

The Exploration of the Hybrid Teaching Model for the Postgraduate Course“Progress in Food Chemistry”

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Abstract: Since the outbreak of the COVID-19 epidemic in 2020, the global education system has been hit unprecedentedly. In order to better cope with the impact of emergencies on postgraduate education in colleges and universities in the post-epidemic era and fully implement the policy of “classes suspended but learning continues” of the Ministry of Education, it is urgent to change the traditional postgraduate teaching model. With the development of informatization and networking, the hybrid teaching mode of “online+offline” has been the trend of the times. This paper takes “Progress in Food Chemistry” as an example to explore the hybrid teaching mode in the post-epidemic era according to the requirements of the country for postgraduate training. We should actively innovate teaching methods, build a hybrid teaching model oriented by research ability training, pay attention to strengthening theoretical guidance, adhere to ideological education, and improve the quality of talent training.

Keywords: Progress of food chemistry; Postgraduate course; Hybrid teaching model

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The outbreak of COVID-19 in 2020 has had a huge impact on the global economy, culture and society^[1]. At the same time, education systems all over the world have generally recognized a realistic problem, that is, the traditional teaching mode has been unable to effectively prevent the impact of emergencies on education. Although the COVID-19 epidemic has been effectively controlled, it is particularly urgent to actively explore new teaching models in order to cope with the impact of small-scale outbreaks and relapses on the teaching order and fully guarantee the teaching effect.

Based on the impact of the development connotation of postgraduate education and the development of the epidemic on education, the Ministry of Education and the provincial education departments have issued guidance for many times, which clearly pointed out that the current situation of the COVID-19 epidemic in China is still complex, and colleges and universities should do a good job in coordinating teaching and scientific research. In 2021, Yan Wu, Director of the Department of Higher Education of the Ministry of Education, pointed out that “hybrid teaching should become the new normal of higher education teaching in the future.” With the development of informatization and networking, the hybrid teaching mode of “online+offline” has become the general trend. The hybrid teaching mode is student-centered and makes comprehensive use of modern educational technology and a variety of teaching methods to cultivate students’ autonomy and initiative, and effectively enhance the enthusiasm of postgraduate students in learning and improve problem-solving ability^[2].

“Progress in Food Chemistry” is a postgraduate degree course built in response to the call of the state against the background of the epidemic. Due to the good foundation of course construction in the early stage, it was selected as the first batch of postgraduate quality demonstration courses by the Education Department of Jilin Province in early 2022. Taking “Progress in Food Chemistry” as an example, this paper discusses the establishment method of hybrid teaching model in the post-epidemic era.

1. Strengthen the Connection between Online Teaching Content and Scientific Research Direction, and Enhance the Timeliness of Content

The construction of timeliness of curriculum is a key issue commonly faced by universities. The transformation of traditional

postgraduate teaching mode also puts forward new requirements for college teachers, such as timely adjusting teaching methods and strategies, optimizing teaching resources to improve teaching ability and teaching level. Efficient teachers should pay full attention to the design of the latest curriculum syllabus for postgraduates, organically combine classroom teaching with network platforms, fully integrate the latest teaching content with scientific research methods, use scientific research results to strengthen the depth of teaching, constantly track the frontier scientific research results of disciplines, and cultivate the enthusiasm and innovation ability of postgraduates. The course "Progress in Food Chemistry" takes the latest research progress in food chemistry as the main line, takes the cultivation of scientific research ability as the guidance, adopts the teaching method and means of combining online and offline, and aims at cultivating excellent and high-quality postgraduates in the field of food science with both morality and talent. At the same time, since this course involves food processing, food enzymology, food additives, food nutrition and other courses, and students have learned food chemistry during their undergraduate studies, teachers are not only required to be proficient in the above subjects, but also required to track the frontier of food chemistry in the arrangement of teaching content during classroom teaching, so that the teaching content is more contemporary. And teachers should make full use of the network teaching platform and the latest research results to increase students' knowledge and initiative.

