

## Research on the setting of "problem situation" in teaching environment

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**Abstract.** The creation of a problem situation is to inspire students to think over the key, the so-called "situation", it is a kind of "atmosphere". This paper introduces the situational teaching should follow the principle, analyzes the current classroom in the creation of the status quo of the problem situation, studied under the new curriculum standard how to create subtle but effective problem situation, and points out that the both design what kind of problem situation, should from the student's life experience and some background knowledge of and to the natural, reasonable, so as to culture and improve the learning ability of students.

### Introduction

The whole process from the beginning to the end to actively participate in teaching, teaching environment and before the great changes and more colorful, and create a problem situation is the key to inspire students to think, subtle but effective problem situation to stimulate students' interest in learning, to promote students' autonomous learning, training students' mathematical thinking, training students' innovation ability plays an important role. In teaching, teachers should according to the spirit of the curriculum reform and just want to the new curriculum standard, good in the whole teaching process continuously creating problem situation, so always in a "wave of a wave is a positive state of students' thinking.

### The meaning of the problem situation

On the question of definition in different areas have different understanding, in educational circles, the majority of educators and psychologists agree that the view of Newell and Simon: "is such a situation, when individuals want to do something, but could not immediately know how to do, on this matter should take a series of actions will constitute a problem."

To generate interest in the so-called "situation", it is a kind of "atmosphere", can make students active, free to imagine, thinking, to explore, to solve problems or discovery rules, and with this kind of positive emotional experience, the emotion such as the knowledge of the desire for substantial world exploration desire and passion. It is found that the rules of the excitement and the teachers love and so on, is not difficult to imagine, inflexible teaching form, vapid explain, rigorous but dull textbooks, too difficult or too simple and there is no problem is impossible what "problem situation"; that makes people suffocate sea is more needless to say, title sea tactics "Why so devastated that it deprives the students think right, suppress the feelings. Special emphasis on" emotional ". Now some scholars believe that they should put the school education goal by traditional knowledge, ability, emotion" mode into "emotional ability, knowledge model, namely" emotional "as the primary target of teaching. This may seem extreme, but is indeed explodes not without reason: when a student from the school after graduation, he gained the most precious thing is what? First, the correct outlook on life; the second, lifelong thirst for knowledge and curiosity; the third, self-study ability. The first two training related to emotion Problem; cultivate emotional rely on a variety of "scenario". This is the reasons for the people to pay attention to "situational teaching" in recent years. At the same time, it is the realistic background of mathematical concepts rely on the production, this "background" can be the daily life of students, can also be related to the contents of the other subjects, in short, is the origin of a mathematical concept.

According to the definition of the problem and situational meaning and activities for the teaching of problem situations is that individuals perceive a purpose but not know how to achieve the psychological dilemma. Question situation is a state of mind, a when learning content and its original cognitive level is not harmonious, unbalanced, students on the difficult problems urgently needed to be solved in the mental state.

### **Teaching situation should follow the principle**

#### **First, the principle of authenticity**

The real situation is conducive to the cultivation of students' management, thinking and application ability, to cultivate students' real, is conducive to the cultivation of students' true feelings and attitudes, help students form a good habit, the correct values and world view. So we must the authenticity of the situation.

#### **Second, the principle of timeliness**

A short story, several thinking, a practice, a small game even come straight to the point of doing some math problems will stimulate interest, arouse their involved in emotion, activate their thinking, the purpose is to in order to make them better learning, and not to let them feel the need to speak this knowledge rather than to tell a story.

#### **Third, the principle of induced**

In the creation of situations, we must ensure that the new situation can stimulate students' cognitive conflict, students' thinking, because in the creation of context, the best is to be able to allow students to generate suspense, so as to arouse the students' desire for knowledge.

#### **Fourth, the principle of interest**

Psychology research shows that children's behavior is often affected by the interest. Therefore, we in the class can be the story of the import, import puzzles and games import, starting from the interest of students, so that it can arouse students' thirst for knowledge.

#### **Fifth, the principle of cooperation**

Era requires us to develop students' collective concept and team spirit of cooperation, so that they learn to communicate and share the knowledge you have learned, and this can also learn to appreciate others results. So we in the class may be appropriate to use cooperative discussion that a case method to improve the students' team spirit of cooperation.

#### **Sixth, the principle of knowledge**

Relationship with new knowledge, the students a lot of new knowledge is produced in the original cognitive theory. Therefore, we in the teaching of new knowledge can appropriately increase some of the students had learned the knowledge, so that students can better and faster master new knowledge.

#### **Seventh, the principle of openness**

Suhomlinski said: "in the depths of the soul, there is a deep-seated need, it is the hope he is a discovery, researchers, explorers, and in the spiritual world of children this need is particularly strong. Therefore, we in the teaching process should give the students a broader space of thinking, to allow students to explore the answer, so as to let the students in class active.

### **Under the new curriculum for the creation of the cause of learning situations**

#### **Requirements for the development of modern educational theory**

(1) the question situation teaching conforms to the law of the theory of the zone of proximal development.

