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Research Article

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Thinking for material forming and control engineering students trained model

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ABSTRACT

For cultivating the advanced material forming and controlling graduates, some methods should be adopted, for examples, strengthening the construction of teachers' team, the construction of laboratories, Strengthening the integrating construction of producing, studying and researching. some knowledge should be trained, such as major knowledge, computer knowledge, practice and English knowledge. Only these have been done, the advanced talents might be produced

Keywords: Material forming and control engineering(or mold)major; graduates; trained model.

INTRODUCTION

Nowadays,Major of material forming and control engineering has become a hot one,the mold is used to produce parts,it's a useful and main method of industry technology to produce products in bulk,it can ensure products' quality,reduce the period of trial-produce,thus try to be the first to capture the market,it also has the determined importance to upgrade the products and develop the new products.So in German,mold is named as "the king of machining metal",the mold industry is regarded as " key industry";In America,mold industry is called "the base of American industry",the mold industry is regarded as "inestimable industry force";In Japan,mold industry is regarded as "motive power to promote society rich and flourishing ",and the mold is called" security of whole industry development"[1,2].So in China,the mold industry was listed as the first reformed one in machinery industry,the second reformed one in producing and basic building industry by Chinese state department.

It is known from the Chinese mold industry society,from 2001 to update,volume of output of Chinese mold industry has increased about 14% per year,the ratio of middle and top grade molds is obviously improved[3].Thus a lot of advanced special talents who have skilled major technology and knowledge are needed with the mold industry higher speed developing and the continuous improvement of technology content.

EXPERIMENTAL SECTION

A certain school had set up the major of material forming and control engineering from 2005,all previous graduates employment rate is over 90%,the concrete situation is shown as table1.

Tab1 Major of material forming and control engineering graduates' employment list of a certain school

Graduating year	2010	2011	2012	2013	2014	Note
Graduating number	57	49	56	55	46	Statistic time is about sept/year
Employment ratio	95.6%	96.2%	96.5%	97.1%	95.8%	

And over half graduates got jobs in tri-angle Zhu and tri-angle Chang in China,others chose to stay in Changsha or other cities especially their hometown,and some graduates chose to act as postgraduates.The income of the major graduate employees were basically equal to other machinery majors graduates,this reflects the great demands of mold technology talents in the market.

From the reflected information of the major graduates,enterprises don't think the mold graduates are the trained personnel who only chose a few major courses in college,some graduates should be trained for a long time practical experience,then they began to join the mold job,so it's conflicted between graduates and enterprises,the enterprise hope the graduates could take part in the mold design immediately after they enter the plant.The mold field need a lot of talents who have the well-educated major knowledge in the college, the special education which are systemic and wholly should be spread in the school, so as to adjust the need of special talents of mold major.Many Chinese colleges have felt the needs of mold special talents are developing,thus most engineering colleges found the major of material forming and controlling,the main directing is to cultivate advanced mold talents for the economic market,for training the qualified talents of mold major,the cultivated emphasis are three models,they are major knowledge,computer knowledge and practicing skill.

RESULTS AND DISCUSSION

Major knowledge training

The major of material forming and controlling is the same with all other majors,the opened courses are divided into public courses, major basic courses and major courses,the major basic courses and major courses include:Base of material forming technology,plastic forming principle,material forming equipments,punch forming technology and mold design,plastic forming technology and design,mold manufacturing technology,modern numeric control technology,mold three dimensional design technology,mold CAD/CAM,material forming technology CAE,mold material and surface heat treatment,etc.From the above opened courses,the task of college students is very stressful,so the courses of material forming equipments,punch forming technology and mold design,plastic forming technology and design,mold manufacturing technology,etc,are the priority among priorities,these course are determined as compulsory courses[4].As a matter of fact,other courses are very important,such as modern numeric control technology, mold material and surface heat treatment,etc.

If we want to let students master the major knowledge firmly in the period of students' learning,the courses of punch forming technology and mold design,plastic forming technology and design have relative curriculum design,this can prolong studying time of relative important courses,the teachers can also find the shortages which exist in the students.From guiding students curriculum design in the past,we found some student insufficients as follows:

1)Motivation which students think problems initiatively should be strengthened more,the fact mainly reflected that the dependent of students' mold curriculum design was very universal,some students even wanted teacher gave the old designed materials to them,thus they didn't think the design at all,or some students asked the excellent students designed for them,or some students spent money to buy design materials through net,these phenomena should all be prevented so as to cultivate the students' professional ethics.

2)The basic knowledge should be strengthened.This mainly reflected that the students thought they had mainly finished the task of mold curriculum design after they had finished the mold assembly draw,so they were loosing.In the fact,the mold assembly draw is only a small step in the whole mold design,because the factory manufactured parts mainly according to the parts' draws,the assembly draw is only referenced sometimes,the design of parts involves spread basic knowledge,such as machinery draw,tolerance and fit,engineering materials,machine design,etc,especially the course of tolerance and fit is both the emphasis and difficult points,so the learning time of the course could be considered more as to let the students master the relative knowledge firmly,this can satisfy the mold major students' special need.

