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Research on the cultivation of students' self-study ability in physics teaching

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Abstract: *Under the environment of new curriculum reform, the education field attaches more importance to the cultivation of students' core accomplishment, and the ability of self-study is an important content of the core accomplishment. To cultivate students' self-learning ability in junior physics teaching is helpful to strengthen students' discipline thinking and give the class to students. Based on this, on the basis of analyzing the current situation of junior high school physics teaching, this paper clearly puts forward the breakthrough point of cultivating students' self-study ability in junior high school physics teaching, and further explores the strategies of cultivating students' self-study ability.*

Keywords: *Teaching physics; Self-learning ability; Cultivation strategy*

1. Introduction

The ability of self-study is a kind of life-long benefit ability for individual students. At present, some junior middle school students lack autonomy in physics learning, rely too much on teachers' teaching, passively absorb teachers' teaching, there are obvious thinking inertia, which is not conducive to the cultivation of students' concept of lifelong learning. Therefore, in middle school physics teaching, teachers should organize teaching scientifically, increase students' sense of participation in class, strengthen students' awareness of initiative, and promote students to deeply realize the practical significance of self-study[1-5].

2. The entry point for the cultivation of students' self-learning ability in junior high school physics teaching

2.1 Stay interested and be good at discovery

In order to strengthen students' self-learning ability, teachers should carry out teaching activities step by step, deepen students' understanding of physics knowledge, enrich students' learning experience and cultivate students' learning interest. Teachers should also give appropriate feedback to students and encourage them to explore actively to discover the charm of physics and feel the value of physics in production and life, so as to maintain the motivation of continuous research and learning[6-9].

2.2 Think independently and dare to innovate

Independent thinking is a crucial ability in learning, which can effectively stimulate students' interest in learning. Therefore, teachers can proficiently apply situational teaching method in teaching activities to introduce or expand extracurricular new knowledge, encourage students to cooperate and communicate in groups, improve students' ability of independent thinking, and further promote the cultivation of students' self-learning ability. For students, teachers should make timely suggestions to students based on their actual situation and original learning ideas and methods, further improve their learning methods, help students find a set of suitable learning methods, achieve a deep understanding of the learning content, and consolidate the foundation for the development of self-learning ability.

2.3 Be serious, rigorous and persistent

In the study of physics, we should not only rely on temporary interest, but also maintain a rigorous and serious scientific attitude, so that we can really gain. The knowledge of physics is relatively

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complex. Only after long-term regular study and serious thinking, and the formation of good learning habits, can the self-learning ability be effectively improved. Do anything should be persistent, diligent in thinking, so accumulated over time in order to obtain a good habit of self-study, get good results of self-study.

3. Cultivation strategy of students' self-study ability in junior high school physics teaching

3.1 Preview before class and develop the habit of self-study.

The key to developing self-learning ability is to focus on self-interest and master self-learning methods. Preview allows students to think independently about the content to be learned, and it is a process for students to raise and solve problems, during which they can actively think and explore learning. Therefore, preview is of great significance to the cultivation of students' self-study ability[10-18].

Teachers should guide students to preview before class to form a preliminary understanding of the learning content. Only let the students grasp the correct preview method, can carry on the reasonable preview. However, inappropriate preview may give students wrong psychological hints, and make them make wrong judgments about the difficulty of the knowledge they are about to learn. They may ignore the content they are very familiar with and refuse to think deeply about it. Completely unfamiliar content will make students feel frustrated, not conducive to mobilize students' interest in learning. Therefore, as an educator, we should not only help students develop the habit of preview, but also guide them to preview scientifically. Only effective preview can get the desired results.

3.2 Create problem situation and guide students to learn actively

In the traditional classroom, most teachers take themselves as the center of the classroom, and students are more passive listeners. The classroom has become the teacher's "one word", and teachers are more likely to implement a "cramming" teaching method, and students' learning is a kind of mechanical learning [19-26].

Such a teaching model is not conducive to mobilize students' initiative, not conducive to the realization of students' self-learning ability to improve. In order to improve students' self-learning ability, teachers need to position themselves correctly and realize that they are the guides of education and teaching and students are the subjects of learning[5]. In the process of classroom teaching, teachers should consciously create the problem situation, put forward some enlightening questions that fit in with the teaching content, bring students into the situation and stimulate their learning motivation.

3.3 Design classroom experiments and carry out cooperative exploration

In order to improve students' self-learning ability and strengthen their physics literacy, teachers should scientifically design classroom experiments, stimulate students' learning interest and strengthen students' experimental ability.

In addition, teachers can also organize students to carry out group cooperative exploration activities, strengthen students' self-study awareness, and promote the development of students' practical ability. No matter in the teaching of physics theory knowledge or in the experimental teaching, teachers can apply the group cooperative inquiry mode to guide students to explore independently. For example, in order to deepen students' understanding and grasp of physics concepts, relevant laws and application methods, teachers can provide guidance for students' existing problems, provide raw materials needed for experiments, encourage students to cooperate in group exploration and find ways to solve problems independently, enrich students' learning experience, and enable students to actively learn and make progress together in a relaxed and pleasant atmosphere.

4. Summary

In the middle school physics teaching under the guidance of the new curriculum standard, teachers not only undertake the task of teaching, but also undertake the responsibility of education, and play a guiding role in the development of students. The cultivation of students' self-learning ability should be regarded as an important task in teaching. Teachers should pay full attention to the cultivation of

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students' learning enthusiasm and arouse their learning interest, adopt effective teaching methods to deepen students' perception of knowledge, and help students master self-learning methods in daily training to help students set sail.

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