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Research on the Present Situation and Countermeasures of Primary School Science Teachers' Classroom Questioning—Take School Y in M County as an Example

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Abstract: *With the deepening of the new curriculum reform, the educational concept of science curriculum in primary schools has gradually shifted to guide students to learn how to think, cooperate to explore, express and communicate, and promote the development of students' practical ability and innovation consciousness. As a means for teachers to mobilize students' thinking and enhance teacher-student interaction, classroom questioning can effectively help students focus their attention, review old knowledge, and use new knowledge, which is of great significance to the realization of teaching objectives. On the basis of combing related concepts such as classroom questioning and primary school science classroom questioning, taking Y school in M County as an example, this paper uses classroom observation method and video analysis method to investigate the current situation of primary school science teachers 'classroom questioning, analyzes the existing problems, and puts forward optimization strategies of classroom questioning for primary school science teachers.*

Keywords: *Primary school; Science teacher; Classroom questioning; Countermeasure*

1. Introduction

With the increasing abundance of material life, the development of society needs high-quality talents with scientific literacy, and the cultivation of talents depends on education. At the National Education Conference of China, the General Secretary proposed that "efforts should be made to increase knowledge and insight", "guide students to seek knowledge without distractions", "seek truth, understand truth, and understand reason", "efforts should be made to enhance comprehensive quality", and "cultivate students' comprehensive ability and innovative thinking ability".[1]The key to the cultivation of ability is to implement the development of students' thinking. Classroom questioning can enable teachers to effectively test students' mastery of knowledge, improve students' ability to transfer and apply knowledge, and enhance interaction and emotional exchange between teachers and students on the basis of fully mobilizing students' enthusiasm for thinking. It plays a vital role in cultivating students' ability and achieving educational goals.

Primary school is the foundation stage of basic education. Pupils are in the critical period of transformation from concrete image thinking to abstract logical thinking, and have a strong desire for knowledge and exploration of the surrounding natural environment. Science is the knowledge system formed by human beings on the basis of studying natural phenomena and discovering natural laws, as well as the cognitive process of acquiring these knowledge systems and the methods used in this process. "The Science Curriculum Standards for Compulsory Education (2022 edition) "clearly points out that: "Based on the development of students' core literacy, we should understand some common basic knowledge in the fields of material science, life science, earth and space science, technology and engineering, and initially form basic scientific concepts. We should focus on the cultivation of scientific thinking ability, scientific inquiry and practice ability, scientific attitude and social responsibility, and promote the development of students' learning ability and innovation ability. "[2] Therefore, how to grasp the basic, comprehensive and practical characteristics of science curriculum in the process of primary school science teaching, transform boring scientific knowledge into vivid and practical situations for primary school students, mobilize students' thinking activity through effective classroom questioning, enrich their five senses and experience, and promote the improvement of students' comprehensive ability is of great significance.

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2. Concept definition

(1)Classroom questioning

Classroom questioning refers to the interaction between teachers and students in the process of classroom teaching. From the perspective of teachers, effective classroom questioning can check students' learning, promote the development of students' thinking, guide students to draw correct conclusions, and improve students' ability to use knowledge. From the perspective of students, classroom questioning can quickly focus their attention, activate their thinking, and exercise their language expression ability.[3]

(2)Primary school science classroom questioning

Primary school science classroom questioning refers to the interaction between teachers and students in the primary school science course teaching.

3. Types of questioning in primary school science class

According to Bloom's classification theory of educational objectives, the characteristics of primary school science teaching content and the purpose of questioning, there are several types of questions in primary school science classroom.[4]

(1)Recall questioning

Recall questioning refers to the type of questions that requires students to respond quickly and students can answer only from memory. There are two kinds of recall questions: the first kind does not require students to think deeply, they only needs to answer "yes" or "no", "right" or "wrong", which is also known as alternative question. The second kind requires students to recall the facts and concepts they have learned, and answer the words, phrases or series of sentences. For example, what are the units that constitute the structure and function of an organism? Recall questions are usually used at the beginning of a new lesson or at the beginning of learning a certain concept, principle and rule. They can test students' mastery of basic knowledge and enhance their memory and expression ability. However, recall questioning is a simple, low cognitive level questioning, which should not be used too much, let alone continuous use, because there is a lack of high-level thinking activities.

