

# Reform of “Food Microbiology” in the Teaching of Higher Vocational Colleges

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**Abstract :** “Food microbiology” is one of the necessary courses for food majors. The teaching of higher vocational colleges is responsible for cultivating talents with solid professional knowledge and practical skills. Therefore, the teaching of “food microbiology” needs to continue to teach courses. In order to explore the content and teaching methods of teachers, we can explore ways to cultivate innovative and practical talents, improve the quality of teaching, and the ability of students to master relevant knowledge, so as to meet the trend of various teaching reforms, and achieve social training, produce more practical talents.

**Keywords :** Food Microbiology; Teaching Reform; Higher Vocational Colleges

With the development of society, food safety issues have attracted more and more attention from all walks of life, and food safety issues are closely related to food microbes. Therefore, this subject will only become more and more important for the cultivation of talents in food safety in the future. Cultivating comprehensive talents with various abilities in food microbiology is the current focus of higher vocational teaching. However, the knowledge of food microbiology teaching is rich and abstract and covers a wide range of fields. In addition, students because of the boring and boring teaching, the problems of playing with mobile phones, dozing off and skipping classes in class are problems that need to be solved urgently in the teaching reform.

## 1. The background of food microbiology teaching reform

Our society is currently in a stage of rapid development. With the continuous progress of social development, various public service facilities in our country are also facing a great test. Due to the frequent occurrence of social food safety problems, whether many shocking cases can be handled in time is not only. It is necessary for government departments to increase the supervision of food safety issues, to introduce and improve various food safety laws and regulations, and it is also necessary for universities to quickly train talents in food microbiology-related disciplines. In the current food safety management industry, food microbiological inspection has become an indispensable part of the entire food safety chain control, but this course has certain practical problems in the current teaching, such as the teaching of the school. The content is out of touch with the actual production enterprises, and the teaching method still stays in theory. The students cannot apply what they have learned in the process of learning. Most of the teaching still stays in the classroom, which is very difficult to arouse the enthusiasm of students. The assessment method for students is still based on written answers, and it is difficult to reflect the actual application of students' ability to master knowledge.

Although the current society's demand for such talents is increasing, students have also shown a lot of undesirable phenomena in the overall training process, lacking the enthusiasm for knowledge desire and the initiative for learning, and even easy to go far. These problems are very worrying, so how to enable students to master the theoretical knowledge sufficient for future career development and the main professional skills that must be mastered after employment is also a problem that needs to be solved urgently in the current teaching reform.

## 2. The goal of food microbiology teaching reform

### 2.1 Cultivate interest in learning

Learning interest is a very important point in all teaching. How to stimulate students' interest in food microbiology is an

important indicator to measure the success of the entire reform. First of all, we must let students have a positive learning attitude to overcome resistance and fear of learning unknown areas, and secondly, we must let students correct their student attitudes. The vocation of students is to study quietly and do their own job.

In teaching, we need to achieve the integration of teaching, and teachers need to combine the theoretical knowledge in the books with the actual microbiological test items, take the test items as the lead, and infiltrate the basic principles of theoretical knowledge throughout the experiment process of the project. This method can not only solve the problem that students' previous book theory and practical operation are difficult to be equal, but also can train students' practical ability to a great extent, improve students' interest in learning, and enable students to learn from theoretical knowledge to practical operation. A smooth transition also has very practical significance for the cultivation of practical talents in society.

## **2.2 Cultivate versatile talents**

In the process of teaching food microbiology, students not only need to master the relevant knowledge of microbes, but also need to be able to master all aspects of food safety. They need to combine the content of other courses to achieve integration and independence for themselves. To lay a solid foundation for scientific research and production work. Of course, a three-step plan is formulated for the learning course of the food microbiology single subject: First, students need to enter the microbiology laboratory to understand the structure and composition of the entire laboratory, and to understand the equipment and various types of testing contained in the laboratory medicines, etc. Secondly, let students collect and process the test samples by themselves. The collection objects include common foods in our daily life, such as: dairy and dairy products, meat and meat products, eggs and egg products, beans And soy products, candy, wine, cakes, condiments, canned food, etc. Through actual operation, students will be more proficient in mastering knowledge. Finally, students will be allowed to test routine microorganisms by themselves, mainly including the detection of the total number of colonies in food, the detection of *Escherichia coli*, lactic acid bacteria, mold and yeast, etc.

