Reform Study on Examinational Method of Botany

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Abstract: Because the examination method of the Botany course is very single, the closed book examination is usually adopted and the examination content is mostly the knowledge examination, which cannot promote the use of the practical knowledge. The author takes the improvement measures from the Examinational methods of the theoretical course, the experimental course and the field practice of the Botany. Through the reform of the Botany teaching, the students' digestion and absorption of the theoretical knowledge can be effectively promoted and the students' experimental skills and practical level can be improved. This teaching can lay a solid foundation for the follow-up courses. More importantly, through the reform of the Botany teaching, the students' learning interest and desire for the exploration are stimulated and their innovation ability and comprehensive quality are effectively improved. This reform can arouse the students' enthusiasm for learning and for using the knowledge comprehensively to solve the problems.

1. Introduction

In recent years, with the promotion of the quality education and the deepening of the innovative education activities, the reform of the teaching mode in the universities has been made great achievements. However, due to the influence of the traditional education concept, the enrollment expansion, the poor quality of the students in the local agricultural universities, it is often emphasized that the unilateral reform of the teaching mode results in the phenomenon that the reform of the assessment mode lags behind the teaching mode, and the teaching mode is out of the line with the assessment mode, which fails to give full play to the promotion and feedback of the assessment mode on the teaching mode and is not conducive to the comprehensive quality of the students training. Therefore, the exploration of a more effective assessment mode will improve the teaching quality of the course and greatly promote the cultivation of the students' comprehensive quality and the innovation ability.

2. Disadvantages of the Examinational Mode of the Botany Course

The Botany is the basic course of the Horticulture and Landscape Major and the agronomy related major in Tianjin Agricultural University. The teaching content of this course includes three parts: the teaching of the Botany theory, the Botany experiment and the Botany field practice. The disadvantages of the examination in the teaching of the Botany theory are as follows: the way of examination is very single, the closed book examination is used generally and the content of the examination is mostly knowledge examination, so the general results of the examination are easy to distinguish. The teachers can easily complete the marking process according to the standard answers. In this way, although the teacher's work is getting smaller, this kind of the test can only detect the students' memory ability of the textbook knowledge, but can't promote the students' use of the actual knowledge. Such an examination will inevitably mislead the students to form a learning attitude of "taking the notes in the class, memorizing the notes before the examination, taking the silent notes during the examination and forgetting the notes after the examination" [1]. The test mode is old. It still is that "one test determines success or failure". That is to say, the Botany theory test is generally arranged at the end of the semester and the quality of the students' performance also depends on the final examination. This kind of examination mode will inevitably lead some students to study hard for getting the high marks before the examination. Some students

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do not study at ordinary times and rush hard to get the pass before the examination. What's more, some students go around looking for the relationships to getting the high scores or pass.

The Botany experiment course is an indispensable part of the Botany teaching process [2-4]. For the examination of the Botany experiment, the theory examination will be combined with the experiment examination in many universities. For example, the final Botany course score consists of the 70 percent theoretical examination score and the 30 percent usual experiment score, and the 30 percent experiment score is mainly based on the experiment report. Therefore, the students think that as long as the experimental report is well done, everything will be fine. So the most time in the experimental class is used to draw the plant structure map. Some students even copy the illustrations directly from the textbooks.

In the past, the assessment of the field practice of the Botany was mainly based on the individual examination of the identifying plants or the submission of the practice report only after the completion of the practice. For the former, many students only distinguish the plant species by the memorizing specific routes and the specific landmark buildings for the purpose of the examination, even if the same plant is not recognized in another place. For the latter, the students just follow the teacher mechanically in the process of the practice. The students like a robot, take notes on the classification status of the various plants that the teacher has talked about, memorize notes hardly and then write the practice report.

In summary, the quality and the effect of the examination activities are directly related to the cultivation of the students' ability. The reform of the examination mode is related to the success or the failure of the school's talent training mode. Therefore, we should actively carry out the exploration of the examination mode reform of the Botany and give full play to the "baton" function of the examination [5-6].

3. Improving Measures on the Examinational Method of the Botany Course

3.1 Improving Measures on the Botany Theoretical Course

The test should be changed to the way of the standardized proposition and tried to change from the simple knowledge test to the comprehensive quality test. In addition to intuitively examining some theoretical knowledge points of the Botany, some questions that are the students can use their knowledge and explain the life phenomena can be added to the examination. It enables the students to learn and use what they have learned flexibly instead of memorizing the textbooks. For example, why is it that "a radish a pit and a pot of the sweet potatoes a pit" in our daily life? Another example, why are the trees not afraid of saddness but afraid to be skinned? Why is the color of the solid wood furniture deep in some places and light in some places?

In addition to the previous judgments, the choices, the fill-in-the-blanks tests and the answer questions, the comprehensive discussion questions should be added. This question doesn’t need a standard answer, as long as the students answer it reasonably, the students can score. Therefore, the students’ ability of the comprehensive application knowledge is enhanced. If the students want to answer this question well, it is inseparable from the students' extensive knowledge. Therefore, the students should not only master the theoretical knowledge in class in the daily learning but also consult more the relevant materials after class. So a comprehensive examination of the students' knowledge is conducted.

