

Pragmatic Bachelor's Course Teaching Revolution and Practice of Electronics and Electrical Engineering

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Abstract. Electronics and Electrical Engineering is a basic technological course for non-electrical majors, through which non-electrical students are able to know and master an amount of useful knowledge in the daily life, expand and improve their ability structure and strengthen their comprehensive quality. This passage introduces the writer's methods and experience in the pragmatic bachelor's course teaching revolution and practice of electronics and electrical engineering.

Introduction

Course of Electronics and Electrical Engineering is a basic course mainly on the theories and applications of electronic technology as well as electrical engineering, which is set for students of non-electrical majors. In our college, this course is set for many non-electrical engineering majors, such as Mechanics Manufacturing, Material Molding, Industrial Project, Quality Project.

In addition, in terms of our college's target "Combining management with engineering, developing comprehensive talents", the course of Electronics and Electrical Engineering has been widely set as a selected course and even compulsory course for those major such as HR Management, Logistics Management, Environment Project. Through the study of this course, students of non-electrical majors are able to master more electrical knowledge and well improve their ability structure.

In the long-term teaching practice, integrated with our college's target of cultivating comprehensive talents, we have researched and explored from the aspects of teaching orientation, teaching content, teaching methods, pragmatic teaching and course examination, accumulating a great deal of experience which has exert an impact on the real teaching.

Discovery of teaching orientation and content.

Teaching orientation according to majors.

The requirement degree of electronics and electrical engineering differs one from another for different majors. That is why we'd better place ourselves in the accurate positions according to the attributes of different majors.

For some non-electrical major of science, the main purpose to study is to complete knowledge and improve ability structure, which requires them to be familiar with the related knowledge about electronics and electrical engineering through learning this course. In the contrast, for those non-electrical majors of art, the main purpose of learning electronics and electrical engineering is to help the students expand scope of knowledge and to be familiar with some basic theories.

According to the above analysis, our team divides our Course of Electronics and Electrical Engineering into two parts, the first part(Course One) includes 80 learning hours which is called More Hours with 70-hour theory teaching and 10-hour practice teaching. The second part(Course Two) includes 56 learning hours which is called Few Hours with 48-hour theory teaching and 8-hour practice teaching. Besides. Different teaching outlines, teaching plans and testing outlines are made to fix the teaching orientation.

Teaching content according to teaching orientation.

As higher education is making itself adapted to the developing trend of the public and expanding the recruiting range, the overall level of newly admitted students is relatively lowered. Thus, from the point of our team, the teaching requirements should be increased to some extent based on reasonable teaching orientation.

All these teaching requirements and content should also well deliver the mature theories and knowledge of electronics and electrical engineering, showing the updated development and application and keeping pace with time.

Option of teaching material according to teaching content.

After fixing the teaching orientation and teaching content, suitable teaching materials will be essential to realize the scheduled teaching purposes and teaching content. As for Course One, it is necessary to select the teaching materials with large scope of knowledge, complete system structure, superior exercises and abundant support resource.

At present, teaching materials with the above features are in the majority and Electrical Engineering written by QinZenghuang is the most widely used. This workbook can be concluded as the following in terms of its characteristics: firstly, fundamentality, applicability, advancement; secondly, emphasis on teaching methods and ability developing; thirdly, easy teaching and easy learning. Besides, this book is very suitable for the non-electrical majors and it has been updates to the seventh version.

In recent years, with the teaching reform deepened, the electronics and electrical engineering teaching team of our college compiles Basic Electronics and Electrical Engineering based on the comprehension of teaching features and student ability. The characteristic of this workbook is that it depicts a great many fundament theories with abundant information, strong pragmatics and prominent applicability to help students know more the real function of electronics and electrical engineering in our life.

The improvement of teaching methods.

Option of teaching methods according to teaching features.

As information technology is deeply applied and spread in education teaching field, multimedia courseware is concerned more and more because of its novel displaying way and high efficiency. However, we have also clearly sensed that the application of multimedia also results in fast teaching paces and a great many students are not able to catch up with it. Besides, too many teachers excessively rely on the multimedia courseware and the teaching quality is largely decreased.

Thus, our teaching team is determined to change this phenomenon. For the understanding of graphs as well as some abstract concepts, multimedia courseware is allowed to be applied in the class so as to increase the teaching efficiency while blackboard writing should be used for theory or formula deducing. Only in this way can the teachers interact with their students.

Increasing teaching effect, emphasizing teaching revolution.

In the traditional teaching of electronics and electrical engineering technique, the class gives priority to teacher's speaking and students' listening. In such a learning condition, the class atmosphere will be largely restraint and students' initiative restricted. Therefore, this kind of traditional teaching method is never adapted to the ever-changing world.

Under such a circumstance, our team advocates the teaching methods which emphasize students' learning interest and combine the major requirement with students' real abilities. In these years, students' interest and grade have been increasing after applying this teaching method.

As for the details, we will raise a question for the students to talk and interact with each other in order to avoid the negative emotion caused by dull listening. In the process of interacting, students' abilities of expressing and thinking are also cultivated.

Integration of theory teaching and practice teaching.

Electronics and Electrical Engineering Technique is a subject with strong pragmatics and engineering property. Only if theory teaching and practice teaching are truly combined can we completely understand and master the knowledge of electronics as well as its application. We have

explored and reformed in terms of the following aspects.

Rationalizing the system of theory teaching and practice teaching.

In the traditional teaching process, theory teaching and practice teaching have their own systems, which makes theory teaching divorced from practice teaching. For instance, experiment teaching is not adapted to the students' quality and requirement.

The updating of experiment content and teaching content can keep pace with each other. The experiment schedule is set unreasonably.

In order to figure out these problems, we put theory teaching and practice teaching into the same teaching and researching section. Besides, both theory teaching and practice teaching will be in the charge of the same teacher and experiment content and schedule can be coordinated according to the real situations.

Intensifying teaching effect through course design.

In order to further strengthen students' practical abilities and cultivate comprehensive qualities, we also add course design on the basis of experiment teaching. Course design is usually assigned after students have finished theory learning and experiment learning. Through guiding students to finish the electronic products with specified types and functions, we can not only increase students' practical abilities, but also find out the students who possess enormous potential.

Active discovery of new practice teaching form.

On the basis of making full use of traditional practice teaching methods, our teaching team also takes active part in discovery and constantly exploit some new practice teaching forms such as organizing students to visit the factories run by school. Students' interest will be greatly increased through visiting over clarifying.

Emphasis on teachers' ethics, being students' kind friends.

As an old saying goes: "approach teachers, believe in their methods; respect teachers, accept their advice; admire teachers, follow their action. It fully indicates that if we would like students to be interested in the a course, teachers' personal glamour is quite significant. First of all, we firmly advocate that personal academic mastery should be constantly intensified. Only if teachers have a bucket of water can students get one bowl of water. Secondly, teacher ethic ought to be emphasized at any time, including speaking and acting manners. Last but not least, an excellent teacher should always learn how to think from the perspective of his students.

Summary

In the process of exploring and reforming, our team has always follow the principle "put people first, impart knowledge, cultivate capability, educate for quality" and acquire a lot of achievements. In the later years, we will act as before to follow this concept and continuously deepen the teaching reform, constantly increasing teaching effect and talent quality..

In addition, as the world is developing at an unprecedented speed, talents of electronics and electrical engineering are badly needed at the time being. Therefore, it is indispensable to cultivate various talents who are able to well apply electronics and electrical engineering and possess a wide scope of knowledge.

To draw a conclusion from what has been claimed above, the road ahead is long, all of us will search up and down.

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