

Research on Teaching Reform of Medicinal Botany under Hybrid Teaching Method

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Abstract: In the teaching process of medicinal botany, teachers should make full use of modern information technology, combine network teaching with classroom teaching, construct the “online and offline” mixed teaching mode, reform and innovate the traditional classroom teaching mode, optimize the curriculum assessment methods and evaluation criteria. This paper will reform and explore the course of medicinal botany from the aspects of pre-class preview, in-class teaching and after-class extension, so as to improve students’ self-learning ability and lay a foundation for their future work related to TCM.

Keywords: Blended teaching; Medicinal botany; Teaching reform

Introduction

Medicinal botany is the core course of TCM major, which plays an important role in TCM resource investigation, TCM identification, TCM development, etc. It is also the basic course for students to enter relevant scientific research institutions, hospitals and pharmaceutical enterprises. The teaching mode of traditional medicinal botany is relatively simple, and the teaching content mainly introduces the morphological characteristics of medicinal plants, which has poor teaching effect and cannot meet the personalized learning needs of students. With the extensive application of modern information technology in the field of education, the mixed teaching mode of “online and offline” has gradually become a new direction of the reform of higher education and teaching. Therefore, teachers should constantly improve their own professional level, innovate teaching methods and means, actively carry out information teaching reform, and use the combination of online and offline teaching mode to improve the teaching quality of medicinal botany.

1. Characteristics of the Medicinal botany course

Medicinal botany is a compulsory professional basic course for students majoring in pharmacy. It aims to master the basic theories and skills of TCM plant identification and identification through systematic study of morphological characteristics, ecological habits, classification, distribution and other aspects of medicinal plants, so as to lay a foundation for students to learn TCM related courses in the future. This course has the characteristics of rich content, strong theory and practice, and is also a course combining theory and practice. In the learning process, students should combine theoretical learning with practical operation to improve their comprehensive understanding and application ability of TCM knowledge. However, due to the numerous knowledge points of medicinal botany, students generally reported a large amount of memory and difficulty. At the same time, due to the complex morphology of medicinal plants, many students often “cannot keep up” in class ^[1]. Therefore, how to improve students’ learning effect and enthusiasm is the problem that teachers’ teaching reform needs to solve.

2. Analysis of the teaching status of medicinal botany

2.1 Outdated teaching methods and lack of innovation

The course of medicinal botany has various contents and abstract knowledge points. Traditional teaching methods mainly use theory teaching, which is teacher-centered and passively accepted by students, leading to students’ lack of interest in classroom learning and poor teaching effect. Students are often unable to accurately understand and master the theoretical knowledge in the textbook, which requires teachers to constantly update the teaching methods, the use of multimedia and other modern teaching means

to stimulate students' interest in learning. Traditional teaching methods are difficult to mobilize the enthusiasm and initiative of students, difficult to achieve good teaching results.

2.2 Disconnect between theory and practice

The course of medicinal botany has more theoretical knowledge, which requires students to master the morphological characteristics, classification characteristics, ecological habits and growing environment of plants, understand their distribution, growth rules and growing environment, and master their medicinal value and use methods. In the theoretical teaching in class, it is difficult for students to have a thorough understanding of the teaching content, and their interest in learning and enthusiasm for learning are reduced. However, practice is an important link in the teaching process, which requires students to practice, so that students can combine theory with practice and deepen their understanding of the teaching content. However, at present, few students are arranged to collect plant specimens in the field in the class of medicinal botany, and most of the students learn relevant theoretical knowledge in the room in their spare time. As a result, many students only know theoretical knowledge but do not have hands-on practice, and some students even do not want to collect specimens in the field^[2]. In addition, due to the strong theoretical and practical characteristics of medicinal botany courses, there are some misunderstandings in the learning process of students, such as only paying attention to theoretical learning and neglecting field practice. Therefore, the actual situation of students and the actual situation of local medicinal plants should be combined in the teaching.

2.3 Students have low interest in learning

The contents of medicinal botany are many and abstract, so students tend to be afraid of difficulties and lose their interest in learning. Although the knowledge of plant morphology and microstructure can enable students to have a certain understanding of the main morphological structure of medicinal plants, they still do not know much about their internal structure and mechanism of action, so students often feel esoteric and lose interest in learning. In addition, in the teaching of medicinal botany, many teachers pay more attention to imparting knowledge than to cultivating ability. In order to make students better grasp knowledge, teachers often use the "cramming" teaching method in class, requiring students to memorize knowledge points, students often feel boring.

