

Exploration of Interactive Teaching Mode in “Database Theory” Course

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Abstract. The interactive teaching mode is researched in the basic course, according to the computer specialty core curriculum “database theory” characteristics. Firstly, the function of the interactive teaching mode are introduced. Then, the main problems in the teaching of the course are analyzed. Finally, the teaching mode and scheme of the interactive teaching mode in the course is proposed to improve the quality of teaching.

Introduction

With the combination of Internet technology and curriculum learning, it has become a trend to establish course learning website for courses. In the case of limited class, the course website can provide the learners with the learning resources and help learners to learn the content of the courses according to their own pace. There is no teacher-student interaction, and student-student interaction is not effective in stimulating students' interest in learning. The Sousa study found that the average information retention rate was only 5% after 24 hours of traditional lecturing, while the average information retention rate for audio-visual AIDS was 20%. Research by Pugsley and Clayton found that interactive teaching was significantly better than traditional teaching methods. [1]

Constructivism and Interactive Teaching

The constructivist learning theory is mainly that students conduct learning through the guidance of teachers and take themselves as the center. Teachers play the role of promoters and helpers, but they can not instill knowledge machinery into students. As a student's master, students are active builders, not passively accepting the inculcation of knowledge.[2] The interactive teaching model is embodied in the classroom activities which are complementary to the teacher's leading teaching and the student's main understanding. [3] Interaction refers to the interaction between teachers and students in the course of classroom teaching. [4] Research shows that most students tend to build their own knowledge systems in interactions with students. [5] Through interaction, the main body of the learner is returned to determine the students' subjective consciousness and stimulate students' learning desire. Therefore, it is a hot topic of education informationization to construct a learner-centered interaction between learners, learners and educators.

Existing Problems of Interactive Teaching in Database Principle Courses

The database direction is an important branch of computer science and is also an important support for the current big data application. The principle course of database is a compulsory course in computer science.[6]The main task of the course to let the students master the theoretical knowledge and has the capability of database design, mainly includes the data model, operation, standardized, database design and database programming knowledge. The purpose of this course is to enable learners to have the ability to design and develop simple database applications. The principle course of learning database should not only pay attention to the theory of learning, but also carry out the practical operation and solve the actual demand.

According to the constructivism thought, in the design of the database principle course, this paper mainly reflects the learners' active learning and active construction of database knowledge, and the process of internalizing the new knowledge. The interactive teaching mode is the

student-student interaction, the teacher-student interaction as the carrier, group discussion, and classroom and students. Take the problem solving case as the guide, and the students show the results as the breakthrough; Believe in students, liberate students.[7]

Interactive Teaching is Monotonous. Interactive teaching of the course database principle mainly limited to between teachers and students, such as teachers given SQL syntax, the interpretation of the case, the preset question guidance, students in teacher's topic answer solution under control. Such interaction can not trigger students' deep thinking.

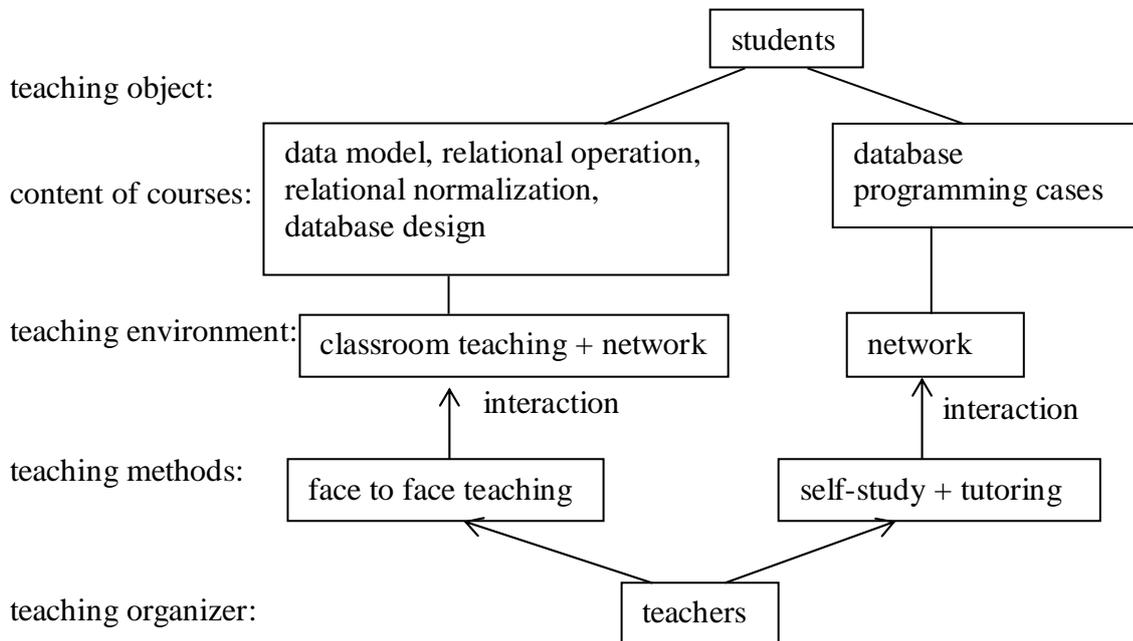
Interactive content lacks realism. The theoretical knowledge of the database principle course is more abstract. If you use the basic theoretical knowledge of the database to interact with it, students who have not been exposed to the database technology will feel dull and boring.

