

# ***Exploration and Practice of Graduation Design Management System in the Background of the Rough Category Enrollment***

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**Abstract:** Graduation design quality directly affects the quality of undergraduate education and the overall teaching level of the university. According to the enrollment of undergraduate talent training mode and the request, this paper builds selection process of the graduation design management system. And exploration and practice are finished from the large enrollment selection, project selection and enterprise topics, respectively. And the run of the graduation design management system is analyzed. The system is helpful for improving the quality of graduation design, promoting the teaching of scientific research and improving the students' ability of innovation and practice.

## **1 Introduction**

At present, some developed countries in the world are carrying out higher education teaching reforms with varying degrees. The main directions are as follows: strengthening basic and general education, and achieving the integration of courses. The rough category enrollment has broken the traditional model of enrollment and training according to the profession, conformed to the requirements of market economy development, diversified talents, eased the employment pressure to a certain extent and enhanced the market adaptability of higher education [1][2].

With the continuous expansion of the scale of colleges and universities, how to make rational use of teaching resources and effectively strengthen teaching management has become the focus of attention of major universities. The networked and systematic management of graduation design has become a trend. Many colleges and universities have already stepped out. The establishment of a perfect graduation design management system has great practical value [3].

In view of this situation, in order to better meet the needs of the current colleges and universities enrollment talent training model, this paper establishes a graduation design topic selection management system, which can realize the management of graduation thesis information. The system has realized the

standardization, high efficiency and simplicity of the thesis in the graduation design topic, which has improved the efficiency of graduation design and meets the needs of large-scale enrollment and training.

## **2 Major Enrollment Implementation Measures**

As a new type of talent training mode, the rough category enrollment is in line with the general trend of undergraduate teaching reform, which is conducive to the integration of resources within the university, is good for cultivating talents on demand, cultivating innovative talents, improving school efficiency and improving the quality of students. However, during the implementation process, it is easy to cause an imbalance in professional development, affect the efficiency of running schools, weaken the profession, and decrease the recognition of society for the profession [4]. According to the actual situation, the College of Electronic Engineering of South China Agricultural University aims at the platform construction and teacher construction of the rough category enrollment mode, revises the teaching plan, perfects the teaching management and graduation design system management, gives full play to the strengths of the rough category enrollment and trains for better quality talent. And the college implements a number of measures to improve the construction of the teaching staff: hiring famous foreign scholars as part-time professors in our school; implement the undergraduate tutor system; encouraging students to enter the teacher's topics and projects in advance; encouraging students to enter the enterprise internship and exercise practical ability.

## **3 Graduation Design Management System Optimization**

The graduation design management system not only has the teaching management functions such as topic selection and student information management, but also meets the needs of the rough category enrollment and training in many aspects. Mainly reflection are in the following aspects:

### **3.1 Project Topic**

At present, most colleges and universities face the problem of tight teaching funds and insufficient equipment. And the way of solving problems effectively is to guide undergraduate graduation design to rely on teachers' scientific research topics. Teachers can fully combine their own research topics when finishing graduation design topics. On the one hand, students can be supported by research funding during the graduation design process. Students can also use the advanced equipment of the laboratory to ensure the quality of graduation design. what's more, it can alleviate the dual pressures of teachers to do research projects and guide graduation design which achieves a win-win situation for students and teachers. The graduation design management system realizes the process by prescribing the questions in advance. The students and teachers negotiate the graduation design questions and enter them into the management system in advance, which is also in line with the training mechanism of the “undergraduate tutor system” for the rough category enrollment [5].

### **3.2 Major Topic**

Since 2011, the electronics major of the School of Electronic Engineering has implemented the training model for the rough category enrollment. It has played an active role in integrating teaching resources, improving teaching quality, strengthening basic teaching, broadening professional caliber, and

cultivating compound high-quality talents. Taking into account the characteristics of this talent training model during carrying out graduation design topics, similar professional students are put into the category of topics, no longer over-specialized. For example, electronic information, communication engineering, electronic science and technology can be categorized as the electronics major. And these students are combined to choose the topics, which provides a good support for the students' compound development.