3. Teaching reform strategies of medicinal botany under hybrid teaching method

3.1 Use "Rain Class" to design the course

"Rain Class" is a teaching platform jointly developed by Tsinghua University and Super Star Company. It is an online education platform integrating pre-class preview, classroom teaching, after-class tutoring and other functions. It realizes the seamless connection between offline teaching and online learning and provides students with a brand new way of learning^[3]. For example, in the section of "General Introduction to Medicinal Plants", the teacher first releases course videos and relevant knowledge points through "Rain class", and requires students to preview relevant knowledge points before class. At the same time, teachers publish the test questions of this part in the "rain class", and mobilize students' enthusiasm and initiative in learning through the way of random questions. As this part of the content is closely related to real life, so in the teaching process, the teacher should take this part of the content as the unit of several groups for discussion and communication. During the discussion, the teacher can guide the students to speak at any time, and evaluate the students' speech. This interactive teaching mode can not only enhance students' interest in learning, but also promote the communication and interaction between teachers and students.

3.2 Guide students to self-study by using "micro-lessons"

Micro-class is a new form of teaching resources emerging in recent years. It mainly uses video teaching mode to help students acquire relevant knowledge points through learning videos. Before class, teachers collect knowledge points that students need to learn and make videos to interact with students in class. In this way, students can not only deepen their impression of knowledge points, but also improve their learning enthusiasm and enable them to learn independently^[4]. For example, when explaining "platycodon platycodon", teachers can display the structural characteristics of platycodon platycodon such as pictures, fruits, roots, and briefly explain its main effects. By watching pictures, videos and other materials, students can better understand the main structure and function of platycodon platycodon. This way of teaching can greatly improve students' learning efficiency and interest in learning, so that they can be more active in the classroom learning.

3.3 Carry out case teaching to improve students' learning enthusiasm

Case teaching refers to that teachers carefully design cases based on teaching content, integrate knowledge points in textbooks into cases, and guide students to carry out exploratory learning through consulting materials and group discussion,

so as to deepen understanding and memory of knowledge points. In the teaching of medicinal botany, we can design special cases according to the key and difficult contents. For example, in the knowledge of “*Angelica sinensis*”, relevant cases can be designed in combination with the growing environment, origin and harvesting season of *Angelica sinensis*. Through the application of case teaching method, students can combine theoretical knowledge with practice, so as to improve students’ learning enthusiasm and initiative. In addition, different knowledge points should be explained appropriately in the teaching process to avoid the boredom of students.

3.4 Use “flipped classroom” to realize the organic combination of “teacher teaching” and “student learning”

Flipped classroom means that students watch videos at home, teachers explain knowledge points online, and then interact with students in class. By adopting flipped classroom in teaching, teachers can return class time to students, give them more time to think about problems, mobilize their enthusiasm, initiative and creativity, and thus improve learning efficiency^[5]. For example, teachers can break the teaching content into several small modules, and arrange students’ independent learning and group discussion in each module. Teachers can send knowledge points, teaching content and learning requirements to students through QQ or wechat before class, so that students can preview in advance. In class, teachers upload micro videos to QQ group or wechat group for students to watch independently. At the same time, micro videos can also be uploaded to the platform for other students to learn, so that students at different levels can have a sense of participation and achievement, which can not only mobilize the enthusiasm of learning but also promote the progress of all students. This is not only conducive to improving the quality of teaching, but also to improve the efficiency of learning, but also to avoid some students who do not love learning because of weariness and give up learning.

Conclusion

Medicinal botany is a course of strong theory, practice and application. Under the background of the new era, this course must be reformed and innovated in teaching, introduce modern information technology means, construct “online and offline” mixed teaching mode, and improve students’ learning initiative and enthusiasm. At the same time, teachers should reasonably plan and design the course of medicinal botany, clarify the teaching objectives, key points and difficulties, carry out the application of mixed teaching model around the teaching objectives, and improve the teaching quality of medicinal botany through the organic integration of classroom teaching, online learning, after-class development and other links.

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