

Exploration on Teaching Reform of Electric Power System Analysis for Engineering Application

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Abstract

Electric Power System analysis is a basic course for electrical engineering and Automation Specialty, its teaching quality is directly related to the quality of personnel training, and practice teaching is one of the important links in the course construction. In order to meet the requirement of modern electric power enterprises for application-oriented talents, the teaching reform of this course is carried out according to the training goal of engineering application-oriented talents.

Keywords

Engineering Application; Electric Power System; Teaching Reform.

1. Introduction

“Electric Power System Analysis” is a specialized course for the electrical specialty in our college. For many years, the school has adopted the traditional theoretical teaching method for the teaching of this course. The relevant practical courses are offered at the end of the term, and it may not be the same teacher. When students take a theory course, they will find it difficult to learn, understand and get started. As a result, their interest in the course will be greatly reduced. However, when they actually take a course training operation, some basic theories will be forgotten a lot. Due to the lack of theoretical knowledge, the practice operation is often the surface operation training, or must explain the theory knowledge repeatedly, has wasted many may actually start the operation time. So I intend to do some tentative reform in teaching, combining theory with practice, learning theoretical knowledge at the same time, increase hands-on operation ability.

2. The Advantages of This Reform

To change the problem of disconnection between theory and practice in the past, it gives full play to the leading role of teachers by setting teaching tasks and teaching goals, so that teachers and students can integrate teaching, learning and doing together, it is helpful to improve the teaching quality by constructing the frame of quality and skill training in the whole process and enriching the relevant links of classroom teaching and practical teaching. In the whole teaching process, the theory and practice will alternate, there is no fixed first after the theory or first after the theory, and the theory of the real, the real reason. Emphasizing the cultivation of students' practical ability and professional skills, it is a teaching method that can fully arouse and arouse students' interest in learning.

3. Reform of Teaching Methods

Teaching method. In the classroom, after the actual project analysis, through the demonstration operation and the related content study, carries on the summary and draws out some related concepts, carries on the explanation to the principle, the analysis and the demonstration, according to the teaching material, highlight the key at the same time and systematically impart

knowledge, so that students in a shorter period of time to obtain a systematic knowledge structure, teaching requirements focused, well-organized. The course of lecture is the process of explaining the reason, which needs to put forward the problem, analyze the problem, solve the problem, from shallow to deep, from easy to difficult, that is, accord with the systematization of knowledge itself, and accord with the cognitive law of students.

Demonstration method. The method of demonstration is a kind of method that teachers make students acquire perceptual knowledge by means of demonstration experiment and demonstration operation. In this way, students can acquire specific, clear, vivid and vivid perceptual knowledge, deepen their study of book knowledge, and link abstract theory with practical things and phenomena, help students form the correct concept and master the correct operating skills.

Practice method. The practice method means that after the students have finished the theory course, they will carry out the operation practice under the guidance of the teacher, so as to master the relevant skills and skills, and the theory knowledge will be verified through the operation practice, and the correct method must be mastered in the practice, emphasize the safety of operation, improve the effect of practice, teachers tour guidance, strengthen supervision, find the wrong action to correct immediately, ensure the accuracy of operation. Record the operation times and quality of each student. To improve the students' self-consciousness in practice and to promote the effect of practice. The students who do not operate are asked to observe carefully and point out the mistakes made by other students. The teacher will ask questions at any time.

4. Points to Note in Education Reform

Improving the teaching level of teachers. This teaching reform is to combine the theoretical content and practical content of power system analysis organically, and only one teacher completes the teaching task in the training room. In the process of teaching, the close relationship between theory and practice is realized by means of explanation and operation. Theory teaching is verified by practice, while practice teaching is guided by corresponding theoretical knowledge, in order to closely contact the classroom teaching and practice teaching links, improve the quality of teaching. In the classroom equipped with multi-media teaching facilities, students attend classes through courseware, blackboard and other conventional teaching methods. Teachers explain the theory, and then carry out the corresponding operation. This kind of teaching is intuitive and efficient. The same part of the content first speak after practice, is conducive to the mastery of knowledge. This kind of teaching pattern strengthens the operation skill, pays attention to the operation skill quality and the speed aspect training. Pay attention to practical teaching in teaching process. The teacher explains in detail while carrying on the corresponding practice, but also must have the enough patience to do the operation demonstration, the teacher carries on the operation demonstration in the training process several steps or all operations, let students have basic perception and understanding of the operation. And needs the teacher to have the enough careful discovery each schoolmate appears in the operation process the question. Teachers should pay attention to a few points when doing demonstration: First, the movement is standardized and accurate; second, the movement is slow, so that students can see clearly; third, make full preparations before the demonstration to ensure the consistency of the movement.

Highlight the training of operational skills. Because teaching is characterized by practical training of teaching ideas, combined with engineering practice, to cultivate students' comprehensive vocational ability, to provide enterprises with good quality, skilled operational skills of practical talents as the goal of the teaching model. Therefore, the training of operation skills should be emphasized in teaching. With a strong emphasis on quality and speed. In order

to strengthen operational skills, competitive factors can be added during the course of the project. For example, in the process of calculating the power flow distribution, we can adopt the method of setting the result by a competition, let each group of students carry out the corresponding calculation design, and request to finish the work in the shortest time. Emphasis on training students flexible use of technical ability, requires a strong ability to start writing, processing speed to be fast. This kind of training can enhance the social competitiveness of students, in order to meet the needs of society for the corresponding talent.

Increasing the difficulty of teaching and cultivating creative talents [3]. At present, the cultivation of high-quality innovative skilled personnel is the most important. In order to cultivate students' creativity, we should increase the difficulty of teaching, pay attention to the training of students' multi-direction thinking and the ability of active exploration. Let students from "Passive acceptance" to "Active practice" to meet the needs of society for innovative talent, but also to work independently to complete the task to lay the foundation of skills.

5. Teaching Effect and Prospect

This teaching mode makes theory teaching and practice teaching interactive and integrated. On the one hand, it can improve the practical ability of theoretical teachers, the theoretical level of experimental and practical teachers, and train a team of high-quality teachers. On the other hand, teachers integrate theoretical knowledge into practical teaching, let students operate and learn in learning, understand theoretical knowledge in learning and practicing, at the same time master skills, break down the dividing line between teachers and students, and the teachers are at the students' side, this way can greatly stimulate students' enthusiasm for learning, enhance students' interest in learning, students practice while actively summing up, can achieve twice the result with half the effort.

With the continuous reform of the teaching mode of power system analysis, it is necessary to optimize the application measures in the concrete application stage, and teachers must play the role of guiding students to think in the system design and analysis stage, and continuously enhance the overall learning ability of students. In the follow-up development process, it is necessary to take the innovative application mechanism as the goal, understand the characteristics and forms of the integrated teaching form, make it adapt to the requirements of the existing management system, and constantly improve the teaching quality and teaching efficiency. Constantly improve the level of teaching, but also continue to stimulate students' interest in the study of professional courses, play an optimization of the teaching form. Teachers should keep pace with the times, understand the differences of teaching models, and innovate the teaching forms to improve the teaching quality.

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