

Research on the Theory and Practice of "Double Tutorial System" in Graduation Project of Engineering University under the Background of Innovation and Entrepreneurship

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Abstract. college students have many disadvantages in the process of graduation design and thesis, this paper presents the cultivation of an innovative mode of thinking -- "mentoring", will integrate this mode to college students graduation thesis or design. It makes the graduates in a certain degree the better the theory and practice, scientific research ability and quality will be greatly improved and progress, it also strengthens the local colleges and links, can expand the college graduation thesis ideas, but also input fresh blood to the local scientific research.

In the field of education, teaching students in accordance with their aptitude has always been a very encouraging teaching method. In the graduation project of Engineering University, the dual tutorial system is an educational mechanism based on the principle of teaching students according to their aptitude. Dual tutorial system is a kind of training mode of scientific research and learning two kinds of tutors, which can guide students' scientific research, creative consciousness, thinking ability and learning ability. The dual tutor system was born in 90s. In the process of the continuous progress of the socialist economy and market system, a new competitive mechanism corresponding to the market economy is being rapidly formed. Contemporary college graduates are no longer unified by the state, but need to choose their own jobs, and the choice of two directions has become a reality. In this way, higher demands are put forward for contemporary college students and higher education, which must greatly promote the reform of higher education. The double tutorial system is needed in this era of reform in a comprehensive and efficient to improve the comprehensive quality of contemporary college students as a guide, the training and management of students together, forming a new accord with the contemporary social development requirements of the system innovation.

Engineering students, double tutorial system, inevitability

With the progress of society and the development of science and technology, the competition of talents becomes more and more fierce in twenty-first Century. With the continuous implementation of the concept of quality education, it is urgent for the society to cultivate all-round talents with high quality, high ability and high knowledge level. In the stage of higher education, cultivate talents of innovative spirit and ability is one of the important tasks of colleges, to accomplish this task, the most fundamental is to reform the current education management mode, the construction of personalized. It is very important for engineering college students to combine theory with practice. What society needs is capable and creative talents. At this stage, students need to solve practical problems of all kinds, so will the "double tutor system" applied to engineering graduate design, the integration of theory and social practice needs better together, to improve graduation

design and improve students' comprehensive quality effect.

The graduation project of traditional mode has many disadvantages for engineering students. The traditional model of graduation design is not based on the actual project of the enterprise. Students in graduation design stage are just an empty talk and can not meet actual engineering projects. The knowledge they have learned is only in the theoretical stage and does not form the concept of application. In the traditional way of graduation design, there is no good practical ability to train students, which makes it difficult for students to combine theory and practice, and can not meet the requirements of enterprises and society. Compared with the traditional model, the dual teacher guidance mechanism is shared by two teachers. It guides the whole process of graduation project and thesis, and emphasizes the cooperation between two teachers. School teachers pay attention to academic guidance (including theory and Technology), and school teachers (ie senior engineering and technical personnel) emphasize practical guidance ability (including understanding and analysis of problems, adapting to social competence).

Engineering students carry out dual tutorial system

The design and engineering students graduated from "double tutor system" refers to the school sent corresponding mentors and sent to guide engineers in the corresponding enterprises common to the graduation design and thesis writing guidance, or by the enterprise and the school of graduate counseling and common questions.

(1) steps towards the implementation of a dual mentoring system

The "double tutor system" should run through the whole process of graduation design and thesis. From the graduation opening to the design process, finally written papers and scores of documents, internal and external teachers should participate, strengthen exchanges and cooperation. Graduation project topics can be given by the school teachers, or from the direct development of school teachers, engineering projects, select part of the project as a graduate design, so that graduation project is no longer out of practice. The design process should be assisted by tutors from both inside and outside the school. Instructors will provide advanced research methods, and external instructors will provide practical experience to achieve a combination of real theory and practice. Finally, the scoring of the thesis should be based on the scores of tutors inside and outside the school, and set a certain proportion, so that students should pay great attention to the practical application.

