

## Path For Financial Teaching Reform And Innovation In Financial Crisis Environment

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**Keywords:** Financial Crisis; Financial Teaching; Teaching Reform; Innovation Path.

**Abstract:** Facing serious global financial crisis, a large number of financial institutions and commercial enterprises closed down or got into business dilemma, posing unprecedented employment pressure to financial students. In the face of increasingly tough employment situation, how to respond to the market and improve teaching contents and teaching methods of universities, improve students' overall quality and professional skill, enhance their competitiveness in domestic and foreign employment markets, cultivate high-level professionals meeting market needs so that students can have wider choice of employment has become the problem that the current financial major must seriously think about. This paper discusses the current situation of China's economic development in the post-crisis era, points out the problems existing in university financial teaching in our country: financial teaching mode fails to adapt to the change of the times; personnel training mode needs to be optimized; training of teachers is not changed timely. It then puts forward path for reform and innovation of financial teaching from the three aspects of teaching mode, talent cultivation mode and teaching staff construction. Regarding reform and innovation of teaching mode, scenario simulation method-based insurance experiment teaching mode is put forward. For reform and innovation of personnel training mode, training of compound financial information talents is suggested. In terms of reform and innovation of teacher training, strengthening the construction of "double type" quality teachers is proposed. The purpose is to improve quality of financial teaching, and cultivate high-quality comprehensive financial professionals meeting financial industry development requirements of today's world and China.

### 1. Introduction

The outbreak of financial crisis makes us aware of the great harm brought by improper handling of financial issues. Modern economic development cannot be separated from financial support, especially in China which needs to give full play to the role of finance in promoting economy as our financial products and services are lagging behind [2]. To make finance better play its positive role, we need talents who can manage modern financial instruments, identify and control their financial risks. These talents include both high-end financial product design talents and basic financial products and service personnel, and training of financial professionals in most universities, local universities in particular, is oriented to vastly-demanded financial services grassroots [1]. As a result of the rapid change in global financial development, training of financial grassroots talents adapted to financial globalization raises higher requirements for us, for instance, ability to learn and master new financial products and services faster, leverage its positive role to promote the development of individuals and businesses and wealth accumulation, while identifying the risks, do a good job in risk warning and risk prevention from the grassroots, and ability to rapidly learn and deal with emergencies in practical work [3]. The traditional lecture teaching is teacher-centered, so students' autonomy is not given play to, which leads to insufficient capacity training of students. Hence, it is necessary to reform the traditional teaching methods. Finance is one of the most important economic disciplines with practicality, practicalness and applicability. Financial teachers must strengthen the emphasis on combining teaching theory and teaching practice, pay attention to

innovation in teaching methods, teaching mode, teaching system, and strive to improve level and quality of financial classroom teaching, in an effort to achieve integration of teaching purposes [4].

## 2. Literature Review

### 2.1. Status of Foreign Research

Seen from the current development of financial discipline, Western financial disciplines have a rising bias towards micro-operation with the development of the financial industry, with macro-finance basically incorporated in the macroeconomic category [5]. There are two main reasons for this. First, finance as a discipline features increasing technical, engineering and empirical trend, shows characteristics of "natural science." Second, affected by global financial development and operation trend, the global financial operation tends to break away from the real economy, begins to stride into the phase of integration after breaking the barriers in capital flow, then virtual capital controls the force around the world. In the course of pursuit of profit with capital, financial risk breeds greater financial crisis all the time. Especially in the past decade, with financial liberalization, ever-changing financial innovation and endless financial derivatives, financial reform and innovation constantly accumulate and strengthen risks, rather than disperse and eliminate them, with regional, local financial crisis emerging endlessly [6]. Especially after the Fed's rate hike, the US financial system was unable to bear the pressure of rising interest rates, and eventually triggered the global financial tsunami, causing serious harm to the world economy [7].

### 2.2. Status of Domestic Research

Different from development of Western financial disciplines, at the initial stage of founding of new China, China mainly introduced education mode and financial materials of the former Soviet Union financial disciplines, which study the general law of capital movement from the macro perspective, and specific businesses of bank planning, bank credit and bank settlement from micro perspective based on Marxist currency, credit, banking theory. The teaching is mainly directed to undergraduates and college students [8]. Since the reform and opening up, with the development of the world economic situation and the changes in social demand for financial professionals, China's financial disciplines undergo great adjustments in curriculum system. With the continuous introduction of foreign micro-finance theories, many universities in China also began to arrange a large number of micro-curriculums in the teaching plan, which constitute the major courses in majors such as finance, finance engineering, insurance, investment and credit management [10, 11]. The level of personnel training has also undergone great changes, growing to three-level training mode of graduate students, undergraduate and higher vocational education with corresponding training requirements, professional planning and attribution, curriculum setting [9].