2. Explore Online Teaching Methods for Engineering Courses

Hybrid teaching is not a simple combination of "online+offline" teaching methods, but a new teaching mode that can meet the teaching syllabus by relying on the respective advantages of offline teaching and online teaching, which is a comprehensive innovation and reform. In the hybrid teaching process of the progress of food chemistry, the teacher extracts the frontier topic of "food chemistry" before class, and replaces the traditional chapter teaching method with a "modular" way^[3]. In the classroom, we make full use of "lecture-style" teaching and "flipped" classroom^[4], combine with network resources and platforms to gradually change from the teacher-led mode to the student-centered direction, so as to achieve the effect of attracting more advanced thoughts and measures. The use of "discussion" teaching to increase students' ability to analyze problems, the construction of a full-course education model covering before, during and after class, fully mobilize students' initiative in online learning, and avoid the inability to efficiently participate in teaching activities due to poor self-discipline of students and external interference.

3. Strengthen the Construction of Blended Teaching Capabilities in Teaching Teams with Provincial-level High-quality Courses as the Starting Point

Teachers are the organizers of teaching activities. And it is very important to train a team of teachers with noble ethics, excellent professional skills and reasonable structure for the realization of teaching objectives. Each member of the teaching team should clarify their specific responsibilities in teaching activities, often carry out teaching research and discussion of "progress in food chemistry", strengthen the exchange of their teaching experience, and regularly update the teaching content. According to the feedback of students in the offline and online, each semester should timely adjust the teaching methods and means to enable that team teachers can maximize the advantages of hybrid teaching. In addition, the team teachers are regularly organized to study in relevant food professional colleges and universities to learn from each other to improve the teaching level of teachers. Through online teaching during the epidemic period, we also found that some teachers did not properly straighten out the binary relationship between traditional teaching mode and online classroom, which results in the formation of a cliff between teachers' teaching content and students' understanding. Therefore, it is also necessary to conduct regular information technology training for team teachers, improve the level of information technology of the teacher team, and enrich the teaching mode and process of the classroom^[5].

4. Make Full Use of Network Resources to Integrate Distinctive Ideological and Political Theories Teaching in All Courses

As the General Secretary Xi Jinping pointed out at the National Conference on Ideological and Political Work in Higher Education Institutions, ideological and political work should run through the whole process of education and teaching to achieve all-round education. The ideological and political education of students in colleges and universities is not only the ideological and political learning of students in the ideological and political theory class, but also the integration of ideological and political education in various professional courses, so that the ideological and political knowledge can penetrate into the psychology of students and be put into practice in life. In the process of implementation, it is necessary to grasp the ideological characteristics and development requirements of students, and explore the elements suitable for students' ideological and political education, which requires teachers to innovate in teaching ideas, teaching ideas, teaching methods and means and excavate the case with strong pertinence, timeliness and extensibility. Through a variety of network resources, students can deepen their understanding of the content of "Progress in Food Chemistry" course

and learn more stories behind it. For example, in the teaching process, teachers can teach the important role of food industry workers in food processing, food storage, food transportation and sales and even national health to enhance students' sense of responsibility, mission and a high sense of identity for future careers. At the same time, students are encouraged to use the new technology in the field of "food chemistry" to develop new resource food, enhance the competitiveness of our food in the international market, improve the international recognition of our food, increase the comprehensive national strength, and cultivate students' sense of national responsibility and mission.

5. Strengthen the International Education Ability and Level of Postgraduate Students

Postgraduates are the main force to realize the powerful country of higher education. The development level of postgraduate education is an important symbol to measure a country's development level and development potential. At present, China has entered the ranks of major countries in postgraduate education, therefore, the internationalization level of postgraduate education is related to the future fate of the country^[6]. At present, there is still a big gap between the internationalization level of China's postgraduate education and that of the powerful countries of higher education. Therefore, strengthening the international education of postgraduate students is an important way to improve the international influence of postgraduate education in our country. Therefore, curriculum teachers should design teaching content with an international perspective, based on the international situation and domestic development, combine with the task requirements of the "two centenary goals", and deeply understand the strategic, urgency, and extreme importance of the development of postgraduate education.

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