# A Study of Strategies to Enhance the Interest of Teaching Microbiology

## Luo,Li

The Sea Port School of Lianyungang Normal College, Lianyungang, Jiangsu, 222000, China

**Abstract:** Microbiology belongs to the biology major, is a basic course, but also students in the study of life sciences can not be ignored part of the content, its nature is mainly to the naked eye can not be directly detected by different tiny organisms as a specific sustainable research object. In the process of learning, students need to understand and master the actual characteristics of different microorganisms through the guidance of teachers and their own observation, and the overall teaching mode is relatively fixed, and many students are prone to fatigue in the process of long-term learning and contact. In this context, teachers need to start from the perspective of increasing interest, in the premise of enriching the content, so that students can directly feel the interest of course learning.

Keywords: Microbiology; Interest enhancement; Initiatives

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As teachers, they can ask students to learn knowledge within a limited time, or they can continuously expand the teaching content with their own understanding. However, in practice, teachers rarely consider whether students have a high degree of commitment and concentration in the classroom, after explaining a large amount of knowledge, many students find the classroom boring and lack of interest, so they do not really internalize the knowledge in their minds after acquiring it, and do not achieve the purpose of learning to use. Especially in the microbiology of the knowledge covered in the relatively small and cumbersome, in order to avoid the students to learn the rejection of psychology, teachers need to choose effective strategies to enhance the overall teaching of the fun, to create a more relaxed atmosphere, to meet the needs of the students' reality.

## 1. Encourage Participation and Understand the Appeal of the Subject

Considering the limited time in the classroom, in the process of organizing microbiology teaching, many teachers will not let students participate in the learning process in the form of a leading role, and most of the teachers are used to explaining to students after summarizing the main points in the classroom, so that students can understand the characteristics of specific microorganisms, the reasons for the formation of the impact and the specific application of microorganisms and so on. In this process, students are accustomed to take different knowledge points into their minds as listeners, so it is difficult for students to realize the actual charm of this subject. In the current microbiology classroom, in order to highlight the interesting characteristics of teaching, teachers can encourage students to participate in it and encourage students to give free play. For example, in the classroom, teachers can use modern technology to create a dynamic situation, through the computer will be text, pictures, and other static or dynamic content integrated together, and then students can through the resources provided by the teacher to observe and summarize the actual characteristics of microorganisms. For example, butterflies are especially common in daily life, and students think that they are beautiful, light and very attractive creatures, but in fact, students do not know enough about the specific

#### **About the Author**

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Luo,Li (1977-10), female, ethnic group: Bouyei; native place: Anlong county, Guizhou province; title: associate professor; master; research directions: biotechnology, microbiology teaching and research.

origins and development process of butterflies. Therefore, in the classroom, the teacher can use multimedia to demonstrate, and students can freely summarize the developmental characteristics of microorganisms with the aid of resources. After adopting this approach, students can have more opportunities to participate in the classroom, they are no longer passively listening to the teacher's explanation, but can freely think and boldly put forward ideas. Another example is that teachers can also have positive interactions with students in the classroom. After explaining the characteristics of a certain microorganism, teachers can encourage students to ask questions, and students can put forward their own doubts, and even teachers can ask questions to students in the context of the subject matter. In this link, there are more opportunities for communication between teachers and students, they can continue to discuss around the same knowledge, which can further stimulate the thinking of students, so that students understand the interest of microbial learning.