(2)Understanding questioning

Understanding questioning refers to a questioning method that requires students to grasp the meaning of what they have learned, express it in their own words, explain it, or make simple reasoning. Understanding questioning includes general understanding questioning, in-depth understanding questioning and comparative understanding questioning, and the understanding degree of the three is gradually deepened.

General understanding questioning. General understanding questioning requires students to describe facts, events, etc. in their own words. For example, "Can you talk about how potassium permanganate is dissolved in water?" If students want to answer these questions, they need to mentally recall and reorganize what they have learned and then express it in their own words. This type of questioning is often used after the explanation of a process or law, mainly to examine the students' ability to summarize the content they have learned.

In-depth understanding questioning. In-depth understanding questioning is to let students tell the central idea in their own words, so as to understand whether students have grasped the essence of the question. For example, in the chapter "Animals", through the study of many kinds of animals, such as snails, earthworms, ants, goldfish, etc., we can ask the question when summarizing the characteristics of animals: "Through the study of snails, earthworms, ants, goldfish, combined with other animals you see in daily life, can you summarize the common characteristics of animals?" After summarizing the basic characteristics of animals such as movement, need food to sustain life, excretion, response to external stimuli, growth and development, and reproduction, students can also be guided to compare the common characteristics of animals with plants and can be asked: "What are the basic characteristics of life?" It can help students further summarize the basic characteristics of life. This type of questioning mainly examines the ability of students to analyze and summarize what they have learned, so that students can grasp the essence and deepen their understanding. In-depth understanding should be based on general understanding, which requires higher mastery of the essence of knowledge than general understanding.

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Comparative understanding questioning. Comparative understanding questioning is to compare facts and events to distinguish their essential differences and achieve a deeper understanding. The premise of comparison is to have a deep understanding, and make a distinction on the basis of knowing the nature of the two comparison objects, so as to deepen the understanding of the two objects. For example, when learning about material changes, the teacher can ask: "What is the essential difference between physical changes and chemical changes?" To answer this question, students need to grasp the essence of physical changes and chemical changes to distinguish. This type of questioning is often used after concept teaching.

(3)Application questioning

Application questioning is a way to establish a problem situation and let students use the newly acquired knowledge to solve new problems. For example, after learning the nutritional composition and nutritional balance standards of food, the teacher can ask: “Boys and girls, comparing the food we ate during the day with the food balanced diet pagoda, do you find any difference? Can you design a scientific diet for three meals a day for yourself and your family?” “If I have a lot of exercise these days, or if the phenomenon of hand molting is more serious, what kind of nutritious food do I need to increase?” This type of questioning makes it easy for students to feel that the knowledge they have learned is useful. In this kind of questions, the key words commonly used by teachers are application, classification, selection and examples.

(4)Analytical questioning

Analytical questioning is a way of asking students to identify the relationship between conditions and reasons, and between reasons and results. Analytical questioning requires students to further decompose what they have learned, sort out the constituent elements of things and their relationships, help students analyze the relationship between the various elements, so as to cultivate students' ability to analyze and solve problems.[5] It belongs to advanced cognitive questions, which do not have ready-made answers, and students cannot answer by reading textbooks or memorizing the materials provided by teachers. For example, in the process of experimental inquiry, teachers guide students to select experimental instruments and materials according to experimental purposes and conditions, and analyze the reasons for meeting experimental conditions, such as "How can we prove that solid matter can transmit sound?" "How can we measure the crawling speed of ants?"

(5)Comprehensive questioning

Comprehensive questioning is a kind of questioning method that requires students to synthesize the knowledge they have learned on the basis of analysis, and then obtain concepts, principles and laws. When thinking about comprehensive questions, students need to constantly analyze, synthesize and summarize, so it is generally difficult. Therefore, comprehensive questions are generally used in the key or difficult points of a lesson, and often solve the core problems of a lesson. For example, in the lesson of "Growth Changes of Silkworm", the teacher guides students to comprehensively, meticulously and scientifically observe the body structure and behavioral characteristics of silkworm, and puts forward the question: "What is the relationship between the body structure of silkworm and its life?" Students need to analyze the functions of various parts of the silkworm's body structure, such as the benefits of chewing mouthpiece for it to eat mulberry leaves, the chest feet can help it hold the mulberry leaves, while the abdominal feet can help it crawl and spiracles are its respiratory organs. On the basis of such analysis, students will draw the conclusion that "any part of the body structure damaged will pose a certain threat to the life of the silkworm".