## 3. Methods

The financial crisis environment puts forward higher requirements for the training of financial grassroots talents in the environment of financial globalization, but there are still some problems in financial teaching, demanding improvement and innovation.

In this paper, the algorithm of parameter estimation is used to judge the magnitude and frequency of financial teaching quality at the threshold  $\alpha$ . Assuming quality level  $\varphi(x)$  of financial teaching  $i$  in the financial crisis environment is in mixed integral distribution:

$$\varphi(x) = \tau\varphi_1(x) + (1-\tau)\varphi_2(x) \quad (1)$$

Where,  $\tau \in (0,1)$ ,  $\varphi_i(x)$  follows normal distribution with  $\mu_i$  as the mean and  $\sigma^2$  as variance:

$$\varphi_i(x) = \frac{1}{\sqrt{2\pi}\sigma_i} e^{-\frac{(x-\mu_i)^2}{2\sigma_i^2}} \quad (2)$$

If the quality level  $x$  of financial teaching is below the threshold  $\alpha$ , then the possibility of high financial teaching quality is:

$$P(x) = \xi_0 e^{-\xi_1(\alpha-x)} \quad (3)$$

Where,  $0 \leq \xi_0 \leq 1, 0 < \xi_1$ , financial teaching quality  $y = f(x)$  obeys the exponential distribution with  $\zeta$  as the parameter:

$$f(y) = \begin{cases} \zeta e^{-\zeta(y-\alpha)}, & y \geq \alpha \\ 0, & y < \alpha \end{cases} \quad (4)$$

At this time, the prediction model of financial teaching quality level in financial crisis environment can be expressed as:

$$f(y) = \begin{cases} (1-P(y))\varphi(y), & y < \alpha \\ \int_{-\alpha}^{\alpha} \varphi(x)P(x)dx + \varphi(y), & y \geq \alpha \end{cases} \quad (5)$$

According to the above formula, the correlation analysis was carried out by using Pearson correlation coefficient analysis to determine the correlation between the two. If the absolute value of the coefficient is closer to 1, it means the correlation between the two is strong [12]. The correlation coefficient between the two was calculated by Eviews7.2 statistical analysis software, with the results shown in Table 1:

**Table 1.** Correlation coefficient of financial crisis environment and financial teaching quality

	LNCEVA	LNLEVA
LNCEVA	1	0.9036
LNLEVA	0.9364	1

From Table 1, we can see that the correlation coefficient of financial teaching quality is greater than 0.8 in the financial crisis environment, which indicates that the two are highly correlated, and the dependence relationship between them is strong, thus further proving its high reliability for cointegration regression analysis. Problems existing in financial teaching in financial crisis environment:

### 3.1. Financial Teaching Mode Fails to Adapt to the Change of the Times

In terms of teaching mode, financial teaching content in domestic universities is different from that of the developed countries. First, macro curriculum occupies the dominant position in the teaching system. Second, there is no teaching mechanism linked with the actual economic development status, so students cannot really understand the importance of risk control and management in the actual operation of modern finance during the learning process [13]. At the same time, many of our teaching materials and cases used in financial teaching are mostly from Western countries, which lead to insufficient understanding of internal risk characteristics and hidden danger of China's financial system. Since Markowitz put forward the theory of asset organization, micro theory has experienced great development. In particular, under the impetus of information technology, financial engineering which focuses on the use of economic tools to analyze issues such as insurance market and bank loan has gained rapid development. This suggests that managers who know how to operate and master modern financial skills are more likely to be socially recognized than managers who master macroeconomic theory [14].

### 3.2. Personnel Training Mode Needs to be Optimized

In the Western developed countries, there are generally two systems in the training mode of financial talents: educational background training of universities and certificate training of vocational technology [15]. Take training of financial information talents for example. University of London cultivates compound financial information talents from three levels of undergraduate, master and doctor, with the focus on master level. Two master orientations are designed separately

according to different academic background: training goal is generalist for non-computer major students in the first degree; training goal is specialist for computer or related major students in the first degree. On this basis, graduate students of both orientations can pursue doctorate or directly engage in financial-field technical work. In contrast, our financial information talents are mainly from such majors as telecommunications engineering, software engineering, computer of science and engineering institutions, lacking financial and related practical knowledge.

