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The Professional Course System of Software Engineering Master Major

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Keyword: Software engineering, Master graduate students, Personnel training, Training model.

Abstract. In this paper a model for the training system of the master of software engineering is presented. The model includes the main body, the cultivation form, the cultivation premise and the professional master and so on. Though the study of the relationship between objects and objects relations in the model, to draw out the software engineering profession, with analysis and solution of problems in the cultivation of graduate students.

Introduction

The training system of the professional master's degree is mainly studied. The object of our country is to participate in the training system and analyzing the relationship between the object and the property of the object. According to the above points and the description of relevant professional master's training in the literature, to design a professional master's training model.

The Condition of Master Graduate Students

The Cultivate Condition of Foreign Master Graduate Students

Britain is divided into two types of teaching and researching postgraduate, which is relatively looser than America's admission, the students who want to study for a doctor's degree, are not necessarily required to have a master's degree. And the students can choose their own way of studying in two ways, studying in the full time or the amateur. But the high requirements for finished a degree has not low attrition rate [1].

Germany use apprenticeship mode to cultivate postgraduate, its main teaching core around the teacher, the school arranged for the course is relatively small, the students is to do the project with the teacher and to listen to the lecture as the main teaching code. As the students follow the teacher's requirements, the students will have a deeper study and a more systematic knowledge structure in the corresponding research. There is no hard limit on the studying age [2].

The perfection of various educational foundation systems in the United States, making the students has a high degree of freedom in the choice of the exchange between the University, the subject and the credit. However, there is a clear assessment of the standard of high elimination rate in various disciplines (some university reach 30%~40%), and under the protection of a large number of social supervision agencies. It will not make the students in the advocating liberal atmosphere of the United States, losing the rigorous objective of academic quality and high quality of theoretical practice. Universities in the United States to provide higher education have their own unique set of personnel training system, in this set of personnel training system, also covers a number of mature theories, standards, procedures and training programs and feasibility of the training model and concept, to adapt to the different categories of personnel, professional, etc. Such as service - learning model in the 2009-2010 survey of the United States, has 93% of the University opened the relevant courses [3], there are also independent research classes in American University, mainly for students who has excellent academic performance, etc [4].

The Cultivate Condition of Home Master Graduate Students

The development of Chinese postgraduate education has been developed in China for 30 years and already has a certain scale in the country, and established a sound professional discipline Establish a sound professional discipline, and the degree education system with Chinese characteristics.

Especially in 21 Century, the scale of postgraduate education development is rapid. And the higher overall size of our country has been in the forefront of the world [5].

With the increase of size enrollment, the problems such as the shortage of students, the shortage of teachers and the incomplete of the assessment content are still in existence [6]. The related effects of higher education expansion in China and its problems includes education funding, students level, graduate management level, professional level, etc. Some of the problems are still not fully resolved in the percent. Including the construction of a number of the problems and measures, are also worth us to review the development of higher education in China.

In 2012, the Ministry of Education carry out the "new ability to upgrade the school plan", give a way to improve the quality of education in colleges and universities, and to improve the scientific and technological innovation ability, bring new moment. However, there are still many problems in the newly established institutions under the enrollment expansion. Such as homogenization phenomenon is serious, the level of teachers is not high, and the lack of financial support [7]. Because of the mechanism of higher education is not perfect and the degree of refinement is not high. College of professional knowledge structure, expertise, professional expertise, interest in the design of the curriculum and the social use of personnel skills needs of the people still have a problem [8]. Although in our country the existing postgraduate education form structure preliminary formation stage, has established a master of engineering type, clinical medicine, finance and law, and other applied graduate training system. However, due to the limitation of the enrollment system and the index, the training applied of the graduate students is far from meeting the needs of the social reality [9].

With the rapid development of social economy, the demand of high level and applied talents in various industries is increasing, from 2009, the ministry of education began to adjust the structure of postgraduate training, devote major effects to develop professional degree graduate education. It predict in 2015, the enrollment ratio of professional and academic type master's master will reach 1:1, in order to promote the education of postgraduate, achieve the mode of cultivating academic talents turn to the training applied talents as the main mode[10]. This means that our country's master's graduate students training strategy will be more biased in favor of the training to serve the needs of the community, also shows that the social needs, and sustainable development will be the main direction of the cultivation of master's graduate students in china.

