Goal-Centered Problem-Oriented Teaching Mode of EST Based on Superstar Platform

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Abstracts: In order to solve the problem of low teaching effect of traditional teaching mode of English for science and technology, this paper innovatively proposes a goal problem oriented teaching mode of English for science and technology based on superstar platform. Through the analysis of the teaching objectives, teaching design and teaching effect of the mode, we can see that the teaching mode can stimulate students' interest in learning, promote curriculum teaching, effectively improve the quality of talent training, achieve the goal of talent training, and promote the development and construction of the school.

Keywords: Superstar Platform; goal-centered problem-oriented; English for Science and Technology

1. Introduction

EST (English for Science and Technology) is the largest and most abundant branch of English for Specific Purposes (ESP), covering English related to natural science and technology and professional disciplines. [1] EST is a kind of English system used to describe the phenomena and behaviors of science and technology. It has the characteristics of straight to the point, accurate words and concise writing. It is more scientific and technical than basic English, more extensive than specialized English, and is quite different from basic English and specialized English in vocabulary, grammar, voice, style, etc. [2]

In recent years, with the advent of the Internet era, mobile era and the development of multimedia technology, more and more teachers begin to use the network platform combined with classroom teaching to achieve diversified teaching forms, which further promotes the development of education. Using information technology to introduce the online learning platform into the traditional teaching of EST, make up for many shortcomings of traditional teaching, improve students' learning efficiency, and inject new vitality into EST teaching.

Superstar Platform is a mobile terminal learning platform integrating course learning, knowledge dissemination and management sharing. The platform includes information, notice, homework, examination, discussion, activity, statistics and other modules, as well as classroom signature, rush answer, scoring and other interactive functions, which provides the basis and conditions for the practice of flipped classroom. It has been utilized by some colleges and universities to introduce learning communication into undergraduate teaching, and good results have been achieved

Based on the analysis of the problems existing in the quality of talents training in higher education and the causes, Guangdong University of Petrochemical Technology puts forward "the goal-centered problem-oriented teaching concept" in 2020. This teaching mode is based on the requirements of school running objectives, professional talents training objectives and curriculum teaching objectives for students' comprehensive quality, integrating the specific teaching contents of the course, elaborately designing various types and multi-level problems that can promote students' autonomous learning and stimulate students' interest in learning, and turning the goal quality requirements into a problem system, Through guiding self-study before class, organizing research and learning in class, and extending auxiliary learning after class, the course teaching can effectively achieve the goal of talent training.

2. The Current Situation and Problems of EST Teaching

In recent years, with the growing demand for interdisciplinary talents who are proficient in major and have strong foreign language ability in all walks of life, English for science and technology has been incorporated into the English curriculum system of many universities. English for science and technology is a bridge for students to learn professional English or bilingual. But at present, most of the EST teaching effect is not very good, the main reason is that most of the teachers still adopt the traditional teacher centered teaching mode, such as paragraph by paragraph translation of teaching materials, detailed analysis of grammar, pronunciation and sentence structure in the text. The invariable teaching mode is easy to make the classroom atmosphere dull, students are not interested, and the learning of scientific and technological terms and sentence patterns is boring, which will eventually make students lose interest in the course, and then lose their learning motivation, and teachers can not achieve the ideal teaching effect.

English for science and technology is a language tool used in the field of natural science and technology to objectively and accurately state the emergence, existence, development, change or disappearance of objective things in nature and their impact on nature and human beings. From the perspective of stylistics, EST is characterized by many technical terms, long sentences and complex sentence patterns. Qin Xiubai and many other scholars have made a very detailed study. [4] But in teaching, it is found that in addition to helping students overcome the difficulties in language, the course content itself is more difficult to control. Teaching content, teaching means and teaching resources have become the bottleneck that restricts the development of EST teaching.

3. Goal-Centered Problem-Oriented Teaching Mode of EST Based on Superstar Platform

3.1. Teaching Objectives

EST is one of the most important courses for science and engineering majors. It is to help students complete the transition from basic college English reading stage to specialized English reading stage on the basis of College English learning. English for science and technology has rich vocabulary, unique grammatical structure and professional expression. Learning English for science and technology is not only a supplement and improvement to college basic English, but also a necessary way for students to broaden their horizons and directly understand the world's professional frontier knowledge and technology development.