Recently development area theory that students' learning is from known places -- recently observed place, don't know where is a cyclic process, spiral accumulation. And the question situation teaching is from the students have the knowledge and experience of from students on the recently observed place of situational level, make students logical thinking in a hierarchical incremental situation continue to develop, in order to reach do not know where to achieve the teaching objective.

(2) the problem situation teaching to adapt to the characteristics of Constructivism Learning heory

Constructivism learning theory, knowledge are always in a certain environment, learning is always with a certain situations associated to learning as students active construction activity in specific contexts. Study in the context of practical problems. We're going to use their original knowledge experience, the question situation assimilation to we are familiar with the knowledge structure to and through the Tonghua and adaptation to the reconstruction of knowledge, so as to solve the problem, construct knowledge.

(3) the problem situation teaching is the necessary request of the research study theory.

Research of learning that is the carrier of knowledge, the teaching activities should be around the problem of organization problem solving. We all know that classroom teaching should to students as the main body, take the teacher as the leadership, give full play to the students' subjectivity, through the creation of problem situation, let the students to think independently, exchange, discuss, positive reflection and the appraisal, forming reasonable cognitive structure, so as to cultivate the students' mathematical learning interest, so as to improve the students' problem solving, exchanges and cooperation and autonomous learning ability.

**Creation of problem situations is the necessity of curriculum reform.**

The basic trend of the curriculum reform is the all-round development of students put in the first place, focus on the students' lifelong sustainable development. During this period, we have to emphasize the cultivation of students' innovative consciousness and innovative ability. Focus on application and exploration of learning, and the advocate of independence, cooperation and learning. Pay attention to the problems encountered in the process of learning to seek faster solutions.

### **The current situation of creating problem situations in the classroom**

**The pursuit of fashion, bright and colorful, only the situation, ignore the problem, resulting in deviation from the teaching theme.**

Now many teachers feel during the class introduce more interesting stories and experience, songs so that students in the classroom, a surge of interest will think students are better able to learn the knowledge, but this did not achieve the desired effect of the teachers, but just the opposite, that some previously accomplishments of students but not before so good grades. Therefore, we should be appropriate use of problem situation, seize the theme, so that more efficient.

**Far fetched, mechanically, students from the reality, a mere formality.**

Reality is that some teachers just simple pursuit of form on the situation creation, mechanically, fabricating false. This problem with life in order to make the actual to the problem under some scenarios and far fetched, practices of mistaken identity, will inevitably lead to the creation of situations from attribute, from teaching the essence of.

### **Under the new curriculum to create a clever and effective problem situation**

**Strategies for creating problem situations**

(1) objective strategy

A good teaching environment for a certain teaching objectives, the creation of the situation is not only to mobilize the enthusiasm of the students, but also to enable students to learn to consciously, to explore the problem, to obtain new knowledge.

(2) moderate strategy

Design of problem situation, starting from the real life, considering that most of the students cognitive level, should be geared to the needs of all students, remember not only for a few people set. It is necessary to consider the teaching content but also to consider the students' differences, attention to student prompt questions the angle and the method to let every student get development from the context of teachers teaching design. So the teacher in the creation of the problem situation, should pay attention to a moderate level of difficulty, but also to those settings and students not only the existing knowledge and experience are closely related, and have certain thinking capacity and strength, can let the students through the efforts of thinking to solve the problem.

### (3) the strategy of integrating theory with practice

Students to learn knowledge, ultimate goal is applied to the actual, solve practical problems, in teaching teachers should create the actual problem situations, help the student on own initiative from the perspective of mathematics and teaching of the thought and method to analyze and solve practical problems and to enhance practical ability.

#### **Methods to create a small problem situation**

In the ideas of new curriculum and the problem situation creation strategy under the guidance of experience setting strategy, pays attention to the student experience of the process, and the emotional motivation, we should combined with teaching practice and the problems of mathematics in the classroom context, the creation of the survey, summed up the following the creation of problem situations:

#### (1) to find the problem situation in daily life

"Learning geography that is useful for life" here we can see that the geographical knowledge and with our life is inseparable, so life situation of teaching has a strong influence. So we have to use the original knowledge structure of the students, by association, analogy, generalization to new knowledge and life combining the actual creation of problem situations.

#### (2) to realize the strategy of the problem setting, create the problem situation

Problem is the key point of knowledge development. However, the problem of setting a number of strategies, such as setting up the suspense, set conflicts and teaching can be from setting angle to the creation of the problem situation.

### **Conclusions**

In summary, situation create can make our classroom more rich and colorful, let our teachers become more dynamic, let our students interest passionately knowledge. Of course to create the question situation is one of the most important factors in influencing students' learning course. Although creating problem situations in many ways, but regardless of the design what kind of problem situation, should from the student's life experience and some background knowledge of, but also to natural, reasonable, so as to culture and improve the learning ability of students.

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