### **3.3. Training of Teachers is not Changed Timely**

Because teaching mode fails to adapt to the change of the times, financial teachers are overly concerned about macro curriculum in teaching plan, with no time or energy to delve into new financial micro theory. Although financial engineering, investment, financial management courses are incorporated into university teaching plan, they are not major courses in students' learning program. In most cases, to respond to the development of financial theory, some universities add a large number of micro courses to the original teaching plan, most of which, however, serve as extension centered on macro curriculum, further aggravate students' academic burden, and make students' micro course learning incomprehensive and superficial.

## **4. Results**

The path for financial teaching reform and innovation in financial crisis environment:

### **4.1. Reform and Innovation of Teaching Mode: Scenario Simulation Method-based Insurance Experiment Teaching Mode**

Insurance is a very practical discipline of social science. By introducing scenario simulation experiment teaching mode into insurance teaching activities, students can gain personalized learning experience in a scenario. According to the author's field visits and interviews, successful insurance scenario simulation experiment teaching lies in the following three links.

First is selection of teaching content. Teaching content should be appropriately contextualized, and the degree should be positively related to teaching effect because not all teaching content is suitable for contextualization. For example, "car insurance underwriting practice simulation" is suitable for contextualization, so that students have more comprehensive understanding and better mastery of car insurance business theory and practice, which improves their ability to deal with underwriting and claim settlement business.

Second is creation of learning context. The created context should be aligned to the actual situation, and meanwhile, interesting, challenging. In the actual teaching, introduction of the latest actual cases can better meet insurance simulation experiment teaching requirements. For example, for "car insurance underwriting practice simulation", the latest, fresh, typical car insurance information can be collected from insurance companies and sorted into case materials.

Third is role simulation participation. In this process, students play their own simulation roles to involve in the scenario. For example, in "car insurance underwriting practice simulation", personal participation can enable students to understand the whole process of car insurance underwriting. Meanwhile, transfer of the basic principles of car insurance and related knowledge to the scenario can enhance students' understanding of theoretical knowledge.

### **4.2. Reform and Innovation of Personnel Training Mode: Training of Compound Financial Information Talents**

Compound financial information talents means compound talents that master information technology and related application knowledge, familiarize with financial theory and practice, who can engage in demand analysis, development, testing, management and related work in financial services and business innovation, risk management, data processing. In general, such talent should have knowledge background of macro and micro financial theory, computer technology, statistical measurement, financial information, etc. To this end, the relationship diagram of conduction between knowledge structure and ability of financial information talent is designed as shown in

Figure 1.

As shown in Figure 1, China's compound financial information talents should have the following capabilities: First, development and application capacity for financial business reengineering based on service innovation, product innovation. Second is ability to guard against information technology risks. Risk management is the core of the financial industry, compound financial information personnel should have the ability to prevent information technology risks, master the hardware and software aspects of security measures to avoid all kinds of insecurity factors in financial information technology facilities as far as possible. Third, decision-making capacity based on information technology. In the decision-making process, ability to obtain, organize, analyze data, and apply a variety of decision-making methods and techniques for in-depth data mining is required. Fourth is the ability to study for life.