Focused on three goals of "school talents training objectives", "professional talents training objectives" and "curriculum teaching objectives", the "goal-centered problem-oriented" teaching mode designs five kinds of teaching problems (basic problems, key issues, difficult problems, practical problems and expansion problems) according to four principles of "Objective principle", "comprehensive principle", "individual principle" and "system principle". The basic problems should be solved through understanding and self-study; key problems should be mastered through self-study; difficult problems emphasize the skill of problem design and arouse interest; practical problems emphasize application knowledge to solve practical problems; expansion problems emphasize innovation, application and quality expansion.

The goal of training talents in the course of scientific English can be designed to cultivate talents with the ability of using scientific methods to find, analyze and solve problems, and critical thinking ability; The training goal of professional talents is to be able to read English scientific and technological literature and translate English materials of this major skillfully, and have the ability to write English scientific and technological papers, to track the development trend of science and technology with the help of English, and to master the frontier knowledge of this subject; The teaching objective of the course is to master the grammatical features, stylistic structure and translation methods and skills of scientific and technological English literature, cultivate students' ability to read English scientific and technological materials, and enable them to use English as a tool to obtain information needed by relevant majors.

3.2. Teaching Design

Learning on the Superstar Platform, students can experience the convenience and efficiency of network teaching without the limitation of time and space, and can also get answers to questions. Teachers can construct courses, issue notices, interact with students, correct homework, supervise and

analyze learning data through network teaching platform. During the course construction period, the demonstration package construction course is added, and the invigilation function is added during the examination, which can detect the number of times students leave the examination interface. The "management side" of the platform can record students' learning track and test results, and has the function of big data analysis and statistics to help teachers optimize teaching quality. "Smart classroom" has the functions of screen interaction, content sharing, cloud resources and so on. [5]

The general idea of "goal-centered problem-oriented" teaching mode of EST based on Superstar Platform is as follows: arrange preview tasks (issue basic and key problems through Superstar Platform); teachers check students' homework on Superstar Platform before class; teachers comment on homework in class and put forward difficult problems; guide students to think in class and answer difficult questions; arrange practical questions and extension questions, and check feedback in time.

Before class, according to the three objectives of EST course and four principles, the teacher designs five problems in the teaching chapters and uploads them to the online learning platform in advance. Students learn the knowledge points within the specified time, check their mastery of the knowledge points with exercises, and send feedback about the problematic content to the online learning platform in English. According to the characteristics of EST, teachers use corresponding teaching methods to teach the key and difficult points involved, so as to help students further construct the knowledge framework and deepen the understanding of the content; Secondly, the students' feedback questions are answered to internalize the vocabulary, sentence patterns, grammar and writing of EST; Finally, in the remaining part of the time, teachers and students discuss with each other to achieve listening, speaking and other skills. After class, the teacher summarizes the teaching effect in class, and designs online homework according to the students' mastery of learning, so that students can further consolidate their knowledge and make up for the missing contents. In view of some students' learning obstacles, teachers can provide guidance online.

3.3. Teaching Effect

Taking EST course learned by Computer Majors in Guangdong University of Petrochemical Technology as an example, this study analyzes the experience of 2019 computer major students about this teaching mode through teaching and learning data as well as questionnaire survey, and carries out the practice of goal-centered problem-oriented EST teaching mode based on Superstar Platform.

Firstly, the data of students' online learning process and face-to-face teaching process are collected. Through the statistics of students' preview times, online time, interactive communication times, students' questions and answers times, and class homework completion times, it can be seen that students are willing to pay more time to preview and review learning content after class. The online learning time and homework completion times reflect students' interest and intensity in learning English for science and technology. Secondly, the effect of online learning platform was investigated, including online scientific English resources, online homework, interactive communication and so on. It can be seen that most students have a positive attitude towards the online learning platform of scientific English. They think that the construction of the platform is helpful to the learning of the course, with moderate degree of difficulty of online homework, as well as to the interaction between teachers and students. It can be seen that the overall teaching and learning effect of this teaching mode is satisfactory.

4. Conclusion

Goal-centered problem-oriented teaching mode of EST based on Superstar Platform can effectively stimulate students' interest in learning and subjective initiative, and improve students' comprehensive ability. According to the requirements of the three objectives mentioned above for students' comprehensive quality, the teaching mode integrates the specific teaching contents of the course, organizes teaching through the links of self-study before class, research in class and extension of auxiliary learning after class, so as to promote the course teaching to effectively achieve the talents training objectives and improve the quality of talents training, promote the development and construction of the school.

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