#### 2. Connecting with Life and Enhancing Self-awareness of Learning

In the past, when organizing the teaching of microbiology, the teaching process of the teacher showed obvious characteristics of generalization, the teacher may directly explain according to the textbook or the teacher will use some key topics in the examination questions of previous years as examples to carry out analysis. After adopting this teaching mode, many students do not understand why they need to learn this part of the content, and do not understand the practical significance of learning this part of the content. At this stage of microbiology teaching, teachers can try to connect it with life, starting from the content that students are familiar with, while encouraging students to refract their own learning content in life, to further enhance students' consciousness in learning. For example, in the process of learning microbiology, students can learn about the production of wine, the production of rice wine and the production of kimchi, etc. These foods are often contacted by students in their daily lives, and the final production of these foods can not be separated from microbiological technology. Students need to use different techniques such as isolation and purification of microorganisms, fermentation and so on to complete the production of food. When teaching, teachers can first ask students to collect materials from life, for example, they can observe their parents or people around them in the preparation of these foods to choose what kind of methods as well as record what is related to microbiology in the process of preparation? After summarizing the information, teachers can encourage students to simulate the process with their own experience, and then summarize the experience and share the results. This teaching method can further change the rigidity of teaching, so that students can understand the reality of microbiology learning, so that they are no longer stuck in the process of learning books, but really into the real life, so that the learning process of students is more vivid.

#### 3. Emphasizing Experimentation and Developing Individual Capacities

To enhance the teaching of an optimal method of interest is to allow students to practice on their own, in the process of hands-on practice, students can have more opportunities to use their own learning, in the use of their own learning to solve some specific and feasible problems, the student's sense of achievement will be stronger, so students will also be more able to appreciate the teaching of the fun. In the current stage of microbiology teaching, teachers can pay attention to this part of the experiment, so that students can take the initiative to plan the steps of the experiment, determine the experimental materials and complete the experimental operation. For example, at the beginning of microbiology, students will understand the identification of colonies, exposure to inoculation, staining and other different techniques. After students understand these different principles, teachers can encourage students to try on their own and clarify the purpose of the experiment. In the classroom, students can be guided by the teacher, using some glassware or reagents prepared by the teacher in advance to carry out a simulation of the experiment, in the process of the experiment to summarize some of the anomalies. Even in the specific teaching implementation, the teacher can divide the students into different groups, first by a group to demonstrate the demonstration, the other groups to record the problems and summarize the experience. After the end of a group, the other groups take turns to replace, and finally, after each group of students participate in the experiment, the students will discuss collectively and analyze whether there are some major operational errors in the process of the experiment. After the summary of the exchange, each group can combine their own operation process and the suggestions of other students to improve and optimize the specific experimental procedures, so that students in the process of learning to achieve the experimental goals more smoothly and reduce the possibility of experimental failure. In addition, taking into account the classroom time is limited, so sometimes may not be able to every student has the opportunity to participate in it, then in the current stage of teaching, teachers in addition to direct demonstration for students, teachers can also provide students with some corresponding experimental video resources, students can be more intuitive to understand the different experimental practices through the video way, in the After repeated viewing, students can further improve their own experimental operation in the process of standardization, in the whole experimental process more comfortable. And in the specific experimental operation, different students' participation in the enthusiasm is different, due to the students' personal preferences and abilities are different, so in addition to the design of integrated experimental operation tasks, teachers can also implement the principle of individualization. For example, after teaching the relevant knowledge of microbiology, teachers can allow students to choose their own interest in some of the content of the process, combined with their own interest in the elements to complete the design of the experiment. For example, some students have a strong interest in animals in nature, so they can observe the actual development of some animals from larvae to adults. For example, some students have a strong interest in DNA modeling after learning about the double helix structure of DNA, so they can assemble plastic DNA models by themselves through experiments. Even students can try to complete some difficult experiments in the process of learning, such as students can use some alternative substances to carry out experiments to reduce the failure rate of the experiment. For example, in the study of mass wall separation, students can use sodium chloride (table salt) instead of sucrose to do the experiment and discuss the results. With this approach, students can directly experience the fun of microbiology teaching, but also in the process of continuous participation and exposure to a more in-depth knowledge of biology content, to achieve the purpose of twice the result with half the effort.

## 4. Conclusion

In summary, as a teacher, in order to enhance the interest of teaching, teachers must start from the perspective of the students, in-depth analysis of microbiology content under the premise of continuous splitting, refinement and expansion, and choose a more suitable for the students' real needs of the teaching method to guide them, so that students in the process of learning can be free to think practice.

#### References

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