Research on the Application of Task-driven SPOC Mixed Teaching Mode in “Database Technology and Application”

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Abstract: “Database technology and application” is a general course for university students. It is a basic course for all professional studies and is closely related to students’ future study and work. In recent years, with the rapid development of the Internet, the information-based teaching methods such as Mu class, micro class, and flipped class have been rapidly promoted. A mixed teaching model has emerged and has been widely used. Incorporating the “task-driven approach” in the SPOC mixed teaching mode is more conducive to stimulating students’ interest in learning, allowing students to “do in learning” and “doing middle school”, and to combine the “teaching” of teachers with the “learning” and “study” of students Doing is well integrated to achieve an organic combination of “teaching, learning and doing”, so that students not only learn knowledge and skills, but also enhance their ability to think independently, analyze problems and solve problems.

Keywords: Task-driven ; SPOC Mixed Teaching ; Database Technology and Application

1. Introduction

“Database technology and application”, as a university general course, is the basic course of all professional studies, and is closely related to the students’ future study and work. Although the status of the curriculum is very important, teachers have a long time in the teaching of “database technology and application”

The teaching methods of “full house irrigation” and “transmission” are adopted in this period. This kind of “completely teacher-centered, students passively accept learning” teaching method has its shortcomings. There has been a lot of research in the field of education, and it has also provided more success and reference. Experience in teaching reform. As far as the basic courses of applied universities are concerned, “database technology and application” has the characteristics of both theory, practice and practicality. The teaching mode that emphasizes theory over practice must inevitably fail to meet the requirements for training applied talents. The model that emphasizes skills over theory in colleges and universities is also not suitable for application-oriented undergraduate teaching. The cultivation of application-oriented talents urgently requires the teaching of “database technology and applications” to carry out teaching method reforms that meet the standards of undergraduate talent training.

However, as mentioned earlier, “Database Technology and Application” is an introductory course for first-year students. The students do not yet have the professional knowledge and ability to deepen enterprise practice, and the teaching focuses on theory, which not only reduces the students’ application ability. Cultivation also makes it easy for the students of the touch screen generation to be uninterested in the profession from the beginning of the university. Obviously, as a basic course, the teaching of “database technology and application” needs to follow the development of the times.
2. Task-driven SPOC mixed teaching mode

The task-driven method is a teaching method based on the constructivist learning theory. It transforms the traditional teaching concept that used to impart knowledge to a multi-dimensional interactive teaching concept that mainly solves problems and completes tasks. The task-driven teaching method transforms reproducible teaching into inquiry learning, so that students are in an active learning state. Each student can propose solutions and solve problems based on his own understanding of current problems, using shared knowledge and his own unique experience. The task-driven pedagogy initially sprouted from the teaching model of “student-centered, learning from doing” proposed by American educator Dewey.

SPOC is the concept of Small Private Online Course (SPOC) proposed by Professor Armando Fox of the University of California, Berkeley in 2013. Today, SPOC has become a typical curriculum paradigm in the “post-MOOC era”. “SPOC is a teaching process innovation based on MOOC.” While integrating MOOC educational ideas, it also integrates micro-classes, niche teaching, and intensive education to form SPOC’s unique education model.

The mixed teaching mode is to combine the traditional classroom teaching (offline) and the network teaching (online) to achieve the teaching effect of complementary advantages, using a diversified and diversified teaching method, with students as the main body and teachers as the leading. The teaching mode to achieve the optimal teaching goal. This model focuses on transforming traditional educational teaching concepts, taking students’ interest as the core of teaching model innovation, and ultimately achieving the goal of improving teaching efficiency.

The “task-driven SPOC mixed teaching mode” is a task-driven approach. By flipping the classroom teaching mode, the online SPOC mode and offline classroom learning mode will be integrated and innovative to achieve a comprehensive “deep integration” of information technology and education. Practice has shown that the integration of the “task-driven approach” in the SPOC mixed teaching mode is more conducive to stimulating students’ interest in learning, allowing students to “do in learning” and “doing middle school”, and to combine the “teaching” of teachers with the “learning of students” ”And “do” are well integrated to achieve an organic combination of “teaching, learning and doing”, so that students not only learn knowledge and master skills, but also enhance students’ ability to think independently, analyze problems and solve problems ability.

