, cleaning and visualization. The main purpose of the competition is to investigate the ability of participants to capture financial big data by using tushare of Python and the ability of big data visualization programming. The big data score is shown in Figure 1 below.



**Figure 1** scores of big data analysts

It can be seen from the figure that the scores of big data analysts are mainly concentrated in more than 20 points, accounting for 94.74%, with the lowest score of 17.44 points, the highest score of 29.70 points, and the average score of 25.35 points, which is the highest among the four positions.

### 2.2 Financing Manager

The position of financing manager is mainly to make requirements for the participants from the aspects of absorbing direct investment, discovering stocks, retained earnings, bank loans, issuing bonds, financial leasing, issuing convertible bonds, issuing warrants, commercial credit, commercial factoring, pawn, pledge, etc. The score of financing position is shown in Figure 2 below.

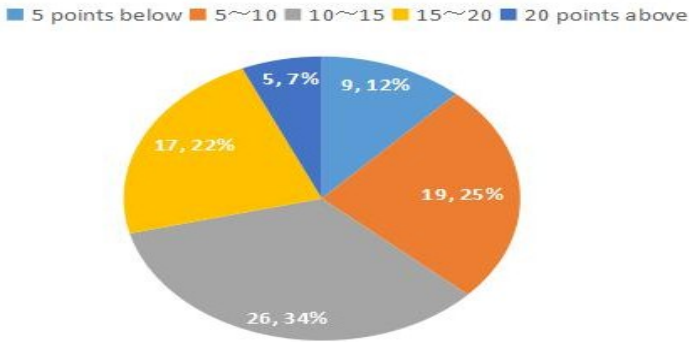


Figure 2 score of financing manager

Financing manager's post score is relatively low, comparing with data analyst's post score. There are 9 teams with scores below 5, 19 teams with scores of 5-10, 26 teams with scores of 10-15, 17 teams with scores of 15-20, and 5 teams with scores above 20. The post score presents normal distribution, with the lowest score of 3.03, the highest score of 21.2, and the average score of 11.73.

### 2.3 Investment manager

The assessment knowledge and skills of investment manager mainly focus on fixed assets investment, new subsidiaries and branches, portfolio investment, merger and contraction, cash, accounts receivable, inventory, intangible assets investment, etc. The score of investment positions is shown in Figure 3 below. The horizontal axis represents fractions.

The score of investment manager position is generally not ideal. There are 17 teams with less than 5 points, most of them (about 43 teams) are concentrated in 5-10 points, 14 teams with 10-15 points, 2 teams with 15-20 points, no team with more than 20 points, the lowest score is 2.07 points, the highest score is 16.12 points, and the average score is 8.04 points.

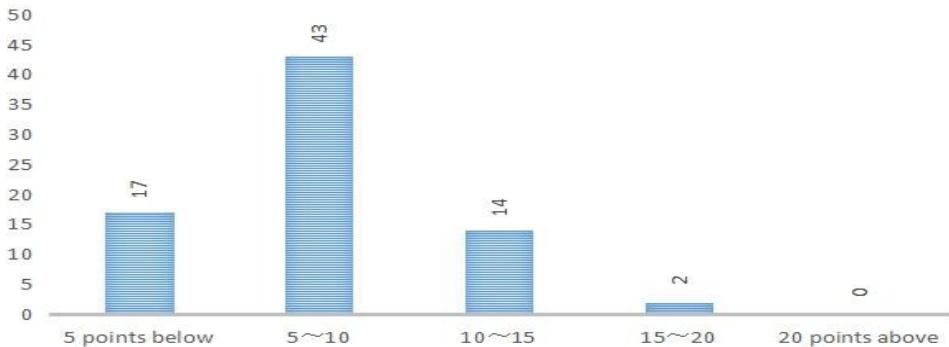


Figure 3 score of investment manager

### 2.4 Operations Manager

Operation management post is mainly to evaluate operation performance management, cost volume profit analysis, sensitivity analysis, marginal analysis, operation decision analysis and management accounting information report preparation. The score of operation position is shown in Figure 4 below. The horizontal axis represents fractions.