(6)Evaluation questioning

Evaluation is to rationally and profoundly make a persuasive judgment on the value of the essence of things, that is, to judge the results of analysis and synthesis. Evaluation questioning means that teachers guide students to express their own views on some issues in a controversial manner. The evaluation questions can be expressed in the following ways: "Do you agree with.....? Why?" "Do you believe in.....? Why?" "Do you think.....? Why?" "Do you like.....? Why?" For example, "Do you think GM food is safe? Why?""Do you think the design scheme of the first group of students about the boat is feasible? Why?" Evaluation questioning is difficult among many types of questioning, which requires students to have dialectical thinking and open perspectives in the process of evaluation. When the quality of students' answer is not high, the teacher can ask: "Is there any other reason?" "What do other people think?" and so on.

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4. Investigation on the present situation of primary school science classroom questioning

From September 2022 to January 2023, this paper selected the first volume of the second grade "Observing the Phases of the Moon" taught by teacher A, the first volume of the fourth grade "Food for a Day" taught by teacher B, the first volume of the fifth grade "The General Commander of the Body "taught by teacher C, and the first volume of the sixth grade" Not Simple Lever "taught by teacher D to understand the implementation status of science classroom questioning in Y school in M County through the combination of classroom observation and video analysis. The number of students in the four classes is equal. The four teachers are full-time science teachers, among which the teaching experience of teacher A and teacher B is 2 years and 3 years respectively, and the teaching experience of teacher C and teacher D is 6 years and 8 years respectively. Each scientific observation class was approved by the science teacher. The researchers brought their own classroom observation record sheet, which was mainly designed from the aspects of the number of classroom questions, the types of questions, waiting time for answers, the way teachers ask questions, time for classroom questioning, and the way of teachers' answering, so as to record and analyze the classroom questioning during observation. Through data statistics and result analysis, the current situation of science classroom questioning in this school is as follows.

(1)The quality of classroom questioning needs to be further improved

The quality of classroom questioning is mainly reflected from the quantity of classroom questions, the type of classroom questioning, whether to consider the logic of teaching content and the cognitive characteristics of students.[6]The number of classroom questions of the four teachers is mainly concentrated in the range of 16-23 times, and the statistics are shown in Table 1-Table 4.

Table 1: The number of questions asked by teacher A in "Observing the Phases of the Moon"

	Import	Describe the phases of the moon	Observe and record the moon phases	Describe the change rule of the moon phase	expansion	total
Number of questions	3	5	6	6	3	23

Table 2: The number of questions asked by teacher B in "Food for a Day"

	Import	Record and count the food eaten in a day	Categorize food	discussion	total
Number of questions	2	7	6	4	19

Table 3: The number of questions asked by teacher C in "The General Commander of the Body"

	Import	Understand the structure of the brain	Explore the function of the brain	How to protect the brain in daily life	total
Number of questions	4	4	7	2	17

Table 4: The number of questions asked by teacher D in "Not Simple Lever"

	Import	Use small stones and sticks to pry large stones	Pry large stone from A to B	discussion	The use of leverage in life	total
Number of questions	4	5	0	3	4	16

From the perspective of questioning types, the four teachers mostly used recall questioning, general understanding questioning, application questioning and analytical questioning, while relatively few used other types of understanding questioning, comprehensive questioning and evaluation questioning. Recall questioning was involved to varying degrees in each of the lessons observed. To be specific, Teacher A asked a total of 23 questions in the whole class, 16 of which were recall questions. For example, in the section of "Describe the phases of the moon", she asked "Are you willing to be the little tailor of the Moon Girl?" "Are you ready, young tailors?" "Does the moon really change as in the story?" In the section of "Observe and record the moon phases", asked "Is the phase of the moon still the same as yesterday?" In this lesson, there were too many recall questions, so students didn't need to think deeply, which could not well mobilize students' high-level thinking activities. In the lesson "The General Commander of the Body" taught by Teacher C, recall questions were presented in addition to the introduction, such as "How about we play a game before class?" more concentrated in the third part

