Research on Professional Skill Training implemented into College Education System

RECHERCHES SUR L'ENTRAINEMENT DE COMPETENCE PROFESSIONNELLE EXECUTE DANS LE SYSTEME EDUCATIF UNIVERSITAIRE

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Abstract: In the process of deepening the reform of higher education, one of the important issues concerned together by government, enterprise and schools is how to improve the quality of higher education and improve Students professional skills and overall quality. For the sake of meeting the needs of society and the requirements of employment units "comprehensive" talent, improving students' professional skills and capability, this paper suggested to embed professional skill training into college education system. On the basis of establishing training model in college education system, this paper divided the model into the inner circle and outer circle. Meanwhile it pointed out setting up"2+1+1"college course to ensure the model implement successfully.
Key words: professional skill training, college education system

Résumé: Dans le processus de l'approfondissement de la réforme de l'éducation supérieure, un des plus importants problèmes préoccupant à la fois le gouvernement, les entreprises et les écoles est comment améliorer la qualité de l'éducation supérieure et développer la compétence professionnelle des étudiants. Afin de répondre aux besoins de la société et aux exigences des employeurs de chercher des talents « compréhensifs », et d'élever la compétence et les capacités professionnelles des étudiants, l'article présent propose d'implanter l'entraînement de la compétence professionnelle dans le système éducatif universitaire. Sur la base de l'établissement du modèle d'entraînement, l'article divise le modèle en cercle interne et cercle externe. Il suggère en même temps d'instaurer le cours universitaire « 2+1+1 » pour assuer l'application résussie du modèle.
Mots-Clés: entraînement de la compétence professionnelle, système éducatif universitaire

1. INTRODUCTION

As a product of social development, higher education's training logic changes with the change of time and the transformation of society. With higher education transformed from "seller's market" into "buyer's market", the society and employment units have totally different expectations towards higher education. On the one hand, the expectation of "able to enter" is changed into the expectation of "go where" both in students and their parents. On the other hand, the social development needs higher education to cultivate much more applicable talented persons. What the society focuses on is not the graduate certificate and diploma, but is if the graduates have the quality and capacity that the employment units need. According to《the investigation on the graduates' situation of job and employment》(http://www.sc.xinhuanet.com), the amount of college graduates demanded is 1.665 million in the whole country in 2006,which is decreased by 22% compared with the actual employment in 2005. It means that nearly 60% of the graduates will face positions gap. In the investigation of 44 enterprises, 59.1% of them believed that the current unreasonable college curricula constrained the graduates' employment. The semiconductor Manufacturing International Corporation once recruited 500 fresh graduates, but

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after two months, nearly 29% of them are eliminated (Fang Zhenghong, 2006).

How to cultivate high-quality "comprehensive" applicable persons who the society need is one of the most important questions faced by the higher school. Some scholars have already made researches on this issue. For example: Qian Jianping *et al.*(2001) claimed that the professional skill training should be timely embedded into teaching plan, paying equal attention to both diploma and professional qualification certificate. Zhong Binlin (2000) suggested that cooperation of enterprises, colleges and institutes is required for their own survivals and development in the competitive market. Based on this, Lin Hui *et al.* (2006) assumed 5 links of the cooperation of enterprises, colleges and institutes to promote students' all-round development. The current literatures pointed out that the educational way of emphasizing theories and lighting practice has led to the college graduates lacking of sufficient professional skills and cannot meet the needs of the society. But the researches of professional skill training are mainly focused on peasant workers and layoffs (Zhang Aiping, 2004; Han Zhiping, 2005;Zhou Damin& Zang Minna,2006; Yu Yongbo, 2006). The specific research on the mode of professional skill training embedded into higher school education hasn't been searched. With the problem of low quality and weak professional skills, this paper analyzed the feasibility of carrying on professional skill training in higher school, and established the mode of professional skill training embedded into higher school education.

2. THE MODE OF PROFESSIONAL SKILL TRAINING EMBEDDED INTO HIGH SCHOOL EDUCATION

2.1 The Mode of Professional Skill Training

The definition of professional skill training is that the laborers who enter specific vocational jobs or they will enter the jobs must have a development and training in their skill aspect, besides nurturance of professional skill, the improving of professional skill and changing the professional skill. To make the professional skill in higher school satisfied the development of society, this paper divide the professional skill model in higher school into four parts such as ability gap analysis, reason analysis, training design and improving implementation. It is shown as Fig.1:

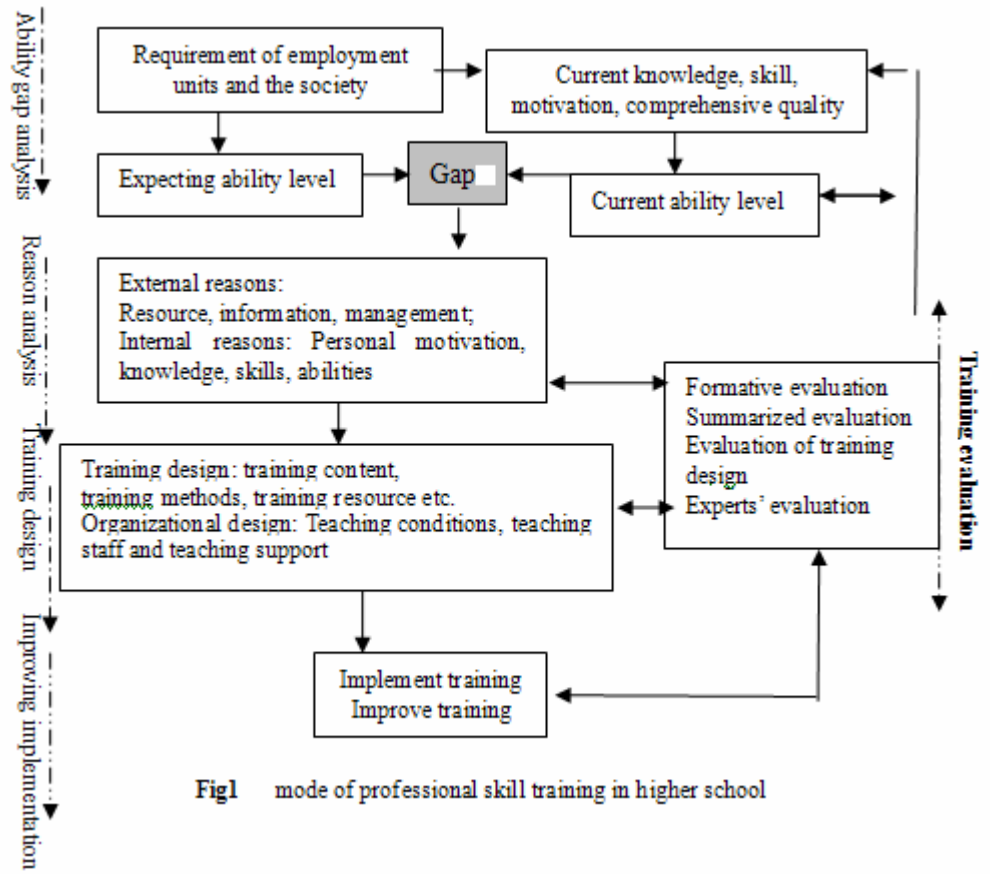

Fig1 mode of professional skill training in higher school

From Fig.1 we can find, when higher school implements the professional skill training, firstly we should make clearly the aim and goal that based on different social needs analysis for the structure of knowledge, professional skills, motivation and ability aspect. Secondly, we should carry a different analysis

both for internal and external reason to get the gap between society's expectation ability and students' reality ability. External reasons are mainly represented by lack of adequate knowledge of hardware or software, no clear training requirements or lack of effective management and evaluation of training effectiveness. Students' own problems are the lack of interest in training and awareness, not possessing the corresponding knowledge and skills. For example, the students do not know how to use the computer so they can master the support of the information technology. Thirdly, based on the different factors, we should target for different levels of professional skills of students to design different training program. There are two factors to be considered. One is to design the training content, training methods and training resources, the other is to organize the teaching conditions, teaching staff, and teaching support. Finally, improving training is taken after the implementation of training programs and some problems have been presented. Implementation process of professional skills training should invite experts, corporate officers regularly to evaluate the training process and the effect of implementation and maintain training accuracy and validity.

2.2 The Steps of Professional Skill Training Embedded into Higher School Education

The professional skill training which embedded into the reform of the whole teaching curriculum reflects the deepening reform of education system in higher school.

By adjusting the professional institutions and curricula structure in higher school, increasing the courses of professional skill training, and implementing as a form of compulsory credits in higher education, it is the key way to ensure that higher school further certain and optimize the aims of talent training, strengthen the comprehensive quality and capacity, and enhance the quality of talent training. The mode of professional skill training embedded into higher school education can be shown as fig.2:

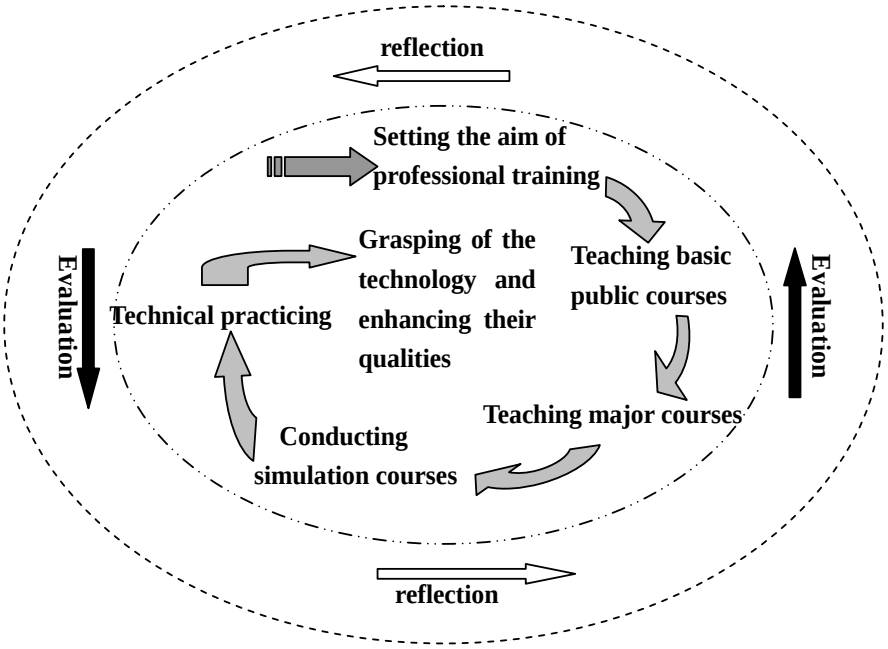

Fig 2 steps of professional skill training embedded into higher school education

2.2.1 Inner link implementation

1st. Setting the college students' aim of professional training. The enterprises and society require different professional skill training to different majors. Based on their majors, it is the starting point to train college students by refining the enterprises and society special requirements of talent skill and quality.

2nd. Teaching the basic public courses. It is the way to comprehensively improve college students' culture tastes, aesthetic taste, humanistic quality and scientific qualities by enhancing the education of humanities and natural sciences, such as literature, history, philosophy, arts (Wang Xiangdong &Zhang Weiliang.2004). Basic public courses specially focus on developing students' cultural qualities. The students are cultivated to make the correct values、life philosophy、World Outlook by learning the theme of the times and the classic and so on..

3rd. Teaching major courses. The 21st century is a time leaded by knowledge-based economy, and it's also a time when science and technology update increasingly quickly. In order to adapt the development of society, students should not only have basic public knowledge, but also have their profound expertise knowledge. This requires the college students to constantly enrich and improve their professional scientific knowledge. Major courses

include major theory learning and basic technology courses.

4th. Conducting simulation courses. Conducting simulation courses is a new step to help students to enter professional fields after finishing their major courses. The capacities of relating practice with theories and the independent problem-solving skills are gradually trained during this step. At this time the teachers play a critically important role. It requires that teachers can guide their students to find various ways to solute problems, make comparison and analyze, with the knowledge and ways that they have mastered. It can achieve the transformation from knowledge to capability with various realistic simulation courses in the classrooms. there are many kinds of simulation teaching modes such as "Experience", "research", "case", "advisory", "participation", "reproduction" and "interactive"(Zhang Li &Xu Yebing,2004). Simulation courses help students to understand and master the business and skills before actual operation.

5th. Technical practicing. Technology Practicing can be established through cooperative relations with other enterprises. It can improve the students' professional skills, comprehensive analysis and ability to solve problems by leading students' actual operation in the real places. Through the actual operation, it also can develop the team spirit of cooperation with others and communication skills, which is basic for students' future social work.

6th. Grasping of the technology and enhancing their qualities. This is the ultimate goal of the training. All the training activities are focused on these core objectives.

2.2.2 Outer link implementation

The outer link implementation refers to the steps running throughout the process of implementing the embedded mode, including reflection and evaluation. (1) Reflection. After mastering a series of related experience, the teachers and students rethink the original knowledge and skills, sum up the experience and lessons, and apply them to the next step of the training process. In the entire higher school education process, reflection is reversely running. In this teaching mode, it organically combines mastered knowledge with improving ability, achieving the bidirectional reflection between teachers and students. (2) Evaluation. The evaluation includes not only the teacher to the student's learning and skills assessment but including students themselves. The evaluation crosses ever teaching stage and both students and school receive timely feedback so as to adjust teaching and learning process quickly.

3. THE IMPLEMENTATION OF"2+1+1"MODEL

The author suggested a "2+1+1" comprehensive talent training model for implementing professional skills training in higher education. Four years of undergraduate study is divided into three stages in "2+1+1" comprehensive talent training model. The first stage is the period of freshman and sophomore in the college. At this time, students are emphasized on basic courses studying, including basic public courses and basic major courses. The goal of this stage is to require students to learn scientific knowledge and theoretical knowledge of specialized profession so that it is to establish the foundation for further enhancing. The second stage is the junior period. This stage needs to pay attention in the curriculum designing and enables the students to apply theory to reality so as to train the ability of analyzing the question and solving problem for students. The third stage is the senior period. During this period, students are organized to practice in the practice bases or the enterprises cooperated with schools. In the practicing process students continuously find their own problems and then make up them. Also, senior students can do their graduating designs according to the problems found in the practicing. These can help students to review the knowledge and practice that they have mastered, relating the theory knowledge with the actual operation again, and enhancing the professional skill and comprehensive quality of students once more.

4. CONCLUSIONS AND DISCUSSION

It is in favor for satisfying the social development needs of talent and guarantee higher school to definitude and optimization for talent training, if we embed professional skill training in high school education. Also, it is an essential action for strengthening university student's comprehensive quality and ability and improving the social talented person quality. But "2+1+1" comprehensive talent training model has a higher demand for teachers' professional skills. If the training students become qualified application talent, the teachers should enrich their own practical experience, especially the teacher who occupy faculty adviser must have excellent professional ability in practice. This requires the higher school to have a necessary training that update their concepts, update their knowledge and update their skills to adapt to the new teaching requirements for full-time teachers.

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