Less Opportunities for Extracurricular Interaction. The course of database principle is interacted through class questions, discussions and other methods. Extra-curricular interaction is another important place, and more and more students are developing database application systems, facing the lack of interactive places in the classroom when there are no problems encountered in class.

Interactive Teaching Mode

Database principles of the course the teacher should design appropriate teaching activities, provide learning materials, provide the appropriate learning environment, through the proper way to guide learners actively construct their own knowledge system.

Based on the interactive teaching mode of constructivism, students are encouraged to participate in the whole process of teaching through group discussion and cooperative learning. We can work together to complete the tasks of the course and review the exam. The teaching model is as follows:



interaction forms: teacher-student interaction; student-student interaction

Interactive Teaching Programmes

The Autonomous Learning Model Guided by Teachers [8]

Teaching object: students with certain programming skills.

Teaching condition: multimedia projection classroom, campus network.

Teaching method: select students pay attention to and familiar with "the educational administration management system" for interactive content, teachers use multimedia projection classroom demonstrates the basic grammatical structure, SQL statements to guide students

independent learning through the web video. The teacher assigns the learning task, the student completes the experiment according to the requirement, and communicates with the teacher.

Student Participation under the Guidance of Teachers

Teaching object: students who have no knowledge of the database.

Teaching condition: multimedia projection classroom, campus network.

Teaching method: the teacher puts all the chapters of the database principles curriculum on the course website to create a real learning situation.[9]The information provided includes theoretical and practical teaching cases, PPT, teaching video, and the relational algebraic principles of data model and animation display. The course site provides online section assignments and section quiz questions. Students submit their homework, complete tests, or ask questions or leave a message. The teacher rewrites assignments online and answers questions from students to interact with students.

Students Discuss Each other

Teaching object: a student with a certain knowledge of the database.

Teaching condition: campus network.

Teaching method: a group of students, from real life to find the problems that can be solved by the database, discuss the design and implementation of the database. In the design and implementation process, the teams will be able to report or discover problems in the form of BBS on the course website. Other students can participate in the discussion and the teacher will give Suggestions. Finally, teachers publish excellent works on the website for other students to learn.

Extra-Curricular Interaction Complement

Teaching object: students who have completed database courses.

Teaching condition: campus network.

Teaching method: after all, the cases in the classroom are limited, so we need to supplement the classroom teaching with the help of extra-curricular interaction. Database principle course extracurricular interaction mainly includes database design competition, the software company internship, let the students come into contact with the real world needs to solve the problem of database, easier to form problem awareness.

Summary

In the course of database principle, the design of the above teaching mode and teaching plan can guarantee the students' main position and arouse the enthusiasm of the students. Teachers can guide students to explore database principles and methods of database design. The students can freely publish the words related to the database technology, and actively practice the ability of analyzing and solving problems to form an innovative consciousness. Interactive teaching design for students of every knowledge point can spontaneously, interested in database knowledge, can be improved to ensure the quality of teaching, really to let the students have the ability to the design of the database.

Because the principles of database and other professional courses have connect with each other, in order to do a better job of interactive teaching, and also need to implement the same interaction between curriculum system, the formation of the overall transport situation. [10] the same professional software courses to more open communication and mutual cooperation between the teacher and discuss the related knowledge points involved in the course, work and guide students to complete integrated design, let students to comprehensive utilization of professional knowledge to solve the problem.

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