Innovate and Reform Talents Training Modes in Education of Electrical Specialty

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Abstract: In this paper, the writer aims to the cultivation of electrical specialists on the basis of training mode of the engineering talent at colleges and universities and puts forward the research on reform in education and innovative cultivation of electrical specialty by analyzing the teaching conditions of electrical specialty. Then the author puts forward some new ideas on the aspects of the teaching plan, teaching methods, practice training, as well as an improved program was introduced.

Keywords: electrical specialty, personnel training, Innovation

1 Introduction

At the new situation, the innovation talents-training becomes the main direction of the development of training pattern in colleges and universities. Achieving the new development of higher education in the new century and promote colleges and universities to further enhance the quality awareness, ministry of education decided to implement "New Century Teaching Reform Project in Higher Education ", on the basis of the initial results achieved by "the plan of teaching contents and curriculum system reformation in Higher Education that geared to the new century". This puts attention to education for all-round development, deepen educational reform, and strengthen the teaching construction, in an all-round way to adapt the need of socialist modernization drive to various types of high-level personnel in the new century. Electrical specialty is an important major direction in college of science and engineering, today's information technology especially never-ending changes and improvement, new technology, new ideas are constantly emerging. In order to take parallel steps with social development, it inevitably lead to a teaching reform of electrical specialty, which aims at cultivating talents with innovation ability, with the curriculum system, teaching content, teaching methods, practice training as the main contents. Therefore, teaching reform of electrical specialty has a very important realistic meaning.

2 Analysis of the Present Teaching Condition of Electrical Specialty

The current teaching process of in universities did not truly free from the influence of traditional education mode in general, although the teaching reform in colleges and universities has been implemented many years. In accordance with the idea of the education for all-round development, education is aimed at the overall improvement of human's quality, through a various kind’s education, turn the external knowledge and experience that to students into internal and stable personality psychological quality, thereby provide a good foundation for the development of students’ lives. In the university teaching process, it is important to impart the necessary knowledge, but more importantly, is to enable students to form correct learning methods and strong self-learning ability, cultivating students’ scientific spirit and sound personality. At present, however, whether training mode or teaching process, classroom teaching or the practice training, have not really embodies the spirit in universities. Therefore, it is the key to promote the teaching reform in high school that made a thorough reconstruction of teaching process which formed under the traditional education mode, of to the formation of a radical transformation, truly achieving synchronization of education for all-round development and University teaching process. For a professional and technical personnel, only has firmer theories and practical ability is not enough, but also should learn to communicate, have cooperation spirit, be able to face success and failure, have good language skills, which requires the contemporary university students have a profound knowledge of humanities.
3 Educational Reforms in the Content of Electrical Specialty Teaching

3.1 The Reform of Teaching Method
Change the traditional teaching method that with the theme of books and centering on the classroom, which makes education activities have the character of diversity. Advocate heuristic teaching methods, to enhance the effectiveness of education activities. Combine teaching with scientific research, to introduce the teaching, promote teaching and enrich teaching contents. For exam format, change the single closed-book, written examinations in the past, combine closed-book with open-book according to courses features we can adopt kinds of exam format, such as written examinations, oral tests, reading report, papers. Examine and understand student’s studies all directions.

3.2 Practice Teaching Reform
To reform experiment content empirical approach, combine with concrete condition of all courses, we should delete the experiment contents which content-lag, timeworn experimental method as much as possible, integrate repeated experiments, compress replication experiment, add comprehensiveness and design experiments. Devise measures and systems to open laboratory, and strive to open experimental project to students as many as possible, to create a good experimental environment for students.

3.3 The Integration of Curriculum System and Optimization
To enable students to become electrical specialists with innovation ability, we must deal with the relationship between base and major, theory and practice, main discipline and related discipline, in integration, vertical vs. horizontal, well-designed the new knowledge structure and curriculum system which meets the 21st century’s needs. Vertical integration committed to the main line that cultivating innovation ability, and horizontal integration burst science bounds, established a new curriculum system which be set in electronic information.

4 Reform Goals

4.1 The Teaching Model Openly
In advanced teaching process, the teacher role should be redefined, not only are “impart facts and theories, disabuse”, but also are instructional designers, organizers and mentors. The open teaching modes involve both teaching and studying, the core of which is completed the role changing for teachers and students in education activities: teachers changed from knowledge transmitters to directors and students to offer criticisms of respected ideas.