(2) requirement of dual tutor system for engineering students

The implementation of the "dual mentoring system" requires schools and enterprises to establish a good cooperation mechanism. In today's market economy, "win-win" is an important condition for cooperation between the two sides. Enterprises are not responsible for employing tutors as experts outside the school, so it is necessary to mobilize the enthusiasm of enterprises and realize long-term cooperation between schools and enterprises. University graduation design and thesis should carry out the "dual system", requiring schools and enterprises to establish a mutually beneficial "win-win" mechanism. Kunming University of Science and Technology Electric Power Research Institute and the Yunnan Electric Power Design Institute, the fourteen Hydropower Bureau, the water conservancy department and other units have long-term cooperation in schools and enterprises, and have good cooperation relationship. The electric power enterprise internship / design base: Rubeus Hagrid Yang Zonghai power plant, power plant, electric power design institute up to 18. Kunming University of Science and Technology Institute of science and technology of electric power enterprises to choose these relatively stable units as a professional teaching practice base, establish long-term cooperation mechanism, these companies also employ business school professors as consultants, the two sides regularly for hot issues of cooperation research. In this way, the graduation project and the "dual tutor system" of university students can be well implemented, increasing the cooperative relationship between schools and enterprises, and improving the employment rate of graduates.

The operation of the dual mentoring system

In the practice of mutual benefit and win-win cooperation between teachers and students in the new and old training mechanism, the recruitment of qualified off campus tutors is the key. Under normal circumstances, qualified teachers should have four basic qualities, such as professional technical position, research direction, practical guidance ability and master of postgraduate training. At present, most of the teachers in Colleges and universities China has focused on recruiting within the academic field, single source, relatively rigid system, should establish an open, mobile, competitive selection system, the autonomous community oriented open recruitment, selection of personnel is not fixed in the preparation, flow of full-time teachers and part-time instructors combination vacation tutor. In order to make the "two tutor" teaching model achieve practical results, it is necessary to attach great importance to the selection of off campus tutors. Collect relevant information or business management, has certain theoretical basis, academic background, professional record business practice innovation ability or the establishment of school teacher proficiency, specific courses, libraries, according to the actual needs of graduate students and teachers.

The cultivation of innovative college students is a complex systematic project, which has the function of improving academic development, theoretical progress, practical application and practical innovation ability. The establishment of school teachers outside of the communication system of cooperation, is conducive to a comprehensive understanding of the students, help them find the breakthrough innovation, the formation of frontier and practical leading, the implementation of internal and external combination of teachers, outstanding teachers excellent students to create outstanding graduates in order to show the new training system, to avoid causing a single training mode of academic atmosphere depressed situation. It can be said that in the training of college students, once the environment and the atmosphere of freedom have been lost, the cultivation and development of College Students' creative ability will be hindered.

Conclusion

The establishment of "two instructors" training model is an important measure for college students to cultivate and innovate. As a new mechanism, it is necessary to constantly innovate and perfect the practice, and also need to strengthen the investment and management of the dual tutor team construction, fully mobilize the enthusiasm, and cultivate the enthusiasm and creativity of the students. The "double tutor system" will become a very important training mode, but the two teachers of the graduate training means an increase in the cost of education, and the investment in graduate education conducted a number of tests, actively raise funds for training engineering students with double tutor, is an urgent problem. The new measures for the reform of the "two tutor" training model in the graduation project of Engineering University, and exert the positive role of the dual tutors, we must strengthen the work evaluation. According to the graduate training program, make clear the responsibilities of dual tutors and evaluate their duties regularly. And establish reasonable incentive measures to encourage the participation, input and cooperation of instructors both inside and outside the school. Teachers who have achieved good results should be rewarded accordingly, and exchange experience with other teachers to strengthen practice and promote the cultivation of innovative students.

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