

Research and Practice on Teaching Mode of Introduction to Pharmacy under OBE Concept

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Abstract: Introduction to Pharmacy, as a pharmacy course of applied chemistry, has some difficulties and problems in the teaching process, such as no prerequisite courses and weak foundation of students. Guided by the OBE teaching concept, focusing on the training objectives of applied chemistry professionals, this paper studies and practices the teaching mode of Introduction to Pharmacy from the aspects of curriculum system optimization, teaching resource construction, teaching method reform and examination method reform, and strives to create a "online + offline" mixed "golden course".

Keywords: OBE Concept; Introduction to pharmacy; Curriculum Reform

1. Introduction

As a comprehensive basic course of pharmacy, Introduction to Pharmacy briefly introduces the concept, nature, task of pharmacy and the basic situation, research field and discipline progress of each branch of pharmacy. Due to the orientation of the course in the goal of talent training, the teaching content is required to be easy to understand, in simple terms, and reflect the new knowledge and progress of various disciplines of pharmacy as much as possible. The course content has the characteristics of many contents, each chapter is an independent branch of pharmacy, professional terms and abstract concepts.

Teacher Yang Nianyun of Nanjing University of Traditional Chinese Medicine used the case teaching method to reform the curriculum^[1], and teacher Liu Rui reconstructed the curriculum system by integrating the ideological and political elements of the curriculum^[2]. Teacher Yu Lizhen of Wannan Medical College explored the curriculum reform of Introduction to Pharmacy in the form of visiting Teaching^[3]. Wu Dongxue of Liaocheng Vocational and Technical College adopts the "four multi and one center" teaching mode to improve the classroom teaching effect of Introduction to Pharmacy^[4]. There are four multi, that is, multiple platforms, multiple time, multiple elements and multiple strategies, and one center, that is, student-centered. The existing curriculum reform is mainly aimed at medical college students^[5-7]. In view of the current situation of the Introduction to Pharmacy in our school, which is the opening of applied chemistry major (no prerequisite courses, no pharmaceutical laboratory or research platform support, weak student foundation, etc.), under the guidance of OBE concept, we making full use of online curriculum resources and adopting "online + offline" mixed teaching reform is an effective way to improve teaching quality.

2. Curriculum reform and practical content of Introduction to Pharmacy

This educational reform project is mainly based on the training objectives of applied chemistry professionals and guided by the OBE teaching concept^[8], reforming and innovating the teaching mode of Introduction to Pharmacy from the aspects of curriculum system, teaching resources, teaching methods, assessment and evaluation methods, etc. The main research contents are as follows:

2.1 Curriculum system optimization

The project team focused on the talent training objectives of applied chemistry major. On the basis of investigating the needs of employers, students majoring in applied chemistry and other stakeholders, starting from the actual learning needs of students, and based on the idea of "reverse design and positive implementation", we reconstructed and integrated the

curriculum system of Introduction to Pharmacy, reflecting that "the curriculum supports the achievement of graduation requirements". We will adjust the teaching sequence of the chapters and use our special topics. This not only avoids the repetition of knowledge points, but also expounds the relationship between various branches of pharmacy. The course content includes four topics: traditional medicine, biopharmaceutical, new drug research and development and drug management. See Figure 1 for details.



Figure 1: Course Content Module of Introduction to Pharmacy

2.2 Construction of teaching resources

2.2.1 Building a series of online course resources

a. Cloud course construction. We can make full use of the school curriculum platform to build the curriculum resources of Introduction to Pharmacy on the school cloud network curriculum platform. The online course resources will be constructed according to the topics, and the course resources in each topic will include video unit, discussion unit, operation unit, graphic unit and examination unit.

b. School online MOOC resource utilization. We can make full use of the online online course resources of the school to select high-quality pharmaceutical topics that can assist the classroom teaching of Introduction to Pharmacy, so as to make up for the lack of pharmaceutical resources of the school itself. Through screening, we can select high-quality pharmacy special courses, publish learning tasks and set up corresponding discussion areas through the school cloud platform.

2.2.2 "Experiential" pharmaceutical experiment

We can use the existing experimental resources of the chemistry teaching and research department, rely on the organic chemistry experiment of applied chemistry Specialty, and strengthen the connection between courses, in order to introduce experiments related to pharmacy in the organic chemistry experiment class, and develop practical teaching projects related to the course.

2.3 Reform of teaching methods

2.3.1 Combination of "online + offline"

Highlight the "achievement orientation" and realize the mixed teaching mode of "online + offline". Among them, "online" refers to the use of cloud network course resources of self built schools and online related pharmacy topics of selected schools to guide students to conduct online discussion; "Offline" refers to classroom teaching, which integrates the ideological and political content of the course into the course cases, and guides students to use their knowledge, so as to scientifically distinguish and apply the pharmaceutical problems and drug applications involved.

2.3.2 Flipped classroom

In the special topic of drug management, the flipped classroom is adopted, the relevant learning materials are released through the online school cloud, and the key learning requirements are put forward. The students are free to form different learning groups, independently recommend the team leader, led by the team leader, and the team members undertake different

tasks, including data search, PPT production, content reporting, etc., so as to give full play to the students' subjective initiative in learning.

2.3.3 Rain classroom real-time follow-up

In the process of classroom teaching, the rain classroom is used to follow up the learning status of students in real time by issuing classroom test questions and opening bullet screens, and change the result evaluation into the process evaluation of the course through background data analysis.

2.4 Reform of assessment methods

Under the guidance of the OBE concept, a diversified assessment and evaluation system is established to evaluate the course in real time through the forms of students' classroom performance, rain classroom test questions, school cloud discussion questions and flipped classroom group display, so as to evaluate the students' learning effect and academic achievement, continuously optimize the examination and evaluation standards, fully mobilize the students' learning enthusiasm and improve the teaching effect. It can further improve the quality of the course design and feedback based on the results of online evaluation, supervision and research.

3. Summary

Guided by the OBE teaching concept, we focus on the training objectives of applied chemistry professionals, pay attention to the achievement orientation and students' academic achievement according to the idea of "reverse design and positive implementation". We should reform and innovate the teaching mode of Introduction to Pharmacy from the aspects of curriculum system, teaching resources, teaching methods and curriculum assessment system. Through the reconstruction and integration of the curriculum system, we can improve the problems of many branches of pharmacy, large span and abstract concept; Through the construction of "online + offline" three-dimensional curriculum resources, we can make up for the lack of prerequisite courses, pharmaceutical laboratories or research platforms; Through the reform of teaching methods, we make full use of various resources and mobilize students' learning initiative; By establishing the reform of "multi-dimensional and dynamic" assessment method, we can track and evaluate students' learning effect and academic achievement in real time, and strive to create online and offline mixed "golden courses".

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