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"Explore the function of the brain", the teacher guided students to play a game about word memory and image memory, that is, "Take 20 seconds to remember the words on the screen, and then say which two words switch positions?" "For 10 seconds, remember the objects on the screen, and say what object is missing? What extra object?" It was reasonable to trigger students to explore the brain function. The four teachers could flexibly use analytical questioning and application questioning to help students analyze the logical relationship between the various elements of things, such as asking students to analyze the ingredients contained in food and guiding students to classify food according to their own classification standards. However, there was a general lack of comprehensive questioning. For example, teacher A only asked the questions "This month's moon is like this, what about the next month? And the month after that? What do you think will happen?" in the part of "Describe the change rule of the moon phase", which enlightened students to think, but there was no clear language feature of comprehensive questioning, which could not play a prompt role in guiding students to master the change law of the moon phase. For another example, in the part of "How to protect the brain in daily life", teacher C used application questioning to guide students to think about how to protect the brain, but did not help students deepen their understanding of the brain from the perspective of structure and function from the perspective of comprehensive questioning. Similarly, in the "discussion" link, teacher D tried to guide students to summarize the rules of leverage through such questions as "Are there any findings in the test process?" However, the question lacked the linguistic characteristics of comprehensive questioning and could not guide students' thinking direction well. Instead, it should clearly put forward "What are the rules of leverage through the previous test?" Moreover, it was observed that only teacher D used the evaluation questioning "Do you think his scheme is feasible? Why?" to guide students to explore how to use small stones and sticks to pry large stones.

The observation found that the scope of some questions asked by the four teachers is too broad and the direction of some questions is unclear. For example, the teacher A guided students to observe the differences of different moon phases in the "Description of moon phases" section, and asked students "How do the phases of the moon change? "And then put forward" who can say more specifically? "The latter question belongs to the general understanding questioning, but it does not make it clear that students say more specifically from which angle or aspect, which is not conducive to the development of students' thinking and the achievement of teaching objectives. Teacher B asked students "What do you find?" on the basis of students' statistics of what they had eaten in a day, lacking guidance on the direction of discovery.

In addition, in the section of "Record and count the food eaten in a day", teacher B first asked the students "what are the characteristics of the food eaten every day? Why should we eat so much food? Do you know what nutrition food can provide us?" Then guided the students to record and count the food eaten in a day. From the perspective of the logical order of the arrangement of the teaching content of this lesson, these questions can cause students to think more about practical problems after the teaching activity of "Categorize food" in the third part of this lesson. That is, there is a phenomenon that classroom questioning does not fully consider the logical order of the teaching content and the characteristics of students' cognitive development.

It can be seen that the level of questioning in primary school science class is mainly concentrated in the middle and low cognitive development level, which is not conducive to cultivating students' high-level thinking. At the same time, there is a widespread phenomenon that the scope of questions is too broad and some questions are lack of pertinence. There is also a phenomenon that teachers do not fully consider the logic of teaching content and the characteristics of students' cognitive development when asking questions. The quality of primary school science classroom questioning needs to be further improved.

(2)The timing of classroom questioning needs to be further improved

Teachers should choose the right time to ask questions in class. They can find suitable opportunities from many aspects, such as the confusion of students' understanding, the connection between old and new knowledge, the key point of teaching link, and the turning point of students' thinking.[7]Statistics show that the four teachers can set questions at the doubts of students' understanding and the key points of the teaching process to trigger students' thinking, but ignoring the connection between new and old knowledge and the turning point of students' thinking are also good opportunities to ask questions. For example, teacher B further inspired students to classify food after guiding them to count the food they ate in a day, but teacher B ignored the transition of students' thinking and directly asked questions about food classification standards, such as "In order to better remember what food we have eaten, we need to classify food. Can you tell me about your classification criteria? What are the categories of food?" Such questions of food classification criteria are a little too abrupt. The same phenomenon also exists in the

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teaching of teacher C. From understanding the structure of the brain to exploring the function of the brain, teacher C made the transition directly through the statement "We have just understood the structure of the brain, and then we will look at the function of the brain", which lacked the effective mobilization of students' attention. In addition, teacher D could use the analytical questioning "Please think about how to use these materials to design a lever device, using small stones to pry large stones?" to guide students to explore how to use small stones and sticks to pry large stones. Here, the teacher actually hoped that students can use the simple test method that they had mastered in the previous teaching content of "Inclined Plane", but this way of asking question did not take into account the connection between old and new knowledge, which increased the difficulty of students' thinking. Moreover, in the teaching process of "Pry large stone from A to B", teacher D did not guide students to carry out inquiry activities by asking questions to grasp the principle of leverage, but by language teaching, which reduced students' thinking to a certain extent.

