

## The Teaching Reform of Organic Chemistry

### -- Taking the Specialty of Stomatology in Chifeng University as an Example

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#### Abstract

In this paper, according to the exploration in the process of organic chemistry teaching practice, through constantly enriching the teaching content, constantly enriching the subject teaching means and methods, and constantly improving the innovative evaluation methods, we have carried out many aspects of teaching reform and exploration, so as to meet the needs of local applied talent training. Pay attention to cultivating students' professional ethics, scientific spirit and craftsman spirit in teaching, so as to make students develop morally, intellectually, physically and aesthetically in an all-round way; Abide by laws and regulations, have good professional ethics and sense of social responsibility; It is the duty of educators to cultivate students' innovative consciousness and comprehensive ability and cultivate applied talents who can work in the medical and health system.

#### Keywords

Organic chemistry; Teaching reform; Network teaching resources; Evaluation methods.

#### 1. Introduction

Organic chemistry is an important basic course. Its task is to provide students with necessary basic knowledge, basic theories and basic experimental skills of organic chemistry, and train students to apply these theories and skills to study various organic compounds, so as to lay a good foundation for the study of subsequent courses [1-3]. Organic chemistry is divided into "basic concepts of organic chemistry" and "various organic compounds". The basic concept part expounds some basic theoretical knowledge that must be mastered in learning organic chemistry; In the part of various compounds, the naming, structure, physical and chemical properties, reaction process and preparation methods of various organic compounds are introduced. The experimental contents include basic operation, property experiment and preparation experiment. In this paper, according to the exploration in the process of teaching practice, many aspects of teaching reform are explored to meet the needs of local applied talent training [4,5].

#### 2. Continuously Enrich the Teaching Content

In the process of teaching reform, we have fully considered the needs of today's society for innovative talents of high-quality medical specialty, and rearranged and integrated each chapter in combination with the key and difficult contents of the course. According to the difficulty of the structure of alkanes, cycloalkanes, olefins, alkynes, aromatic hydrocarbons, halogenated hydrocarbons, alcohols, phenols, ethers, aldehydes, ketones, carboxylic acids, alkaloids and other organic compounds, the naming and physicochemical properties of their

representative organic compounds are explained one by one, interspersed with the basic theories and knowledge related to each organic compound. In teaching content, we not only pay attention to the explanation of organic species and basic structure, physical and chemical properties, but also strengthen the application of new methods of organic compounds new synthesis, and complement many disciplines' frontiers and specific examples, which have a good breadth and depth, and try to embody the systematicness, orderliness, advanced nature and foresight of knowledge system. The teaching process is also integrated with the content of curriculum thinking and politics. In the teaching process, organic chemistry fully implements the party's educational policy, implements the fundamental task of Building Morality and cultivating people, pays attention to cultivating students' professional ethics, scientific spirit and craftsman spirit, so that students have a firm and correct political direction, love the country, love the party, be positive, have both morality and ability, and consciously abide by laws and regulations, Have good professional ethics and sense of social responsibility.

### **3. Enrich Subject Teaching Means and Methods in Combination with Course Characteristics:**

#### **3.1. Carry Out Case Analysis and Discussion**

The structure and physicochemical properties of organic compounds account for a large proportion in the organic chemistry course. During the course teaching, carry out analysis and Discussion on the synthesis and application of the structural properties of representative organic compounds. Students analyze and discuss the structure and physicochemical properties according to their learned knowledge. The development of case analysis and discussion enriches classroom teaching means, is conducive to students' digestion of learned knowledge, enlivens the classroom atmosphere and improves the teaching effect. In the corresponding practice class, some practical contents are selected for design experiments, so that students can independently complete the whole process of experimental design, experimental material selection and experimental operation, further improve students' practical ability and realize the combination of theory and practice.