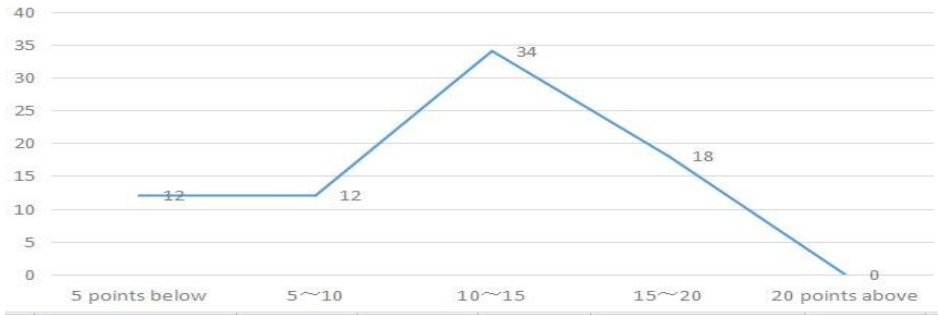


Figure 4 operation manager's score

The score of operation position is better than that of investment position. There are 12 teams with less than 5 points, 12 teams with 5-10 points, 34 teams with 10-15 points, 18 teams with 15-20 points, no team with more than 20 points, the lowest score is 0.95, the highest score is 19.5, and the average score is 11.28. The highest score is 81.66 and the lowest is 32.51.

## 3. Conclusion

Deficiency of teaching content of financial management major from the perspective of post score.

### 3.1 Unfamiliar with the content of cash flow

Among these four positions, the score of investment manager position is the lowest. Many students reflect that it is difficult to determine the cash flow of fixed assets renewal decision-making projects and new projects, especially when determining the related flow, the impact of related costs and non-related costs, opportunity costs, operating costs and investment plans on other projects of the company should also be reflected in the process of cash flow calculation. Many students have fuzzy decision-making methods for independent investment plans and mutually exclusive investment plans. In the syllabus of financial management major, the difficulty level of this part of the content is set at "high". In daily teaching, considering the majority of students' acceptance of the content of this difficulty level, this part of the content is directly discarded in limited class hours, and the teaching method is relatively simple, which is something you don't understand after self-study, you can discuss with the teacher after class. This directly led to many students in learning professional knowledge "automatically" to ignore this part.[3]

### *3.2 The knowledge of operation management can not be well applied to practice*

Another position with lower score is operation manager, which is mainly taught in the course of management accounting. In this part, the CVP analysis is relatively simple, and there should be no problem in the calculation on the premise of correctly distinguishing between variable cost and fixed cost. But sensitivity analysis and marginal analysis are difficult for most students. Many students are easy to confuse the concepts of safety marginal rate, marginal contribution rate, operating rate of profit and loss critical point, sales profit margin before interest and tax, weighted average breakeven sales, sensitivity coefficient and the quantitative relationship between these concepts.[4]

## **4.Suggestions**

### *4.1 Lay a solid foundation of professional knowledge*

According to the feedback of financial management graduates in the past few years, when preparing for the CPA examination, many students found that in addition to the difficulty of the examination itself, there is also a problem that the basic financial knowledge is not solid enough. For example, the risk and return of single asset and portfolio in risk and return, capital asset pricing model, financial forecast and budget, bond value evaluation in value evaluation, option value evaluation and so on, although these basic knowledge do not belong to a specific course, they can be put into the syllabus, even if the students in the learning process can not be proficient, but at least this part of the content is not unfamiliar, in need of secondary acceptance of this part of knowledge will also understand faster.[5]

### *4.2 Improving the traditional teaching mode*

The traditional teaching mode is that teachers teach knowledge in class and students accept it passively. Compared with other majors, financial management major is characterized by strong practicality. If the theoretical knowledge learned in textbooks is not guided to practice, many students are at a loss in their specific work. They seem to learn this part of knowledge, but they will not use it in practice. Although the flipped classroom and case teaching method have been brought about now, if the application-oriented university can establish the production, study and research base with local enterprises, make full use of the advantages of the combination of production, study and research, and strive to create a "three win" situation that meets the needs of enterprise talents, improves the "double teacher" quality of teachers, and enhances the practical ability of students.[6] [7]

Although the financial big data application ability competition is a simulation competition, its assessment content is more comprehensive and practical for financial personnel, so it is of practical meaningful to analyze the competition results as the analysis object for the daily teaching of financial management major. The financial professionals trained by application-oriented universities should be able to enter the professional role quickly and reduce the labor cost of enterprises. The ultimate goal of teaching is not to achieve excellent results in the competition, but to be competent for

financial work and constantly solve practical financial problems through four years of professional study of financial management knowledge.[8]

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