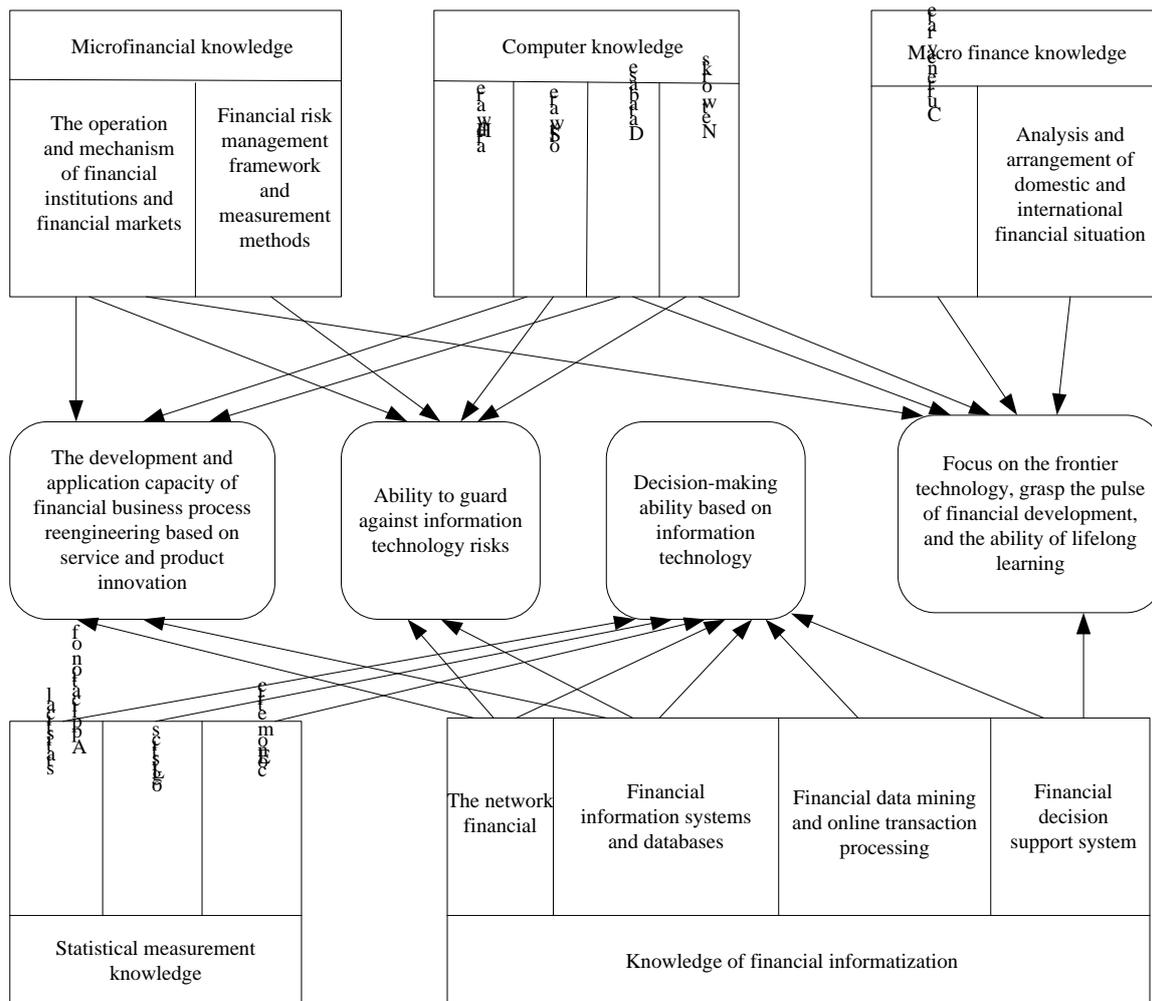


Figure 1. The relationship of conduction between modular knowledge structure and ability.

#### 4.3. Reform and Innovation of Teacher Training: Strengthening the Construction of “Double Type” Quality Teachers

From 2006 to 2009, China's Ministry of Education, Ministry of Finance launched and implemented the "national demonstrative higher vocational college construction plan". After several years of development, as of 2010, China has established 100 key higher vocational colleges, and formed perfect professional training programs and curriculum system, which greatly promoted the development of China's higher vocational education. A new policy was further introduced this year, which transformed over 600 undergraduate universities to high level vocational education institutions to focus on training of engineers, senior technicians and high-quality workers. Thus, "technical" talent training becomes a hot topic once again. Correspondingly, "double type" quality teachers arouse our attention again.

## 5. Discussion

Compound financial information talents should study for life, keep abreast with technical trends and financial development frontier, and make quick response to market or industrial changes. When choosing teaching content, universities should predict the knowledge points needed in students' scenario simulation with developmental and systematic vision, and consider the association of these knowledge points, divide them into levels based on importance and difficulty degree, to realize multi-angle, multi-level teaching. This requires certain quality for university teachers who are composed of organizers, implementers and managers in general. In addition, some universities will employ part-time teachers from school affiliated enterprises or social communities to form teaching staff of China's universities together. The paper argues that considering national macro policy, especially in the context of financial crisis, what the financial market lacks is no longer theoretical talent who only understand macro theoretical knowledge, but professional, technical talent. The training of "professionals" is inseparable from "double type" quality teachers. We should strengthen building of "double type" quality teachers, establish a multi-channel training mechanism and mechanism of reward and punishment, construct double type teacher practice base, truly train double type teachers in conjunction with enterprises, which helps cultivate professionals meeting the market demand and adapted to market changes, thus enhancing the overall level of financial professional teachers.

