Exploration and Practice of Teaching Reform of Fire Engineering Course under the New Form of College Teaching Reform

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Abstract. Fire prevention and disaster reduction in daily life is closely related to college students. As an elective course, fire engineering should be gradually established for the whole university. The disadvantages of the current teaching methods for fire engineering under the new form of university education reform appear early. First of all, several problems faced in the reform of the fire engineering curriculum under the new reforms have been elaborated. The practice and exploration of the fire engineering curriculum reform in the new form has been proposed. The main ideas including that Problem-based teaching methods are established, teachers should focus on method explanations, and heuristic and discussion-based teaching methods are developed., In addition students' ability to innovate is enhanced; finally, the emphasis on fire engineering should be enhanced, and the support for school education funds should be increased. The research results can provide some help to improve the interest and enthusiasm of college students in learning fire engineering courses.

Keywords: University education reform, college education, fire engineering, education reform exploration.

1. Introduction

Comrade Chen Baosheng, Minister of Education of China, wrote in the People's Daily on September 8, 2017, which is mentioned in the education of the people's satisfaction. [1]: The basic education talent training model has been deepened and reformed, "classroom revolution" Being promoted, students' innovative spirit and practical ability are cultivated, which marks the development of the "classroom revolution" in a more in-depth direction [2]. Course teaching is the core of the classroom, and curriculum reform is the foundation of the classroom revolution [3]. Therefore, the traditional teaching mode is no longer adapted to the requirements of the development of the new era, the teaching concept is changed, and the teaching method is imperative [4]. Educators must always adhere to the learner-centered, provide personalized, diverse and high-quality educational services for different levels and types of educators, and promote learners to actively learn, release their potential, and enable students to develop in an all-round way [5]. In the new environment of "Internet +", how to adhere to the powerful embodiment of quality education in the classroom [6], adhere to the teaching of learning, and adhere to the student-centered [7]. Taking the safety engineering students as an example, the author has reformed the teaching of "Fire Engineering" under the new environment of "Internet +".

2. Problems in the Reform of Fire Engineering Courses

Fire engineering itself is a highly professional course. Because of its industry and system, it is not very high in combination with other professional courses. Fire engineering emphasizes conceptual and theoretical content, practical operation. It is often easy to be separated, which makes it difficult for students to master the whole system of fire engineering. Therefore, college students have too much to memorize the book knowledge in order to cope with the time limit and the examination system.



The concept of the course is more boring, and the students only passively study the course content, but they only know the formula but don't know why. [8].

2.1 The Problem of Backward Teaching Methods and Teaching Models is Serious.

When college students have just entered colleges and universities, they will be curious about the university's curriculum in the early stage, especially the knowledge and skills related to fire prevention in fire engineering, so the classroom atmosphere is better. However, with the students' indepth mastery of boring theoretical knowledge and formulas, the interest of college students will be more and more reduced, and the mastery will be worse and worse, and some students may be tired of learning to skip classes [9]. In addition, at this stage, the teaching of college teachers in China still uses teacher lectures, student class notes, and final assessment methods. The content of fire engineering is highly professional, and the classroom content of fire engineering is extremely cross-cutting. Some special terms are used in daily life. The traditional model is difficult to mobilize the enthusiasm of students in life or work, and it is difficult for students to understand [10].

2.2 Professionally Increased and Requires Test Equipment as Support

Due to the professionalism of the subject, the course content includes some fire-related formulas, which requires students to have a good foundation, but most students in the process of learning, due to poor foundation, the fire engineering formula is memorized I didn't understand the meaning of grasping the expression of the formula in depth. Even if I understood the contents of the teacher in the classroom, I quickly forgot it after class.1.3 The hardware equipment of school teaching can't keep up with the experimental needs, and the teaching content is relatively lagging behind. in the whole process of the fire engineering, the experimental operation is an indispensable content. The supporting experiment and the teaching content should be synchronized. However, due to the need for funds for the purchase of experimental equipment, the experiment cannot be carried out normally. This has led to a lack of students' experimental ability.

2.3 In Most Cases, it is a Light Knowledge Method

In the context of China's exam-oriented education, when studying, college students only value the results and ignore the process of acquisition. Without expanding the students' thinking, the students' mastery of knowledge only stays on the surface of learning, and there is no way to solve the problem. As teachers, many teachers are busy with scientific research, appraisal titles, rarely take the time to truly understand the needs of students, lack of thinking about the motivation of students, only teach knowledge when lectures, not really "giving people fish".