(3)The waiting time for classroom questioning is too short

Teachers need to give students enough time to think after asking questions. There are two kinds of waiting time for questioning: one is the time that teachers wait for students to answer after asking questions, that is, waiting time. The other is the time before the teacher responds after the students answer the questions. Research shows that no matter what period of time it is, increasing waiting time often has an unexpected effect of "doing more with less".[8]However, the survey found that the waiting time of primary school science teachers is usually less than five seconds, and the students' thinking time is obviously insufficient, which directly leads to the incomplete and insufficient depth of students' answers. Moreover, the types and difficulties of questions raised by teachers are different, so when students encounter more challenging questions, a short waiting time cannot effectively promote the development of students' thinking. At the same time, the survey found that primary school science teachers generally immediately evaluate or ask other students after one student answers a question, without waiting for a few seconds to respond, and sometimes it will cause certain harm to the students' self-confidence and self-esteem. The reason why the waiting time for classroom questioning is too short is that most science teachers believe that the interaction between teachers and students will take too long, which will greatly delay the teaching progress.

(4)The form of science teachers' classroom questioning is too single

The survey found that in primary school science classes, it is common for teachers to ask the whole class to answer, or for teachers to ask only one student to answer. Even if it is the form of an individual answer, many teachers adopt a hand-raising or regular answer method, while random questioning are relatively few, so that teachers often ask students with good grades and more active thinking, while ignoring students with poor grades and more introverted personalities. For example, teachers often use the regular answer method of "driving the train", which makes some students seize the law of teachers' questioning and slack off, relax their thoughts and do not think. It is observed that teachers seldom use the method of group questioning in the classroom, let alone the method of hierarchical questioning, which ignores the cultivation of students' cooperative inquiry ability and their differences to a certain extent.

(5)The way of answering in class and the content of evaluation are too simple and general

Rational answer refers to the teacher's response and treatment to the students' answers. If students answer correctly, teachers should give praise; If students have difficulties in answering, teachers need to provide active guidance and help. The survey shows that when students give correct answers, teachers often offer encouragement and praise, but the evaluation is too simple and general, such as "You answered very well!" "You are great!" This kind of evaluation is merely a form, lacking the guidance of specific content, not specific enough, not targeted, and cannot let students understand where their good is. And the survey shows that when students answer incorrectly or their thoughts are blocked, teachers do not further ask or prompt students to guide them to work hard to solve the problems by themselves, but chose to ask other students or give answers directly. It can be seen that primary school science teachers do not answer questions in a rich enough way, which is not conducive to the cultivation of students' scientific thinking ability and innovative consciousness.

5. Classroom Questioning Improvement Strategies for Primary School Science Teachers

(1)Strengthen design and optimize the quality of questioning

To optimize the quality of classroom questioning, it is necessary to design the questions when

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preparing lessons. The time of a class is limited, so teachers should control the quantity of questions, try to avoid some meaningless and worthless questions, try to reduce the recall questioning that the whole class can answer with one voice, and increase the types of comprehensive questioning and evaluation questioning that can mobilize students' high-level thinking.[9]For example, teacher A can ask "What do you think the change rule of the moon phase is?" on the basis of students' continuous observation of the moon phase, and guide students to describe the change rule of the moon phase. In the part of "How to protect the brain in daily life", teacher C can guide students to deepen their understanding of the brain from the perspective of structure and function by asking "What is the meaning of the brain for our study and life? How do we command physical activities through the brain?" The characteristics of primary school science curriculum determine that teachers should strengthen the cultivation of students' ability of inquiry practice in the teaching process. Therefore, teachers can increase evaluation questioning, encourage students to think more about experimental schemes, exchange ideas with others, and develop critical thinking in the process of exploration. In addition, teachers need to consider the logical connection of teaching content and the cognitive development characteristics of students when designing questions, and the design of questions should be from easy to difficult, from simple to complex, from shallow to deep, leaving certain thinking space and gradient. At the same time, the direction of the question and the language logic should be clear, so that the teacher can point out a clear direction for students' thinking. For example, the question "Why is the balloon blown up?" contains many variables that are difficult for students to grasp, while the question "What is the relationship between the size of the balloon and the hardness of the balloon materials?" has a more clear direction, which is conducive to the design of activities, the choice of learning tools, and the completion of teaching objectives.[10]