## 6. Conclusion

The outbreak of financial crisis makes us aware of importance of financial risk prevention, which also puts forward higher requirements for financial professionals training and teaching. We should focus on cultivating high-quality compound, application-oriented senior professionals who have the ability to learn fast and deal with emergencies, meet the needs of social and economic development, master the basic theory and fundamental knowledge of finance, have ability to solve practical problems by comprehensive use of various financial knowledge, can engage in relevant financial business and management work in financial institutions like bank, insurance, securities, investment, etc. and other financial management departments, government agencies and enterprises, and can sustainably adapt to the requirements of market development and changes.

## References

- [1] Ai, M.Y. and Pan, J. (2017). Research on the Construction Reform of Finance Specialty based on Innovative Talent Training. *Heilongjiang Researches on Higher Education*, 12(8), 56-60.
- [2] Anshelevich, E., Hate, A. and Magdon-Ismail, M. (2015). Seeding Influential Nodes in Non-Submodular Models Of Information Diffusion. *Autonomous Agents and Multi-Agent Systems*, 29(1), 131-159.
- [3] Betz, F. (2015). Price-Disequilibrium Model of the International Financial Grid: Innovation, Crisis, and Off-Shore Banking. *Physics of Plasmas (1994-present)*, 4(3), 209-214.
- [4] Connell, J. (2015). Maintaining the Professionalization of Teaching in Higher Education: From Entry into the Profession to Lifelong Professional Development. *Chemical Engineering Communications*, 136(1), 67-75.
- [5] Deng, L.L. and Zhang, X. (2017). Teaching Quality Promotes Learning Achievement Evaluation Modeling Simulation. *Computer simulation*, 34(7), 158-161.
- [6] García-Pozo, A., Sánchez-Ollero, J.L. and Ons-Cappa, M. (2016). ECO-innovation and Economic Crisis: A Comparative Analysis of Environmental Good Practices and Labour Productivity in the Spanish Hotel Industry. *Journal of Cleaner Production*, 138(1), 131-138.
- [7] Guo, F.C. and Wang, X.Z. (2015). The Teaching Innovation Path Analysis of Education

Teaching in China. Heilongjiang Researches on Higher Education, 3(5), 62-64.

[8] Horta, H., Meoli, M. and Vismara, S. (2015). Skilled Unemployment and the Creation of Academic Spin-Offs: A Recession-Push Hypothesis. *Journal of Technology Transfer*, 41(4), 1-20.

[9] Lee, N., Sameen, H. and Cowling, M. (2015). Access to Finance for Innovative SMEs Since the Financial Crisis. *Research Policy*, 44(2), 370-380.

[10] Liao, Z.J. (2016). How to Carry Out the Teaching of Physical Education in Colleges and Universities in the New Period. *Chinese Journal of School Health*, 37(5), 46-50.

[11] Petek, D., Hudobivnik, P.V., Jančar, V., Petek, B. and Klemenc-Ketiš, Z. (2016). Regional Coordinators: A New Teaching Opportunity in Family Medicine Training. *Bmc Medical Education*, 16(1), 1-9.

[12] Poslad, S., Middleton, S.E., Chaves, F., Tao, R., Necmioglu, Ocal and Bügel, U. (2017). A Semantic IoT Early Warning System for Natural Environment Crisis Management. *IEEE Transactions on Emerging Topics in Computing*, 3(2), 246-257.

[13] Spiller, M., McIntosh, B.S., Seaton, R.A.F. and Jeffrey, P.J. (2015). Integrating Process and Factor Understanding of Environmental Innovation by Water Utilities. *Water Resources Management*, 29(6), 1979-1993.

[14] Tian, G.W. (2016). The Paper Analyzes the Teaching Mode of Financial Practice in Colleges and Universities. *Heilongjiang Researches on Higher Education*, 6(1), 162-164.

[15] Zhang, G.M. (2015). The Practical Exploration of the Construction and Application of Micro-Teaching Resources in Vocational Colleges, Taking Zhejiang Finance Vocational College as an Example. *Vocational and Technical Education*, 10(8), 35-39.