



Research Article

ISSN : 0975-7384
CODEN(USA) : JCPRC5

Discussion of undergraduate students trained models of material forming and controlling engineering major of forestry kind colleges in China

Jian Zhou¹, Lijun Li¹ and Lei Lei²

¹Machinery and Electrical Engineering College of Centre South University of Forestry and Technology, Changsha, P. R. China

²Hunan University of Technology, Zhuzhou, P. R. China

ABSTRACT

For culturing more professional talents, the history of material forming and controlling engineering major in China is described, and the popularization of Chinese higher education is analyzed. Combining Chinese situation, each forestry kind of college or university should determine its' own major direction of material forming and controlling engineering according to itself basis and the need of society, thus lots of talented person could be output from school to plants.

Keywords: Forestry kind college or university; Material forming and controlling engineering; Training model

INTRODUCTION

Material forming and controlling engineering major of forestry kind college or university is built in the background which the major is set catholically, but it is not easy for the major having famous characteristics. Because the usual forestry style colleges hadn't the casting, forging, welding, heat treatment major, etc, thus the new set major of material forming and controlling should begin from the original, in the point of getting a job, the major's direction used to be near to mold, so the undergraduate students' cultivating style has the great developing space, it needs the deep thought for forestry style colleges^[1].

EXPERIMENTAL SECTION

From 1999, the Chinese higher education has come to a new developing period, the changing step had been speeded from elite education to popular education. In the meantime, the society development and market economic of the new century have put whole requirements to undergraduate students, it brings the huge pressure and challenge to the cultivating work of higher college literature. The popular education cultivated undergraduate students has great differences from the elite education in the idea, knowledge construction, ability, quality, etc. Under the market economic background and new employment system, the undergraduate students are demanded to the main battle field of national economy. So, from the point of literature cultivated demands, except for major knowledge, the ability training and good personality should be paid more attention to.

From 1998 to 2003, for adapting the society's demand and economic development, the developing speed of China's higher education was untraditional in the history of world's higher education, it only used five years to overcome the span from elite education to popular education just in five years. In 2003, China had come into the period of higher education popular. With the high speed expansion of education scale, the problem of higher education quality has been appeared obviously. Nowadays, China's higher education quality idea and the realization of quality standard, higher education quality monitoring system are difficult to adapt the high speed developing of popular higher education background, the innovation of higher education managing and monitoring system is imperative, the

study of higher education quality monitoring has great importance to keep and improve China's higher education quality.

In 1998, China's ministry of education adjusted the higher college undergraduate course cultivated major, in the meanwhile, the old casting, forging, welding, etc, majors were merged into the major so called "material forming and controlling engineering", in order to train the literature of material heat treatment, who have wide profession and good adaptability.

Per three million mold output value could bring along one thousand million industry producing value, in 2007, there are 870 yuan thousand million mold producing value of China mold field, the increasing speed per year has gotten to 20%, the speed is next only to Japan and America, it is the third ranking in the world.

RESULTS AND DISCUSSION

Four major directions could be divided: mold design and manufacture, cast, forge, weld, the Figure is shown as Fig1. Because basic or major basic knowledge of mold design and manufacturing is nearer to mechanic engineering discipline, thus forge, weld and cast need more basic knowledge of material science, in the new cultivating discipline, four cultivating plans are set for mold direction, cast, forge and weld direction.

Because the major of material forming and controlling engineering belongs to new major, many related projects should be studied. It is a project which needs research continuously how to deepen the teaching innovation, train the reasonable knowledge construction, ability construction, and quality construction, the study is only preliminary and exploratory. With the study deeply, cultivated scheme of practical engineering literature will be better and better, the distinctive major of material forming and controlling engineering will appear, more and better engineering practical literature will be input to society for China's national economic development. It is also important to use the lab resources for improving students' practice ability.

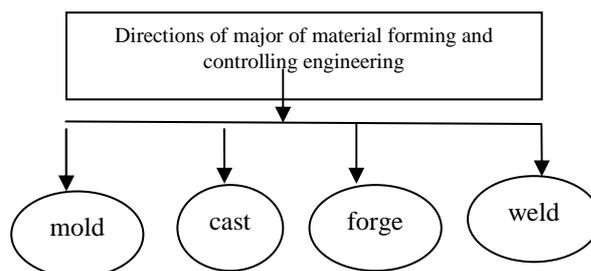


Fig 1 Four major directions of major of material forming and controlling engineering

For example, cemented carbide is usually divided into W-Co style (YG) and W-Co-Ti style (YT), etc, YT kind of cemented carbide drift suits to machine steel kind material, YT kind suits to machine casting iron kind material, for remembering the knowledge, T, G could be understood as initial consonant of iron and steel in Chinese, black metal also includes steel and iron material, so "T machining steel, G machining iron" might be memorized easily in such way.

From the above analysis, it isn't suitable to cancel old major direction wholly for resetting a new plan according to the big major of material forming and controlling engineering.

Such as Tsinghua university, Beijing science and technology university, they are key universities in China, of course there are also some general universities or college. From these key schools' teaching plans, these universities basically have their own divided major directions, especially course design, graduating design, though other courses' arranging may be identical, even strong specially courses are opened in the key universities.

"Taking the employment as the guidance" is the most important reference to train the college students as the practical innovating literature in China. Major developing directions of mold, forge, cast and weld are guided to cultivate innovating spirit and higher appliance. The strong comprehensive ability and innovating spirit can improve the competition of employment, so the students' employment is higher these years continuously.

From the area distribution, the developing speeds of south-east coast along areas, which are in the centre of Zhujiang triangle continent and Changjiang triangle continent, are faster than the region of centre and west, the south area

developing is faster than the north in general, the increasing velocities of such regions, Guangdong, Jiangsu, Zhejiang, Shandong, are all over 25%, the developing fastest and the most concentrate molds' provinces are Guangdong and Zhejiang in China.

Literature of mold field needs acceleration of experience, study of general mold design needs 2-3 years, otherwise, an independent excellence mold designer needs about 10 years working experience.

The one distinguishing characteristic of Japan education is "criticis" education, so innovating education should be practiced wholly in China. "It is important to doubt, smaller doubt smaller improvement, bigger doubt bigger improvement", doubting is the thought orient, also is the source of research and innovating, only do we find and point problems, the innovation impulse could be stimulated.

CONCLUSION

From every years' graduating students, there were a lot of students who have the problems such as weak practicing ability, narrower major area knowledge, so it is difficult to satisfy society's demand. In the environment of market economy, enterprises require shorter and shorter of college students' adaptation period for more and more profit, they don't want to spend too higher cost for on-the-job training. This asks the college education to build reasonable engineering literature training model, in the meantime, practice and innovation ability are the two key points to train engineering literature^[2].

Acknowledgement

Project of teaching innovating of Centre South University of Forestry of Science and Technology(2011); Project of postgraduate students teaching innovating of Centre South University of Forestry of Science and Technology(2012J003);

Conditional innovating project of science and technology department of Hunan province (2012TT2048); Open Lab Project of Centre South University of Forestry and Technology of China (KFXM 2012029).

REFERENCES

- [1] Jian ZHOU, Lijun, Ye Xue. *Advance Journal of Food Science and Technology*, **2014**, 6, 130-134.
- [2] Jian ZHOU, Lijun, Zhiming YANG, Ye XUE, Shaobo PENG. *Advance Journal of Food Science and Technology*, **2012**, 4, 195-198.