(2)Reasonably analyze and choose the right time to ask questions

In the process of teaching design, it is necessary to reasonably analyze the teaching content, sort out the logical relationship between knowledge, and reasonably choose different times to ask questions such as the doubts of students' understanding, the connection between new and old knowledge, the key point of teaching content, and the turning point of students' thinking. Putting forward questions in the confusion of students' understanding can stimulate students' desire to explore and point out the direction for students' learning.[11]The key point of the teaching content refers to the key and difficult part of the teaching goal, which plays a commanding role in students' thinking. Asking questions at the key point of the teaching content can deepen the depth and breadth of students' understanding of the key content. Asking questions from the connection between new and old knowledge is conducive to the connection and transition between new and old knowledge, and is conducive to the completion of knowledge assimilation. For example, when teacher D guides students to explore how to use small stones and sticks to pry large stones, he can ask, "Can you learn from the simple test method used in 'Inclined Plane' and use these materials to design a lever device to use small rocks to pry big rocks?" And asking questions at the turning point of students' thinking can make students' thinking smoothly switch from one activity to another. At the same time, it can effectively arouse students' thinking. For example, when teacher B turns to "Categorize food" after guiding students to count the food they eat for a day, she can ask the question "We know that the types of food are very rich, so how should we classify food?"

(3)Be flexible and set sufficient waiting time

Teachers generally need to wait for a period of time after asking questions, so that students can fully think and organize the language. First of all, teachers should have a sense of waiting for answers, cannot ask students to answer immediately after questioning. Secondly, the waiting time should be appropriate. Generally, a waiting time of 10-30 seconds can allow students to fully think, organize and adjust their ideas. Questions with a waiting time of more than 30 seconds are usually more complex, and students need a longer waiting time to think before they can answer. If teachers ask questions without waiting time for answers or the waiting time is insufficient, it will be difficult for students to think deeply, which will affect the quality of students' answers, and will also cause a certain degree of psychological burden to students. In the process of waiting for answers, teachers should carefully observe which students are actively looking for solutions to the problem, which students are frowning and confused about the problem, and which students are not in the problem situation and not actively thinking, so as to prepare for correcting answers. At the same time, the teacher has to wait for a few seconds after the student answers, which can often lead to the supplement of the student or other students. If the teacher is unwilling to wait for a few seconds, and then immediately turn to another student, it will cause some damage to the self-confidence and self-esteem of the former student.

(4)Pay attention to all students and assign questions appropriately

Teaching must take learners as the starting point and pay attention to individual differences. Questioning objects are mainly divided into three categories: the whole class, group and individual.

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High level questions are often answered by groups or individuals. In the way of personal answers, teachers should try to use less regular personal answers and more random personal answers. Students will focus their attention and think actively when teachers ask random questions, which is conducive to promoting students' thinking and testing students' learning. However, when asking questions randomly, teachers should not only consider whether the teaching goals can be successfully completed and select students with better degree, but should have a sense of stratification. Teachers should design questions at different levels and throw them to students at different levels, so that students can think, have knowledge and make progress at their own level. In addition, the new curriculum reform advocates students as the main body in classroom teaching. Under this background, science teachers should also guide students to actively explore in the way of group cooperation, organize group members to discuss, complete the project together and report, and guide students in other groups to correct, supplement and improve, so as to achieve communication between students.[12]The questions assigned to the group should have certain difficulty, and students should have difficulties in solving them individually, so as to increase the emotional dependence among the group members.

(5)Properly answer questions based on learning conditions

Questioning is a process in which teachers and students exchange ideas. After students have answered the question, teachers should give a positive response. If the student' answer is correct and complete, the teacher should praise the student in a timely, targeted and specific manner. For example, in the course of "Observing Our Bodies". When the student answers "the human body is divided into several parts, such as head, neck, trunk and limbs, and the body shape has the characteristics of left-right symmetry." The teacher can respond by saying, "It's great that you're able to observe our bodies from top to bottom, from left to right, and you observe very carefully!" If students answer incorrectly or their thinking are blocked, teachers should make specific analysis of the questions. Teachers can use more methods such as further questioning or prompting, giving a series of suggestive language expressions or supplementary materials to broaden students' ideas and help them find solutions to the problems by themselves.

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