

Teaching Exploration and Practice of Biochemical Course of Food Specialty Based on Training Innovation and Entrepreneurship Ability

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Abstract—The paper explores the teaching of biochemical courses of food specialty. Because the biochemistry course of food knowledge points are more and difficult to understand, we hope this article can help students better study. The final purpose of the teaching reform is to strengthen students' scientific literacy and ability, promote the enhancement of students' innovative and entrepreneurial ability, and improve their core competitiveness. The teaching reform of the article is mainly from the teaching content optimization, the adjustment of teaching methods and the cultivation of practical ability in three aspects, and then the three reforms are applied to the daily classes to help students improve their ability. Through the reform in the application of the actual teaching, it is found that all aspects of the student status are indeed better than before, and student achievements have been improved. Flipped classroom teaching methods have reached a very good effect, more welcomed by the students, and we liked this efficient way of teaching. The content of this article is the author in the daily work to explore the hope that with more teaching workers to share, we common progress.

Keywords—Food biochemistry; Innovation and entrepreneurship ability; Exploration; Practice

I. INTRODUCTION AND PURPOSE

Food biochemistry is a branch of biochemistry and a required course, applying the basic theory of biochemistry to a series of food activity, such as food processing, preservation and quality testing. For students, food biochemistry is essential to study specialized courses, research and even work in the future. But the course's knowledge is abstract and boring. It is very difficult for the students to understand and remember them, resulting in losing initiative and enthusiasm

[1]. Nowadays, the society is full of competition and all walks of life are constantly innovating and developing, and the demands on all aspects of social talents have been improved. Therefore, we conducted a series of exploration and innovation in teaching content, teaching method and practice of food biochemistry to let students gain a foothold in competition and get their own core competitiveness. This article is not only to help students better study, to improve their professional competitiveness and social adaptability. We also hope to share with my own exploration results, brainstorming, mutual learning, in the future of teaching work, to achieve more big breakthrough.

II. PROCEDURES AND METHODS

It is a systematic process to improve the teaching of biochemistry course of food specialty in order to improve students' ability of innovation and entrepreneurship. According to the author's previous teaching experience and information query, the paper mainly involved three aspects. The first is the optimization of teaching content. Second, it included pre-class preparation and post-class task placement from the daily teaching to adjust. Finally, it included the experimental practice ability training. In summary, through the comprehensive teaching improvement of these three aspects, we can better train students' innovation ability and practical ability.

A. The construction of course content system and optimization of teaching content

Biochemistry is a constant updating discipline in the emerging of new research results and theory all the time. It has

been counted that biochemical information has doubled every eight years. For food profession, food and food consumers should be seen as the center in the biochemistry teaching process to build the content system of food professional biochemistry course and help students to understand the contact on knowledge and food direction to avoid blind learning. To refine, it is to make students understand why to take this course, learn what and how to learn?

The optimization of teaching content is the first step of reform and the hardest step. It needs to innovate on the basis of traditional teaching methods. Innovation space is not great, and it is not easy to see the effect of reform in practice. So why learn, learn what, how to learn these three issues, should break the routine and bold reform.

For "why to learn this course", it is the beginning problem of making students clear, and will explain in the introduction of the course. The content of the introduction is relatively short and easy to understand, most students choose to ignore the introduction. It will lead the blankness and disinformation in the late study. Therefore, we can analyze the importance of biochemistry for food research by the way of example in teaching process. It is great helpful to students learning the basic course for enhancing the late study, experimental practice, and their own scientific literacy and ability, so as to fully mobilize the learning enthusiasm of students. Let the students recognize that the purpose of learning this course is not only the primary problem of the biochemical courses of food specialty, but also the other subjects. So this can be more time to repeatedly stressed that students fully aware of its importance.

For "what to learn", Food biochemistry is not only covering the basic contents of biochemistry, but also including the nutritional value and function of basic substances for body, and the changes and separation extraction methods in their food processing, storage and transport. In the construction processing of teaching content, we pay attention to the connection and differences between the courses and reasonable arrangements for teaching progress in order to avoid the simple repeat of the contents on food nutrition, food chemistry and other disciplines. In addition, we can increase the comprehensive and designable experiment of food production analysis and inspection, and reduce the verification test in the practice.

For "how to learn", this is the key to cultivating students' core abilities. Food biochemistry is a strong theoretical and practical subject. The knowledge is scattered, and learning it is more time-consuming and laborious for students. Therefore, we pay attention to the construction of knowledge framework in the teaching process, doing "before and after", "fine talk about", so that students can learn clarity, contact the whole knowledge, strengthen and consolidate, highlight the focus and improve the learning efficiency. In addition, in the learning process, students should be emphasized learning analysis, induction and comparison on the basis of understanding, learning the analogical relationship to solve abstract model and chemical process, learning discover and solve problems in the process of practice^[2-5].

B. Teaching will be carried out around improvement of students' innovation and entrepreneurship ability

1) Prepare well and enhance appeal of classroom teaching

Learning is relatively difficult because that biochemistry itself is boring and abstract, so it takes more work to prepare before class. It can be through the pictures, video, sound, text and so on to assist teaching, but also should be combined with classroom content, a wide range of video, pictures and other rich and colorful information, so that teaching contents are interesting for students to create a relaxed, stress-free learning environment to improve student learning initiative. In addition, in order to meet the teaching content and deepen students memory, some relevant examples are needed to prepare coordinated the content of the classroom. If the conditions permit, you can properly set the classroom outside the classroom, teach in the factory site, also carry out teaching in the laboratory. Changing the teaching environment can increase the freshness of students to stimulate their interest in learning, and for knowledge memory is more profound.