#### **3.2. Give Full Play to the Advantages of Network Resources and Create Network Courses**

Network courses are an effective supplement to traditional classroom teaching, and can create convenient teaching communication channels to realize students' autonomous learning and distance teaching. According to the requirements of teaching and training objectives, the network course of organic chemistry is established. Students can log in to the online course at any time to view the teaching video, syllabus, electronic teaching plan, pictures, videos, animations and other teaching resources related to the teaching content. After each teaching, they can upload supporting after-school questions for students to test the teaching effect and deepen their learning and memory; If you have questions about the teaching content, you can also log in to the online course and directly leave messages to teachers for communication, so as to form a good platform for teaching interaction. The establishment of network teaching has promoted the pace of curriculum informatization and fully mobilized students' learning initiative and enthusiasm.

#### **3.3. Build A Double Leading Teaching Mode, and Build A "Double Leading" Teaching Mode of "Student-Centered, Online and Offline Interaction, Teacher Led Teaching and Student Led Learning"**

Actively guide students to enter the classroom with a better knowledge base and problems through preview before class. In the course, teachers mainly focus on the key and difficult

contents of the course and the common problems of students. By selecting different organic topics, let students carry out "cooperative, inquiry and discussion" autonomous learning and reporting display, and actively guide students from passive and receptive learning to active and research-based learning. Students can make multimedia courseware and give lectures on a dosage form, an organic substance or a basic theory they are interested in, answer various questions raised by teachers and students, and participate in the course teaching. Through mutual cooperation, discussion and communication with teachers among group members, students can continuously deepen their understanding of what they have learned and their ability to make full use of knowledge to solve practical problems. Through the classroom speech, students can not only learn new knowledge and find their own shortcomings from the homework display of other students, but also cultivate students' courage, self-confidence, language expression ability and application ability of multimedia technology.

#### **4. Continuous Improvement and Innovation in Evaluation Methods**

The traditional course score composition is mainly based on the test paper and supplemented by the homework experiment report. The evaluation method is relatively simple and too single, which can not fully reflect the teaching quality and teaching effect, and can not fully reflect the students' mastery and application of knowledge. Explore the examination and evaluation methods of students, and build a "three combination" assessment system of "combination of knowledge assessment and ability and quality assessment, combination of process assessment and result assessment, and combination of teacher assessment and student assessment". The evaluation methods are diversified, such as classroom performance, usual homework, in class quiz, students' multimedia courseware production, classroom speech, practical skills, etc. strengthen the assessment and diversified evaluation of the learning process, so that the examination results can better reflect the students' comprehensive ability and quality. Thus, it changes the situation that only the test paper determines the score and the assessment of "emphasizing knowledge, neglecting ability and quality".

#### **5. Innovations in Teaching Reform**

##### **5.1. Pay More Attention to the Introduction of New Technologies for the Application of Organic Compounds**

We complement many disciplines' advanced knowledge and specific examples, have a good breadth and depth, and try to embody the systematicness, orderliness, advancement and foresight of the knowledge system.

##### **5.2. Pay More Attention to the Improvement of Network Teaching Resources**

We opened up a platform for students to learn and communicate by using modern network technology. The construction, continuous updating and optimization of online and offline three-dimensional teaching contents and knowledge system have laid a foundation for cultivating broad-ranging pharmaceutical innovative talents with solid foundation and distinctive characteristics.

##### **5.3. Build A "Double Leading" Teaching Mode of "Student-Centered, Teacher Led Teaching and Student Led Learning"**

The formation of a teaching system of "online resources, offline activities and process evaluation" not only greatly stimulates students' learning enthusiasm and active learning ability, but also effectively cultivates students' innovative thinking and ability to analyze and solve problems independently.

#### 5.4. Diversified Evaluation Methods

It is no longer confined to the determination of scores by test papers and the assessment of "emphasizing knowledge, neglecting ability and quality".

In organic chemistry teaching, according to the needs of talent training and curriculum training objectives, carry out diversified curriculum teaching in the form that students like to accept and in the way that teachers are good at, actively carry out teaching research, and explore new ideas and models of curriculum reform. At the same time, in teaching, we should pay attention to cultivating students' professional ethics, scientific spirit and craftsman spirit, so that students can have a firm political direction, love the country, the party, be positive, and develop morally, intellectually, physically and aesthetically in an all-round way; Abide by laws and regulations, have good professional ethics and sense of social responsibility; It is the duty of educators to cultivate students' innovative consciousness and comprehensive ability and cultivate applied talents who can work in the medical and health system [6,7].

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