### **3.3 Enterprise Topic**

Student graduation is under employment pressure, and many companies also require students to practice for a long time. Students need to face the pressure of corporate internship and graduation design. Many students feel that the courses that they have learned will not be used in the future, so they are perfunctory for graduation design. The university students enter enterprises to carry out graduation design, which gives enterprises an excellent opportunity to cultivate, inspect and select student. Enterprises can cultivate talents according to their own needs, and the cost is not high. When students go to a business to do graduation design, they can learn the skills that the school can't learn, improve their employment competitiveness, and complete the graduation design task. Therefore, the graduation design selection process introduces the enterprise tutor, and each tutor gives 1~3 questions which can enable students to truly access corporate technical knowledge, broaden their horizons and improve their practical skills [6].

## **4 Graduation Design Development and Implementation**

The rough category enrollment has enabled students to achieve significant development and progress in general education. At the same time, the professional education of students has been weakened. After the graduation design topic is determined, the teacher needs to guide the students to make preliminary design plans, research status at home and abroad, and subject background according to the content of the topic and the students' professional knowledge. If necessary, additional professional knowledge is required to supply. Teachers can designate key monographs and papers to read for students. Then students can clarify the tasks and objectives of the graduation design project.

Mid-term inspection and standardized management are enforced. Establishing a good system is a guarantee for the successful completion of the graduation project. Firstly, the instructor will assign tasks to the students in accordance with the standardized management procedures, supervise and guide the students to complete the graduation design tasks at various stages, and find out the existing problems in time. Most of the graduation design is completed in the last semester. At this time, some students are busy with hunting for work, entering the company for an internship, etc., and neglect the graduation design. Many graduating students already design and complete the actual work successfully, but ignore the writing of the graduation thesis, resulting in the low score of final graduation design results. Instructors need to find out whether the student's research content is perfect, whether it can solve key problems and progress. Through the mid-term inspection, the instructor can adjust the work tasks in time and urge the students to successfully complete the graduation design tasks.

Graduation design defense is effectively completed. Some students have poor verbal ability and often have problems of logical confusion, irregular format and incomplete structure. When the students responded, there were some cases such as missing the point and giving an irrelevant answer. The defense work is the last part of the graduation design, and it also reflects the students' ability in all

aspects. The instructor needs to have enough patience and care. Some papers need to be revised several times and some students need push by the tutors to complete a qualified graduation thesis. And the quality can be improved as a whole. Students' graduation time is very compact and students shall design a PPT to reflect the student's graduation design work and achievements. The instructor will give revisions and precautions according to the problems of the student's defense PPT, and complete the final part of the graduation design.

## 5 Graduation Design Management System Operation Analysis

The design and implementation of the main functional modules of the management system include: 1. The teacher user function module. It has the function of filling in the topic selection guide, determining the student, managing the student, etc. 2. The student user function module. The student can see all the questions suitable for the major, and the detailed information of the topic; 3. The second-level administrator function module-the department-level review function. The responsible teachers can view the topics of their department, and consult the specific content by clicking on the detailed information. The audit results are as follows: "The topic has passed the review" and "the topic has not passed the review" and the corresponding opinions are filled in; 4. The administrator function module. It has the system-level auditing and management functions. (1) Manage the graduate design instructors and selected students in the whole college. (2) Set up the secondary administrators. (3) Management rounds. If there are some students who is not selected by the teachers after a round of selection, we set the second round of choosing topics in order to solve this problem. (4) Summary of the topic selection. Administrator can view all the selected topics in each department, including instructors, topics, students and other information. (6). The number of graduates each year is about 1,000. The large amount of information makes the software and hardware cooperate perfectly to realize the online selection of thousands of students at the same time to prevent network congestion.

## 6 Conclusion

This paper takes the rough category enrollment as the background and carries out the graduation design management system. The teaching practice shows that on the one hand, students can be trained in real scientific research practice and enterprise practice then the comprehensive quality and innovative ability of students are obviously improved; another aspect the research ability and teaching level of teachers have been improved, which alleviates the contradiction between teachers' research and teaching. Finally, the quality of graduation thesis is improved and the teaching effect is very remarkable.

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