The Training System of Master Degree in Software Engineering

The training system of software engineering is use the main body of each independent course as analyze and improve the training of postgraduates' reference point. It is a reference model, which covers the main object of the research, and the related objective factors of the students in the professional training of the software engineering, can objectively and correctly reflect the goal of personnel training. System is a relative object relation system, with guidance and open personnel training, is the basic basis of the teaching plan, the curriculum and the training mode.

The open system is reflected in the construction of a complete set of training system, which highlights the key part of the training, and has a certain overall structure. As shown in figure 1.

The Form of the Education

The master training system of software engineering's education form includes course system, competitive platform, practice base, laboratory and professional certification training, which is the form of education with feedback mechanism. At the same time, the training subject go on construct and practice to education form, the stage of the education form give the feedback information to training object. The feedback mechanism of education form is the stage, the integrity and the one-way.

The stage of professional master's training is mainly reflected in a cycle through two links, as shown in figure 2. Every cycle is a stage, from the whole to see the stage's input is the main body of the construction practice and the cultivation of the form, output is the master of the overall

information feedback and training form of feedback, in each stage can go on the next stage at the same time. After each step's input is required to pass a certain time to form the next part of the output, but the first part to go through the time will be based on the different forms of training then have a great difference, for example, the curriculum system may be a week or a half semester to constitute a whole stage of feedback, the way have classroom testing and midterm test, and in the laboratory, it is a whole, and it will be more than a long time and a relatively comprehensive test.