## **3. The reform plan of food microbiology teaching**

### **3.1 Interactive teaching**

Interactive teaching is a teaching method that is guided by theoretical knowledge, allowing teachers and students to successfully teach each other the protagonists in the process of mutual exchange of information to achieve the purpose of teaching. In this process, teachers can not only complete their own teaching tasks, but also receive good teaching results. Through participation in teaching activities, students have exercised their courage and mastered the essentials of knowledge proficiently. The most commonly used method of interactive teaching is to arrange the corresponding topics in the classroom first, so that students can check the materials by themselves before the next class, and communicate with teachers and other students in the next class. This process allows students and teachers to truly be in Interact in the classroom to achieve the effect of classroom interaction, and also allow students and students to interact, achieve the effect of classroom discussion, and even whether teachers and teachers can interact to achieve the effect of academic exchanges, in the process of continuous communication. Not only students but also teachers can learn from each other's strengths, discover their own shortcomings more quickly, learn the strengths of others, and spur themselves to make new progress every day. Of course, this process also requires teachers to pay attention to and care about each student in time, so as to prevent the unwillingness of interactive communication or even some students who are far away from the group and develop inferiority.

### **3.2 Multimedia teaching**

In traditional teaching methods, writing on the blackboard is mostly used. The teaching on blackboard is entirely based on the teacher. The purpose of imparting knowledge is achieved through blackboard description, oral explanation, etc. This teaching method allows students to passively receive knowledge instillation. It is very easy for students to have a negative attitude, and it is more difficult to express vividly and concretely for extremely micro-abstract courses such as food microbes, so it is difficult for students to digest and absorb, and it is more prone to become bored and slack. The use of multimedia teaching methods can greatly reduce the distance between students and the world of microbes, and can show students the wonderful world of microbes through PPTs. PPT production is not easy, but in the process of using PPT or video to explain, because the overall rhythm will be very fast, it is not easy for students to truly grasp the actual knowledge points, so teachers also need to appropriately increase the time for interacting with students, for example, let the students themselves only make part of the knowledge points of the courseware, and let them explain or have students discuss and ask questions in groups on their own. At the same time, some students may have the willingness to exchange views, but they are unwilling to communicate with others due to their personality and other reasons. Too

many interactions. At the same time, teachers can also consider recording micro-classes or MOOCs by themselves, and uploading their own teaching videos to the Internet. This method also helps students to prepare before class and review after class, and students can learn at any time in the environment they are accustomed. To a certain extent, it also improves the learning efficiency of students.

### **3.3 Competitive teaching**

The teaching of food microbiology is closely related to our lives. The teaching of theoretical knowledge is part of the teaching process, and experimental teaching must also account for a certain proportion. Teachers can lead students to design some small experiments related to food companies and laboratories for students through the accumulation of their own teaching experience, so that students can learn in practice, so as to improve students' enthusiasm and strengthen students' curiosity. You can even consider designing such small experiments as a competition mode. For example, organize an experimental skill competition every 2 weeks, announce the content of the competition experiment in advance, and let the students freely sub-groups to check the information and participate in the competition. The students' operations are recorded in detail during the experiment. During the process, promptly explain and correct the situation such as improper operation in the later stage, and give appropriate rewards to the teams or individuals who have succeeded in the competition.

## **4. Conclusion**

In the current era, food safety requirements are becoming more and more stringent. We need to continuously add new models in the teaching process of food microbiology, and adopt a series of measures to achieve the level of social demand for such talents through reforms. Reform is always a gradual process. In the process of time reform, we will be restricted by a series of conditions such as school hours, resources, etc., resulting in a lot of teaching content that fails to achieve the expected results, but in the follow-up teaching process, teachers We should also actively strive for students, work hard to overcome the difficulties in the teaching process, and constantly explore reasonable teaching models.

## **References**

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1. Xie M, Chen S. Introduction to food safety. Beijing: China Agricultural University Press; 2009.
2. Yan M. Talking about the current situation and countermeasures of food safety problems in colleges and universities. China Extra-School Education 2001; (12): 181-182.