DOI: 10.18686/ahe.v6i17.5542

The Application of PBL Teaching Mode in High School Biology Teaching

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Abstract: In the context of the new curriculum reform, more and more educators have begun to pay attention to the effective application of the PBL teaching model in high school biology teaching. This work can improve the quality of teaching while optimizing the traditional teaching model. Create good conditions. Based on this, this paper mainly expounds the related concepts of PBL teaching mode, analyzes the application of PBL teaching mode in high school biology teaching, and is expected to provide guidance and reference for some educators, further improve the quality and level of high school biology teaching, and cultivate for the development of our country. Excellent biological talent.

Keywords: PBL; Teaching mode; High school; Biology; Application

Foreword: From the perspective of modern education development, with the in-depth advancement of education reform, various teaching models have emerged in the education industry. The high school stage, as an important period for students' learning and development, cannot be ignored. Take biology teaching as an example. , which enables students to learn more. The PBL teaching model is problem-oriented, which has a good role in promoting students' learning and meeting students' development needs. So, how to effectively apply the PBL teaching mode in high school biology teaching has become an urgent problem to be solved.

1. Concepts related to PBL teaching mode

"Problem based learning", abbreviated as "PBL", is a problem-based learning method. Compared with traditional teaching methods, the emphasis is on students as the main body. The PBL teaching model, originated in 1969, was first proposed by "Barrows", a professor of neurology in the United States. It was initially applied to medicine, and then gradually expanded to the education industry. Different scholars have different ideas about the PBL teaching model. "Barrows" believes that this kind of teaching model is a process in which learners want to solve a certain problem and carry out learning. Faced with the development of the times, the "PBL" teaching model has been applied in specific practice, especially in the United Kingdom and North America, showing an expanding trend. In the application process of this teaching model, the core is to solve problems, not by teachers asking questions, but by students themselves. The role of teachers is to help students to better ask questions by creating problem situations. , to solve the problem [1].

2. The application of PBL teaching mode in high school biology teaching

In order to effectively apply the PBL teaching model in high school biology teaching, teachers should pay special attention to students as the main body of teaching, and design teaching activities through problem situations, proposing, analyzing and solving methods, so that students can explore and cooperate with each other. Continue to enhance your basic knowledge and study skills. Key applications can start from the following points:

2.1 Create problem situations to stimulate students' interest in learning

In the application of PBL teaching mode in high school biology teaching, teachers should play their own guiding role. In biology classroom teaching, they should create problem situations and use the problem situations to stimulate students' interest in learning, so as to develop corresponding PBL teaching plans. In order to ensure that the problem situation is scientifically created, it is necessary to fully consider the students' learning level and knowledge level, and then combine the actual teaching objectives to make a good teaching design. correlation [2].

For example, when learning about "human genetic diseases", teachers can use multimedia technology to search for news related

to genetic diseases on the Internet in advance, play videos to students in class, or use case descriptions when conducting classroom teaching. In this way, students can master relevant materials, and through such image cases, students can stimulate their interest in "problem situations", build a good learning environment, and provide an important guarantee for the smooth development of biology teaching activities.

2.2 Through the guidance of teachers, let students learn to find problems

In high school biology teaching, the method of creating problem situations can stimulate students' interest in learning and concentrate students' attention. Later, in the teaching process, teachers should exert their own initiative and guide students to actively discover problems. For example, when learning the content of "sex-linked inheritance", teachers can use PPT to show students "three-color cats" or "tortoiseshell cats", and guide students to clarify that cats with these two traits are basically female. At the same time, it is also possible to show the hirsutism that occurs in the human external auditory canal to students, indicating that it only occurs in men. Dalton found that color blindness was generally less common in women than men after surveys. Through the above phenomena, guide students to actively discover problems, including (1) What is the relationship between the inheritance of these traits? (2) Why are the above traits different in terms of gender? Let students discover such problems in their thinking and lay a solid foundation for subsequent learning [3].

2.3 Group cooperation to explore and solve practical problems

In high school biology teaching, in order to cultivate students' thinking ability and improve students' enthusiasm for learning, teachers must give full play to the advantages of group cooperative learning. On the one hand, the difficult and key knowledge involved in high school biological knowledge can be taught, and in the process, the teaching method can be prevented from filling the classroom. On the other hand, in order to enhance students' ability to use knowledge, it is necessary to improve students' learning ability through problem-solving.

For example, when learning about the content of "transmembrane transport of substances", after completing the problem situation creation and question formulation, teachers can guide students to analyze the problems in the teaching, to "whether sugar, protein and energy are carried in the process of cell transmembrane transport. other substances". In order to explore this problem, teachers can divide students into different groups of 4 to ensure that the level of students in each group is equal. Through group cooperation, students can deepen their influence on knowledge learning, and cultivate students' cooperation ability and team spirit. In the process of inquiry, in order to solve the problem, students will generally think deeply about the theoretical knowledge in the textbook, understand the nature of the problem, and explore the corresponding biological knowledge in combination with the problem. In the PBL teaching model, this link is the most critical and the core part, therefore, teachers need to pay attention to it.

Conclusion:

To sum up, high school biology teaching is not achieved overnight. If you want to effectively apply the PBL teaching model, as an educator, you must establish a correct educational concept, fully understand the content of the PBL teaching model, and combine the laws of student development, learning characteristics and Biology teaching related content, find out a scientific and effective way, infiltrate the PBL teaching model in teaching, take the problem as the guide, guide students to learn efficiently, cultivate students' innovative awareness and inquiry ability, and bring out the maximum value of the PBL teaching model. Teaching adds brilliance.

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