2) Contact practice and stimulate learning interest

Tolstoy said "successful teaching needs is not mandatory, but stimulate students' interest". Interest is the best teacher, passive learning is always less than initiative learning on efficiency. In the teaching process, we try to explain more artistic humor, increase classroom appeal. It should be more practical to make students no longer have produce "distance sense". We take relation between practice and theory, guide students to explain the phenomenon of life using classroom content, observe the reality of life, take the principle from the book, and stimulate interest in learning^[4].

In this regard, before the class can give students a few life in a typical case or life problems, suggesting that they use textbook knowledge to explain. In the classroom, you can also organize students to complete some simple experiments, through experiments to obtain knowledge. After school can also organize some seminars, so that students bold imagination, textbook knowledge can help enterprises to produce or daily life to solve those problems now exist.

3) Flexible application a variety of teaching methods

Biochemistry is a subject covering a wide range and a lot of knowledge, and the difficulty of each part is also different. Therefore, in the teaching process, according to different teaching content and its characteristics, we flexibly select different teaching methods. The common methods are comparative method, analogy method, case guidance method, inductive deduction method, etc. Specific methods need to be chosen according to the content of the class so as to improve their learning efficiency. As the synthesis and catabolism metabolism of fatty acid, both require enzyme participation, consumes energy, need carrier. Such as, the replication and transcription of DNA need the same template, but the enzymes, raw materials and products are different. So the inductive deductive method is adopted to compare and conclude related knowledge points in learning and memory. It will deepen students' understanding, build knowledge chain, let students to extrapolate, improve thirst for knowledge. In the end of each class, according to the next class content to mention one or

two related issue using the question thinking, so that the students will initiatively take the problem with access to information, advance preview. The process is conducive to improving classroom efficiency^[5].

C. Strengthen practical teaching, improve students 'practical ability and cultivate students' innovative spirit

Practice is essential in the teaching process. In the teaching process, in order to prevent students "talk about stratagems on paper", it should be reasonable arrangements for students to "hands" opportunity, so that students will really "touch" knowledge and jump out of the book. The abstract knowledge will be straightforward and simplistic through the experiment. The practice of teaching in general is the experiment. In addition to the basic experiment, we try to flipped classroom teaching in part of the biochemistry. Firstly, flipped classroom start from a simple chapter, arrange students to watch the video in advance. Then, each ten people are divided into one group. The each group discusses and summarizes the problem under our guide. At last, we guide students learning themselves, finding problems and solving problems through some specific examples to solve the problem. In addition, students should be encouraged to participate in some scientific research activities, given more scientific information, cultivated the habit of scientific research. So that students feel the speed of science, and stimulated sense of innovation. Students will participate in research topics of teachers. It will give full play to their innovative spirit, strengthen practical ability, improve teamwork ability, and lay a solid foundation for students after study in work.

So that students out of the school can also be a good training students practical ability, with more students to visit the company's production processes and management processes, and even can organize students to work, through practical operation to learn knowledge. Without affecting the premise of learning, you can guide students to join some real entrepreneurial team, so that students contact with the community, experience the relationship between knowledge and money, cultivated students' entrepreneurial awareness and entrepreneurial ability. In addition, the campus business is also a good idea, students can set up their own team, the use of extracurricular time for production, management, sales in addition to campus sales, but also through the network to achieve greater platform sales.

III. THE DIFFERENCE

In this paper, the author is in their own years of teaching work to explore the summary, in order to allow students to better adapt to society. According to the usual teaching problems and technological development, we flexibly adjust teaching methods with times advancing and carry out practice, to verify the effect rather than only theory. Of course, the result of this article is not always perfect, also need to constantly change and improve in the future work.

IV. CONCLUSIONS

The author used this article explore the teaching methods applied to the actual teaching and found that through the optimization of teaching content, making a lot of students learning goals become clear, learning initiative has improved.

In addition, flexible and humorous way of lecture and guidance by contact with actuality, greatly improve the enthusiasm and participation of students, and the classroom atmosphere becomes relaxed and lively. The flipped classroom did improve the student's ability to self-study, they found the problem and the ability to solve the problem much higher than before. So that students participate in scientific research activities, but also effectively improve the students' practical ability. Through the classroom test and the final final exam, found that student achievement has generally improved, which proves that the results of the search has been harvested, but also need to continue to work later.

In order to understand the real thoughts of students, we conducted a questionnaire survey on the teaching methods explored in this paper. The survey results show that most students think that the teaching methods of the flipped classroom are relatively novel and free. They can give full play to their learning ability and imagination by learning new knowledge, this way of learning to obtain the knowledge is more profound memory. Understanding is also thorough, no longer feel boring, and also exercise their sense of unity and cooperation. So compared with the traditional way of teaching, flipped classroom more students welcome. For the teacher, the flipped classroom is also an efficient way of teaching. In the teaching process, the teacher's role is to "lead the way", no longer the hand in hand teaching from the beginning to ending. The teaching method will avoid unnecessary explanation and save time.

"Food is the paramount necessity of the people" is the eternal truth. Food is the basic material needs for human survival. Food is given higher expectations in the high technological development and material requirements era. Food professional shoulder responsibility is also growing. We need train high-level food talent who have innovative and practical ability, sense of responsibility, for the society. We keep on learning, enrich and update knowledge reserve, adjust and optimize the course system, and try to grope different teaching method in the teaching process. It will improve students' learning efficiency, pay attention to cultivate students' practical ability and innovative spirit, and train talents with core competitiveness for the society.

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