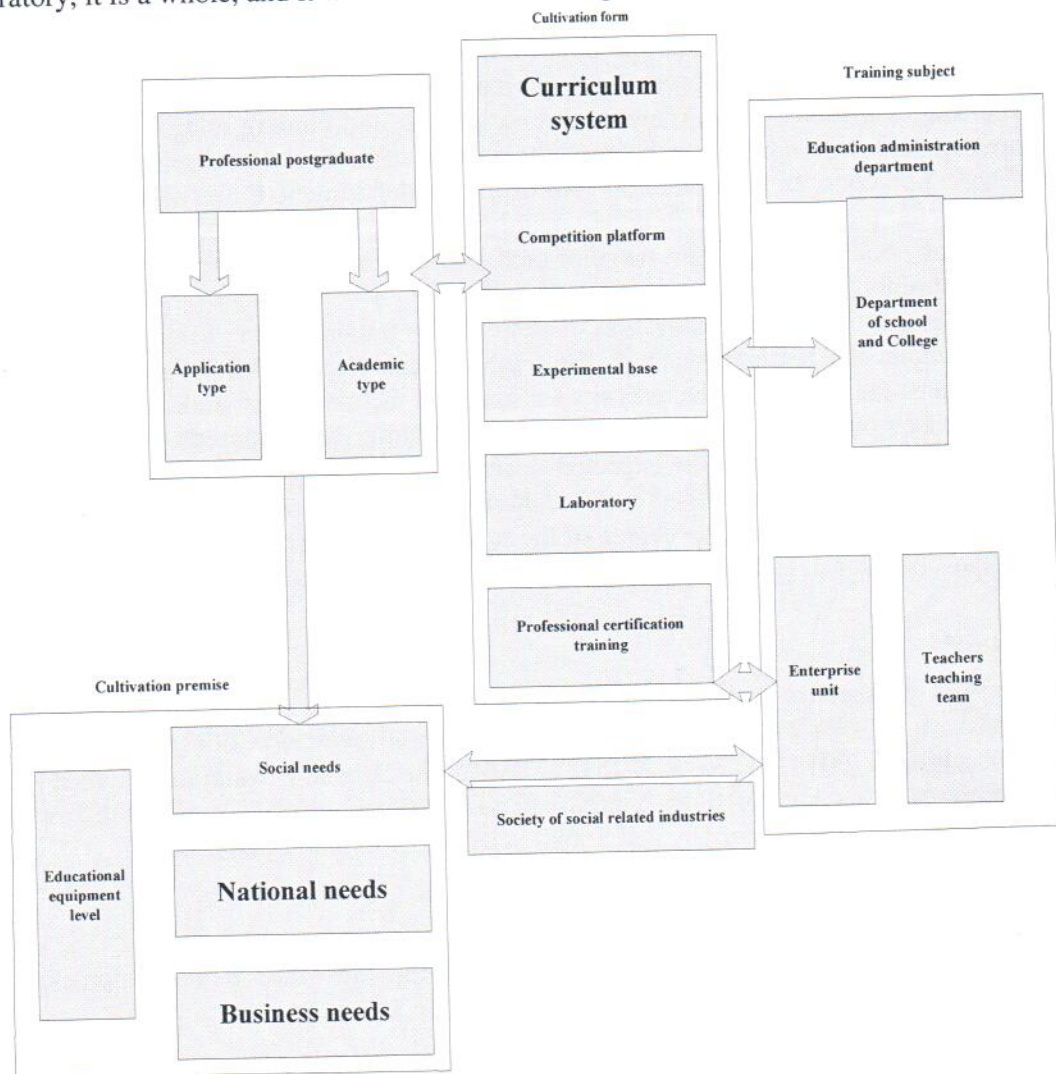


Figure 1. Software Engineering Professional Master Training System.

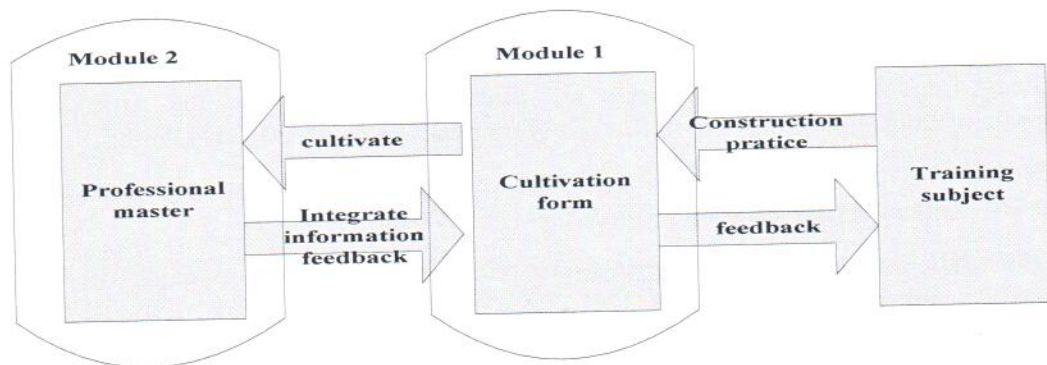


Figure 2. The stage of professional master's training.

The integrity of the training form feedback mechanism is the integrity of the master's feedback information, and the feedback information is evaluated and modified by the cultivation object in the form of training. Take the laboratory training model as an example, each specialized master's progress in the laboratory and the daily assessment of the training are different, usually through the external evaluation to get the same stage of the master's overall feedback information.

The Main Body of Cultivation

The main body of the training includes the education administrative department, the school, the competent department, the social profession association, the enterprise, the employing unit and the teaching team. The main body of the training plays a guiding and binding role in the professional master training system, through the analysis of the system to promote and improve the training form's construction practice. In the education administration department, the education department, the Education Bureau, the education committee, mainly research, development, supervise, workable the major education policies. In a certain range of professional master's training form plays a role in planning and constraints.

Teaching team is the most direct realization of most of the training form. Taking the curriculum system as an example, the teaching team of the teachers basically decided to realize the course, including two aspects: the method of the teacher's teaching and the method of student learning. As the teacher is in a dominant position in the teaching method, the teaching methods used by teachers must be targeted; otherwise it can not achieve the expected teaching objectives. The specific objectives of the course are the requirements of the teachers in the cultivation premise, and the course contents of the school and the competent departments in charge of the school, after a systematic collation and analysis of the quantitative, operational, and can be evaluated for the specific reference.

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