4.2 Procedural teaching method
Procedure has three aspect meaning: first, pay attention to students participate in the learning process; second, attention to the thinking process of education activities; third, expose the knowledge processing. We should pay attention to cultivate students’ ability to collect and handle the information, obtain new knowledge, analyze and solve concrete problems, language competence, as well as teamwork and social activities. Do not simply use the difficulty and depth of the curriculum and teaching materials, and test scores to measure students, but should scientifically evaluate a student comprehensive quality in an all-round way.

4.3 Diversification in the Teaching System
(1) Diversification in the interdisciplinary. Increase the quantity of selected course and compatibility, thereby increasing alternative in selected courses environment, and creating a full-frills development space for students’ cultivation.

(2) Diversification in the interdisciplinary related curriculum. According to the education features of electrical specialty, major required subjects open the curriculum includes major general courses, major basic courses, major field and specific curriculum offered; specialized optional courses open span
subjects, specialized optional courses. It in line with the social diverse demand for electrical specialty talents, and the depth that students investigate and analyze problems in professional practice can be sublimated, and then serve as a catalyst for innovative ideas and innovation consciousness.

4.4 Innovative Practice Training
People with an independent personality, can thinking independently, have critical thinking and innovation. Personalized innovation talents are the new standard and requirements of the era of knowledge-driven economy. Carry out the rich and varied activities of campus culture and extra-class educational innovation. Every year, we hold College Students science and Technology Festival on Campus. For students, in the era of knowledge-driven economy, the publicity personality, talents personalized are the essential requirement of innovation. Innovation is an activity that pursuit products with new and unique, distinctive and valuable, a process that demonstrate free personality.

5 The key issues should be resolved in the reform

5.1 Establish “Procedure “Teaching Assessment System
Traditional teaching evaluation overemphasized on screening and selection function, and ignored the improvement of inspiring function; overly concerned with the evaluation of the results, ignore the evaluation of process; contents for evaluation too much stress on the scores, ignore the evaluation of students’ comprehensive quality and integrated development. "Procedure" teaching assessment is focused on learning outcome, but more concerned with learning process, as well as emotion, attitude and behavior changes. It not only aim at examine which learning goals students achieved, but to examine and improve student’s learning and teachers’ teaching quality, reform the course design, perfect teaching process, thus effectively promoted the student development.

5.2 Strengthen General Education
Whether or not policy for education can be implemented, training objectives can be achieved; teachers play a leading role in teaching activities. General education is a correction of human beings one-sided development which results from over-specialization of higher education in China ever since a long time ago. General education course including a broad field of humanities, science, sports and Tool skills courses (such as foreign language, computers), basically covers the main common learning and basic courses. In the process of building academic teams, we should take full advantage of the advantages that the good old teachers' rich practical experience and young teachers are able to acquire new knowledge rapidly, do a good job in the combination of the old, middle-aged, young teachers. At the same time, teachers need to update the knowledge structure continuously, realistic creative, constantly learning, boldly absorb new knowledge, new concepts, new technologies, study the use of modern educational technology, updated teaching methods and means, enrich the teaching contents and improve the quality of education.

5.3 Reconstruction of the practical teaching system
Because practice is the basis of innovation, people pay more and more attention to the cultivation of university students’ ability of practice. We should thoroughly change the subordinate status of practice teaching under traditional education mode. An important task of constructing a scientific and reasonable training program is building a reasonable practice system for students, and drawing up plan for all practical training as a whole. This practical teaching system is run parallel with theoretic teaching and coordinated and complementary.

5.4 Focus on the Cross of Discipline
Cross is the main feature of contemporary science and technology development. From the overall development of the disciplines and integration, reasonable constructing the teaching contents and curriculum system, integration and restructuring curriculums undoubtedly is the cardinal principles which the construction of training program need to follow.
6 Conclusion

Innovation is the soul of a nation. If we want to realize national rejuvenation and strengthened country, we need to cultivate many innovation talents. But actively exploring innovation talents-training pattern is a long-term and complex systems engineering, which should not be taken place overnight. The article researched, explored the personnel training model for Electrical Specialty, and presented a new idea and method of the reform in education for Electrical Specialty. Of these methods proposed, provided some referenced value for training innovation talents in the new era, also have a positive significance to strengthen the cultivation of students’ basic theoretical knowledge.

References