



The Analysis on the Construction and Approach of Circuit Analysis Courses to Implement Blending Teaching Mode

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Acknowledgments: Heilongjiang province education science planning special subject "learning-centered mixed teaching design and practice"

Abstract: Blending teaching mode realizes an innovative teaching mode that effectively integrates offline classroom teaching and online teaching and fully respects the students' dominant position of teaching, which is beneficial to cultivate students' ability to analyze and solve problems, improve the ability to obtain knowledge independently and to realize cooperative exploration and conform to the requirements of the new curriculum standard for courses teaching. This paper takes the course of circuit analysis as an example to discuss the relevant problems in the application of blending teaching mode in the course teaching.

Keywords: Circuit Analysis Courses; Blending Teaching Mode; Approach Analysis

The course of circuit analysis is highly theoretical, and its knowledge is abstract and difficult to understand. Under the traditional teaching mode of "indoctrination" theory, students' thinking cannot be divergent, so they cannot understand the knowledge. As a result, their academic performance cannot be improved, which makes them tend to lose their interest and confidence in learning. The application of blending teaching mode in the course of circuit analysis guides students to give full play to their subjective initiative, increases the proportion of practical teaching, and greatly improves the teaching efficiency and level. Next, some thoughts on the application of blending teaching mode in circuit analysis courses are discussed.

1. Problems existing in the teaching of circuit analysis courses

1.1 The time of classroom teaching is very limited

With the in-depth reform of the higher education system, the proportion of general credits and practical teaching increases, which shortens the time of explaining theory courses. Compared with the traditional teaching mode, at present, the class hours of circuit analysis theory in most universities have been reduced by nearly 1/3. Therefore, in order to complete the teaching task, the teacher is forced to speed up and explain briefly, which increases the difficulty of students' understanding.

1.2 Neglect the student's dominant position of teaching

Although China vigorously advocates comprehensive quality-oriented education and thoroughly implements the new curriculum standards, many teachers still adopt the "indoctrination" theoretical teaching mode. The classroom teaching still focuses on theoretical explanation, without fully respecting the student's dominant position of teaching. In addition, the circuit analysis course is a compulsory course for all electrical majors, but it can be divided into microelectronics, electrical automation, communications and other majors. Therefore, in the teaching process of circuit analysis courses,

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doi: 10.18282/le.v9i4.1062

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it is crucial to strengthen the connection with subsequent majors. However, many teachers have ignored this point, and there is no emphasis on students from different majors. Classroom teaching focuses on power knowledge such as circuit operation and formula derivation, and lacks in-depth combination with actual cases, which ultimately reduces teaching effectiveness.

1.3 The assessment method is outdated and obsolete

Under the traditional exam-oriented education system, the assessment of circuit analysis courses is given priority to the written exam, while grades proportion of classroom performance is very low, which only includes class attendance, homework completion, etc., but these are not on behalf of the students thinking. Besides, there is no standard evaluation of grades, which causes students have no enthusiasm in classroom learning and low initiative. Cramming for exams is normal among students, which is unable to objectively evaluate students' comprehensive study.

1.4 The influence of network is great

The circuit analysis course, as a basic course of professional learning, is mostly set in the first year of universities. College students have just got rid of the pressure of the college entrance examination, so they feel relaxed and ignore the importance of learning. Especially with the popularity of the Internet, computers and mobile phones, students are addicted to a variety of web pages and online games, which result in being unable to focus on the class and seriously reducing the effectiveness of learning.

2. Some thoughts on the construction of blending teaching mode in circuit analysis courses

2.1 Online teaching

Under the blending teaching mode, the course of circuit analysis is mainly divided into online and offline learning modes. Among them, online teaching is particularly important. Teachers can subdivide the course content into several units, and then divide each unit into several sub-units. Each knowledge point and each section of each chapter can become a sub-unit. The construction of sub-units can start from the following points: Firstly, clarify teaching objectives, guide students to master the teaching content and choose the appropriate learning methods; Secondly, analyze the content of learning, and analyze the content and professional skills that should be studied; In addition, the integration of teaching resources aims at achieving teaching objectives through PPT teaching courseware, micro-video, real cases and other teaching resources and clarifying students' preview tasks and review key points; Moreover, the design of teaching activity aims at grasping students' actual study situation through the test, the formulation discussion topics and other forms, and arousing students' study enthusiasm and initiative; Finally, the assessment system is constructed on the basis of arousing students' learning enthusiasm and initiative and improving learning effect.

2.2 Actively expanding teaching resources

The teaching resources of circuit analysis courses are very rich. In addition to textbook contents, there are teaching syllabus and plan, innovative application of circuit simulation software, PPT courseware, high-quality course videos, typical case analysis, circuit examination question bank, etc. The teaching resources of circuit extension knowledge have a great influence on students' mastery of theoretical knowledge and practical skills. For example, in the online teaching under the blending teaching mode, the teachers can add some appropriate typical cases and stories of circuit knowledge for students to read in combination with actual situation, which can activate classroom atmosphere, guide students to summarize and reflect on the implied circuit principle and fault reasons, and formulate the effective countermeasures to solve them. Besides, it is necessary to design topics and questions in combination with the actual teaching contents to guide students to discuss in the topic discussion area, so as to effectively improve students' ability of independent thinking and cooperative exploration.

There are many ways for students to obtain teaching resources, but under the blending teaching mode, teachers should obtain teaching resources that meet the requirements according to the adjustment of teaching plans and teaching programs, comprehensively consider which resources are suitable for students' self-study and which resources are suitable for face-to-face teaching, so as to give full play to the teaching role of various resources.

2.3 Innovating the assessment and evaluation methods

Under the traditional exam-oriented education system, the assessment of circuit analysis courses is mainly based on the written test in the middle and final exams, which leads to the inability to truly detect the teaching effect of teachers and the ability of students to solve practical problems with the knowledge they have learned. Based on blending teaching mode, teachers should innovatively adopt the online and offline evaluation methods to give full play to students' dominant position and guide them to devote themselves to learning. In the construction of online and offline assessment and evaluation system, it should include the final exam grades, online tutoring grades, students' independent learning, the completion of homework, and participation in answering questions. For example, when explaining the knowledge points in the chapter "circuit theorem", there are only four theorems involved in the classroom teaching in the teaching plan, which cannot meet the teaching objectives and students' demand for postgraduate entrance examination. Therefore, it is particularly important to strengthen extracurricular expansion and extension. Therefore, under the blending teaching mode, the online video-assisted teaching method should be used to enhance students' understanding of the content of the theorem, and it is necessary to concentrate on strengthening the training of the content of the theorem, which should be tested through some certain methods. Besides, the results should be included in the final assessment, so as to arouse students' learning initiative and enthusiasm.

3. Conclusion

To sum up, the application of blending teaching mode has greatly improved the teaching quality and level of circuit analysis courses. However, due to the restriction of many factors, there are some problems in the teaching process that need to be solved. As teachers, they should strengthen the construction of online teaching mode, actively expand teaching resources, and innovate the way of assessment, so as to realize the complementary advantages of online and offline teaching, which ultimately improves the learning effect of students, and cultivate the core quality of students.

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