In view of the malpractice which one test determines success or failure, we should plan to take the measures to increase the usual tests. The score of the Botany theory course consists of two parts. They include of the usual score and the final score. The usual score accounts for 30 percent of the total score and the final score accounts for 70 percent of the total score. The usual scores include the usual test scores (50 percent), the attendance and the usual performance (20 percent), the writing small papers (30 percent). Usually, the usual test can be carried out in class and a question bank can be established. During the test of each class, the test questions can be extracted in class in order that the later classes students know the test questions in advance is avoided. The usual performance includes the classroom discipline, which can restrict the students to play the mobile phones and

have the other small actions in class. The writing of a small paper is that some paper topics related to the knowledge they usually study in advance are provided to the students and the students can consult the relevant literature after class and then summarize and write a small paper. This can improve the students' interest and enthusiasm in learning. The students rely on their own efforts to obtain the high usual scores. The topics of the paper are as follows, "illustrate the adaptation mechanism of the fruits or the seeds transmitted by the wind" and " illustrate the adaptation mechanism of the fruits or the seeds transmitted by the humans and the animals" and so on. Through this way of the assessment, it can play a very good role in urging students to spend their time in the peacetime rather than just rely on the pre examination assault. This arouses the students' enthusiasm for learning and exercises their ability to use the knowledge comprehensively and solve the problems.

3.2 The Improvement on the Examinational Method of the Botany Experiment

We take the experiment course as an independent course. We set up the corresponding credits instead of the affiliation to the theory course of the botany as before. In this way, the students can pay more attention to the experimental class, enhance their consciousness of the experimental class, correct their attitude towards the experimental class. This can ensure the quality of the experimental class. The concrete method is that the experiment result consists of four parts including the experiment report, the oral test, the operation and the extracurricular experiment report.

Experiment report. At the end of each experiment class, the students still hand in the experiment report as usual. What's changed is that the experimental report only accounts for 30 percent of the experimental class results instead of playing a decisive role as before.

Oral examination. The questions are given by the teacher and the students selecte to answer the questions. The content of the test is that the operation steps and the experimental phenomena of an experiment are answered within the specified time. This part of the results accounted for 20 percent of the total experimental course results.

Operation. The content is made by the teacher. The students can complete the basic operation of an experiment or operate some kind of the instrument in the limited time. This part of examination focuses on the operation of the freehand slice, the production of the temporary film, the use of the microscope and some experimental habits and so on. This part of the score accounts for 30 percent of the total score of the experimental course.

In combination with the personal scientific research project or the innovation project of the teachers in the teaching and research section, the students can design some extra-curricular experiments and research on the characteristics of the seed germination of the various plants and the development law of the various plant organs, etc. Through the establishment of the extracurricular experiment selection database, the students can choose the experiment choice question according to their own interests and form a cooperation team by themselves. Under the guidance of the teacher, the students can consult the materials, arrange the experimental the methods and the steps, then enter the laboratory for the operation, and finally write the experimental report according to the experimental results. Because this takes place outside the classroom, the students take the form of voluntary participation. If the students don’t participate in this part, there is no this score. Through this link, the students can change from the passive learning to the active learning. Through the training, the students can learn to consult the literature and the materials, learn how to design the experiments and skillfully operate the various basic experiments in the operation process. In addition, the students' sense of the teamwork and the students' ability of the organization and the coordination can be enhanced by the students' group experiments. The result of this kind of experiment can reflect the ability of the students in all aspects.

3.3 The Improvement of the Examinational Method of the Botany Field Practice

This Examinational result consists of two parts. They are the field investigation and the specimen picture making. The former accounts for 60 percent of the total score, while the latter accounts for 40 percent. The field investigation contents include three parts. The first is the students randomly select plants and investigate the family name of the plants and describe the main characteristics of

the family plants. The second is the students randomly select plants and use the reference books to find the family name, the genus name or the species name. Whether the students have the ability to identify the plants independently can be investigated in this part. The third is the students randomly select plants and use the canonical morphological terms to describe the forms of the plants and write the corresponding flower patterns. The results of these three parts account for 20 percent of the total score of the Botany field practice. The making of the specimen pictures includes the specimen making and the picture making. For the specimen making, the activity of the making wax leaf specimens is carried out. After the collection, the suppression and the production, two to three students in a group, each group students finally hand over five representative works which are graded by the teacher and the excellent works are exhibited. After the exhibition, the good works are preserved in the herbarium. After years of the practice, the school's herbarium has been well established. The making picture is required that the students can use the digital cameras or the mobile phones to collect the sort and the name the pictures of the plants they have learned. Thus, a class plant picture library is established. In this way, even if the internship is over, these pictures can be taken out for learning, thus a long-term internship system is formed. The making specimen accounts for 30 percent of the total score of the Botany field practice and the making picture accounts for 10 percent of the total score of the Botany field practice.

4. Conclusion

The Botany is an important and leading course for all majors of the biology and the plant production. The practical teaching of the Botany plays an important role in the whole course system. The teachers should take the practical teaching of the Botany seriously, strive to optimize the teaching content, improve the teaching methods, innovate the assessment methods and guarantee the teaching quality. Through the reform of the botany teaching, the students can digest and absorb the theoretical knowledge, improve their experimental skills and practical level and lay a solid foundation for the follow-up courses. More importantly, through the reform of the Botany teaching, the students' learning interest and exploring desire are stimulated and their innovation ability and comprehensive quality are effectively improved.

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