Computer knowledge training

Because the mold desire is developing very quickly,the experts think that nowadays Chinese mold industry outcome is increased in double digit per year,but the comprehensive advanced talents,who both master the whole set producing technology procedure and use the modern numerical equipment independtly,are not so many,the Chinese advanced mold designing and manufacturing engineers are vey lack.

With the world industry developing and Chinese accession to WTO,mold design and manufacturing have became more and more important in the future.The needs of those,who master mold construction,understand modern mold design knowledge,can use the relative software to design mold fluently,know the numerical control manufacturing knowledge and technology,have increased day by day,especially in developed area in China,the desire of advanced

mold talent grows obviously.So the knowledge of material forming major students should master more computer knowledge than usual machinery major students,such as UG,FEM,etc,this point should become common.

For the need of employment,the students also know the importance of learning software,relative to other cources,the study of computer knowledge can generate their interest.So the mold major students except master CAD drawing like general machinery major students,they also should learn about the mold CAE/CAM field knowledge,such as Pro/e.Of course,nowadays,the software become more and more,this maybe let the students don't know how to choose which software they should learn.In the period of learning software,the main idea is for practice,at least master a utility software,other software only be demanded to operate or understand.Only do like as this,it accords with the rules of study,and confirms to the period of knowledge exploring.

Practice skill training

The reasons which restrict students practice skill are manifold:

1)The schools' practice skill training fund is not enough.On this base,the bigger practice skill training base couldn't be set in the campus.In the middle China,these universities can't be compared with seaside colleges which have the support of financial group,the middle China's college students only do some simple experiments,or visit some molds and simple experiments,the chance of practicing is relative limited.

2)The modern companies are reformed in China.Because of this area reason,the arrangement of nowadays' practice is more and more difficult,they are only the temporary measure which the practice depend on school fellows and friends,even so,the students couldn't visit the whole process of mold design and manufacturing,so the seashores' colleges have some advantages of geography in China,on this point,the middle China colleges need confirm the construction of the campus laboratory so as to resist the challenge of the outside,at the same time,there is a high starting point from the beginning,it can also satisfy the need of key laboratory struction. Nowadays，with the prevalence of learning English, more and more peoplerealize the importance of Engilsh. English is not our mother language, but it' svery important for us to learn it. The reasons are as follow.

English knowledge training

First of all, English is the only international standard language. China has developed rapidly in recent years. Now he is towards to the global level. Being the unique communication way, English is of great concern. Or we can say that English is essential to strengthen our mold industry. Secondly, due to the development of our society, there are more and more foreigners in China. Especially in some big cities,there are so many foreign people around us.They may be our workmates, classmates, neighbors, friends or even soul mates and so on. Therefore, it is so necessary for our graduates to understand English. Otherwise, how can we get along well with them. how can we make our life much more colorful.

The above is just the tip of the ice berg for the importance of English. There are so many that I can't list all here. In a word, English is very important in graduates' lives.

CONCLUSION

In general,the major training is to cultivate students to master casting,press machining,welding and other materials' deformation basis knowledge,the students can use the material forming knowledge into the technology analysis fluently;They can master the base mold construction of punch die,plastic mold,cast mold or rubber mold,etc,they can design with the relative software masterly;They can master the basis computer aided software knowledge to analyze the punch technology and plastic forming technology,they can use deforming technology analysis by software;They should master the basis construction of material deformation equipments and the control theory,they have the basic knowledge of numerical deforming equipment design,manufacturing and management;They also need to be skillful on the basic knowledge of industry products deformation.After the students graduate,they can be regarded as the advanced engineering technology talents in the field of which the material deforming technology analyzed,mold design and manufacturing,new products developing and enterprises' management.

For the above targets to cultivate higher quality graduates of material forming and control engineering major,follows steps should be set up:

1)Strengthening the construction of teachers' team.On the one hand,if the time is relative spare,the teachers should communicates more with outside,even some teachers could be allowed to further-study;On the other hand,both having skillful theory and experience engineers could be engaged to give lectures in the colleges,the talents should be paid more attention to be engaged,sometimes the flexible policy might be adopted to attach talents;

2)Strengthening the construction of laboratories.The construction of laboratories have become the important point of disciplinary construction,so the good policy should be used fully,such as Euro-loan,interest-free loan,etc.The laboratory should be intensified step by step,and also there is emphasis,so as to satisfy the needs of all areas.

3) Strengthening the integrating construction of producing,studying and researching.It is very important to take advantage of the geography,taking enough advantages of the school fellows and friends,using the enterprises' needs expand the practicing road,so as to integrate the producing,studying and researching,and achieve the wins of the students,schools,enterprises.

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