Research on Applied Teaching Model Based on Flipping Classroom

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Abstract. Flipping classroom follows the concepts of "learning before teaching" and "task-driven". Applied curriculum teaching takes learners as the main body. Starting from the integrity of activities, it highlights the integrity and comprehensiveness of the curriculum. Combining the two teaching concepts, students can learn relevant knowledge and skills in the process of solving tasks, guide students to understand and construct the structure system of learning content, combine theory with application, and realize the integrity and practicality of knowledge system.

Introduction
Flipping classes first appeared in Colorado Woodland High School and were the first two chemistry teachers to try this teaching form. Their original goal is not the reform of classroom teaching, but to solve the problem of students missing and making up lessons. They hope that by publishing teaching videos, they can help students who cannot arrive on time for various reasons to learn the relevant content and keep up with the teaching progress. But as more and more students (absent or absent) watch these videos, they find that classroom teaching also needs to change. Because the students have seen the teaching videos in advance, they do not need the teacher to repeat them in class. Instead, they directly ask the questions arising from watching the videos, hoping that the teachers can answer the questions and solve the puzzles. Finally, the two teachers simply changed the teaching process. Instead of giving new lessons in class, they let students watch videos in advance, do exercises and answer questions in class. Unexpectedly, students like this method better and can learn better, because it can help teachers save valuable classroom time for personalized answers and counseling to students. Then this teaching method gradually spread and gradually formed the so-called flip classroom today.

The application-oriented teaching mode aims at the actual needs, carries on the reform to the curriculum, takes the application-oriented curriculum construction as the development direction, enhances the student's practical and practical ability. According to the characteristics of Applied Curriculum reform, taking vocational post competence as the benchmark, working process as the basis, learner-centered and project-driven as the main line, the overall teaching design and unit teaching design of the curriculum are redesigned, highlighting the characteristics of "application-oriented, practice-oriented and ability-oriented", focusing on the cultivation of students' application ability.

Contrast between Traditional Classroom Teaching and Applied Teaching Based on Flip Classroom

Traditional classroom teaching is mostly "to teach learning" that is, what teachers say in the classroom, students learn what. In this way, students are very passive in the process of learning, which also hampers their enthusiasm and initiative in learning. In the process of learning, because each student's learning ability is different, the effect of learning is also very different. It is also very difficult for teachers to make use of the time in class so that each student can master all the knowledge points. At the end of the semester, after a unified written examination, I finished this course. I don't know what the purpose of learning this course is, let alone the combination with practical application.
In the application-oriented teaching based on flip classroom, students can learn knowledge through personalized platform, listen to questions they don't understand several times, listen to explanations for questions they don't know, and do additional exercises with strong learning ability. What teachers need to do is to go into the students and really understand the learning situation of each student. Project assignments can be arranged before class, and students can preview the knowledge points involved. In the classroom, let the students complete the project operation independently, then the teacher answers and group discussion, enhance the interaction between teachers and students, improve students' participation, and mobilize students' enthusiasm for learning.

Three Principles of Applied Course Design

Work-oriented Teaching Tasks

The teaching of general courses usually adopts the teaching method of knowledge points. What students learn is scattered knowledge fragments, which leads to students' low learning enthusiasm, passive learning, relatively poor comprehensive application ability of the learning content, and unable to apply the learning content to specific examples.

In order to change this situation, we make an in-depth analysis of the curriculum, turn the scattered knowledge fragments into an application-oriented project, work the teaching tasks, and integrate each knowledge point into the project. Students learn and master knowledge points while completing project assignments.

Course Working of Work Tasks

In order to enable students to better integrate theoretical learning with practical application, design specific work tasks, through the decomposition of work tasks, the specific implementation process and teaching knowledge points will be closely linked to achieve the curriculum of work tasks.

Systematization of Working Process

When choosing work tasks, we should grasp the principles of "from simple to complex" and "from single task to multiple tasks" to form a progressive teaching process. Every task in the implementation process, there are systematic implementation process and steps, students through the completion of various tasks, repeated tasks of the implementation process and steps, and constantly consolidate the content of knowledge, gradually forming the idea of working process systematization.

Application and Implementation of Teaching Model

Design Project Modules in Advance According to Knowledge Points

According to the specialty and curriculum characteristics, the project-based teaching method is adopted to subdivide the knowledge points of this course into specific examples, and turn the original teaching class of "teaching before learning" into "teaching after learning", that is, to put forward problems first, let students try to solve them first, and finally we teach students to study purposefully. Students' interest in learning has been greatly improved and the teaching effect is good.

In project teaching, learners are the main body of learning activities. Self-regulated learning means that students dominate their own learning activities, including determining learning objectives, methods, planning and arranging learning activities. Teachers play a role of guidance and supervision in the whole learning process. Teachers and students evaluate their activities and results regularly and irregularly. This teaching mode fully mobilizes students' enthusiasm for learning and enables students to achieve the goal of autonomous learning.
Record Micro Lessons or Videos in Advance and Distribute Them to Learning Platforms

As a video of teacher's explanation, micro-lesson is a new concept derived from the flipped classroom teaching mode. Micro-lesson refers to a micro-video with clear teaching objectives and content within 10 minutes, which can explain a problem. It can better support students when they have cognitive difficulties, and help students complete conceptual transformation or rule deduction activities which cannot be completed by themselves in the cognitive process. With this kind of resources, we can better achieve the goal of requiring students to complete the "learning first" stage of basic knowledge learning, and save more classroom time for the "teaching after" stage, so as to answer questions and solve puzzles and summarize and improve. Students who do not know the actual operation of the project module can learn the instructions of teachers in micro-lessons or videos on the learning platform at any time.

Questions and Panel Discussions

In the course of watching micro-lessons or videos, students have different understanding of things because of their different knowledge structure and perspective, so there will be differences in the understanding and mastery of knowledge points. Therefore, students can be organized to have group discussions. Teachers need to step down from the platform and enter into students' discussions, and truly integrate into students' group activities. When students encounter problems in discussion, teachers can give timely help to guide students to clarify their mistaken knowledge, and encourage students to explore the problems through online search, discussion, debate and other forms. In this process, students' learning attitude and classroom participation ability will be greatly changed, and students will really be placed in the main position of learning.

In short, we need to constantly explore and explore teaching methods, break the traditional classroom teaching mode, take students as the main body, take career orientation as the keynote, pay more attention to case analysis, cultivate students' technical application awareness and ability to solve practical problems, and put students Passive acceptance of the classroom gradually leads to the active participation of the whole process, which integrates the assessment of knowledge ability and quality, and highlights the students' practical application ability.

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