3. Application of task-driven SPOC mixed teaching model in the teaching of “database technology and application”

The current freshman students in the school are all after 2000, and the Internet has become an indispensable part of their lives. How to use the Internet to inspire students to carry out inquiry-based learning is the thinking of the teaching reform of the “Database Technology and Application” course. One idea makes it possible to integrate mixed teaching and task-driven integration. Compared with the simple task drive that lacks the use of Internet technology, the mixed teaching model incorporates the task drive method, which can give full play to the advantages of online and offline and various teaching resources. The tools, methods and resources for teaching and learning are more diverse and intelligent. The classroom is no longer limited to the classroom, and the interaction does not have to be in the same space. Students have a broader learning stage, which is more conducive to students’ active investment and inquiry. This teaching application is of great benefit to improving the comprehensive quality of applied talents. The focus of the task-driven approach is “tasks”, and the course process always follows the “tasks”.

3.1 Instructional design

In the selection of course projects, according to the different participation of teachers and students, it is divided into demonstration projects-“student performance management system” database, practical training projects-“community library management system” database and actual combat projects-enterprise-level real database project. According to the process of database application and management, each project is divided into four major tasks, namely database design, database implementation, database application and database maintenance. Taking vivid and feasible tasks as the application background, explaining the declarative knowledge, and ordering and reorganizing the teaching content, the 4 work tasks in the demonstration project are subdivided into 27 sub-tasks, and the 4 work tasks in the training project
are subdivided into 7 practical tasks. Training sub-tasks and constructing a task-driven “online + offline multi-element mixed learning” curriculum knowledge and skill point system to provide support for the implementation of online and offline mixed teaching.

3.2 Digital teaching resources development and platform construction

Taking tasks as the unit, according to the construction principle of granular resources, and paying attention to the connection and transfer of knowledge points before and after class, we will develop knowledge resources such as video, question bank, homework library and other curriculum resources centered on the independent learning needs of learners. In order to facilitate students to carry out interactive learning on the mobile terminal, during the course construction of the learning platform, each task in the project pushes resources according to six modules: task description, task analysis, knowledge point video, task resource, task summary and knowledge point test. At the same time, enterprise teachers are invited to develop some expanded resources that reflect the most cutting-edge technologies and latest achievements in the industry, promote the progress of new technology and new achievements in the industry into digital resources, and improve the skills of students.

3.3 Formulate multi-dimensional teaching assessment plan

Curriculum assessment is an important means to evaluate students’ learning effects and teachers’ teaching quality. This course cancels the single “theoretical knowledge” evaluation standard, from the “knowledge, skills, quality” multi-dimensional evaluation of students’ learning effects, fully considering students’ process learning. The final course evaluation increases the percentage of online learning results and reduces the proportion of final exams. The evaluation of usual grades mainly includes learning pass check-in, completion of pre-class tasks, as well as homework completion, activeness of discussion of test results and students’ classroom performance. According to the process management and quality monitoring functions provided by the background of the learning channel, teachers obtain data on students’ learning results, learning attitudes, learning processes, learning ability, etc., and make objective, accurate and comprehensive evaluations of students.

4. Conclusion

Each teaching mode always has more or less deficiencies. The combination of SPOC mixed teaching and task drive in “database technology and application” teaching practice can not only fully reflect the advantages of mixed teaching mode, but also better highlight the task. The “exploration” feature of the driving method makes the two complement each other. In the cultivation of applied undergraduate talents, the integration of the task-driven method in the mixed teaching mode not only helps teachers play a guiding, enlightening, and monitoring role in the teaching process, but also helps students fully exert their initiative as learning subjects, and it is also conducive to students’ innovative ability. Cultivation of self-learning ability and comprehensive application ability. Any teaching model reform serves the goal of talent training. For application-oriented majors, it is a good teaching reform idea to incorporate task-driven approach in the mixed teaching model, which can also improve students’ application ability and cultivate students’ teamwork spirit.

References