3. Practice and Exploration of Fire Engineering Course Reform under the New Form

Classroom learning is not only used as a means of disseminating knowledge, but also as a process of innovation or re-creation of knowledge. In the discussion of fire engineering teaching methods, the scientific, interesting, systematic and heuristic teaching methods and means are used to improve the mastery of knowledge of college students. Transforming the rote memo of formulas into the level of thinking divergence in fire engineering, so that students can learn the methods of acquiring knowledge while mastering the basic knowledge, and also help students improve their ability to analyze and solve problems. To improve the innovative consciousness of college students. Through the past experience of the first-line teacher of education, combined with the author's experience in the teaching process, research and discussion of the following teaching methods and means of reform.

3.1 Problem-based Teaching Method

As we all know, the theory comes from actual life and is higher than the actual life. While carrying out knowledge dissemination, teachers should focus on the theoretical knowledge in a vivid and practical life experience, so that college students can understand the problem more intuitively and find solutions. In this way, students' enthusiasm for learning can be quickly stimulated, and a clear fire engineering impression can be formed in the students' minds, laying a solid foundation for students to apply the theory to practical problems. In addition, through the reform of the classroom teaching mode, teachers and students participate in the interaction, and play the main role of students in the teaching process. Classroom should always be ranked first in school teaching, and it is also the main camp for cultivating talents. Teachers must make good use of the classroom to maximize the use of teaching resources. The education and teaching philosophy of modern higher education requires us to break the past.

3.2 Teachers Carry out Heuristic and Discussion-based Teaching

By categorizing the contrary, the clear method is always more important than the problem. Let students focus on mastering the method rather than being limited to mastering the problem. It is the key to university education to teach students to master the problem of analysis. Improving the comprehensive quality of college students is not only the mastery of team knowledge, but more importantly, the learning of methods. Encourage students to actively think about the enthusiasm of the problem, cultivate students' divergent thinking ability and comprehensive ability to think and solve problems independently, and then achieve the win-win goal of improving students' ability and improving teachers' teaching level.

3.3 Improving Student Interest and Innovation is the Focus

Because of its professionalism, fire engineering has a certain abstraction. If traditional teaching methods are used to educate students, it will be more difficult for students to accept. By citing modern teaching methods, such as combining multimedia teaching, Flash and PPT, and introducing the Internet+ platform as a tool for assisted learning, abstract things can be embodied, which helps students to better grasp Learning the course content, in order to achieve good teaching results. Fire engineering is a science that is closely integrated with theory and practice. It can be supplemented by curriculum design through experiments, which can make up for the boring theoretical knowledge learning in the classroom, so that students can understand the fire engineering related content more realistically. Thereby forming an innovative mode of thinking, giving full play to students' imagination and initiative.

3.4 Schools Should Increase Their Support for the Course

Some of the contents of the fire engineering course are closely related to the students' life. The school should open this course to the whole school, so that more students can learn and understand the key knowledge of fire prevention and disaster prevention, improve students' self-prevention ability, and increase the experiment. The investment of instruments and equipment has a good guarantee foundation for the teaching of fire engineering in colleges and universities. In addition, for the teachers of the school, it is necessary to keep up with the frontiers of the development of the discipline and update the contents of the teaching materials and teaching plans in a timely manner. At the same time, we can not only stick to the teaching materials, but also pass on the latest information and development of the discipline to the students, so that students can learn about the latest industry trends, so as to improve the quality and level of fire engineering teaching, so that more students can master. Good sense of self-prevention in a fire.

4. Conclusion

Undergraduates must firmly grasp the basic knowledge of fire engineering and practical ability to cultivate, and as an educator, they must constantly innovate teaching methods, cultivate students' interest in learning, and promote the development of teaching in schools and individuals. Secondly, by implementing the organic combination of Internet + and related software resources and teaching, the non-classroom teaching workload of teachers can be minimized. Teachers can put enough energy into the online communication after class, reduce the teaching burden, ease the work pressure, and



improve the teaching efficiency. In addition, under the new situation of rapid development of science and technology, the traditional single teaching mode cannot adapt to the development and changes of the times, and it is not conducive to the rapid improvement of China's educational level. However, the reform of fire engineering courses in colleges and universities is not a one-off. It is necessary for the cooperation of schools, governments, students and all walks of life to take all measures together. Only in this way can the teaching reform of college fire engineering be able to achieve good results.

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