Study on Improving Students' Thinking Quality by Creating Question Chains in College English Teaching

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Abstract: *This paper aims to explore and discuss strategies for improving critical thinking skills in college English classes in college by using question chains. With the increasing importance of critical thinking in various fields, it is essential to equip students with the necessary skills to analyze, evaluate, and interpret information effectively. The approach of using question chain stimulates students' thinking skills, creativity and critical thinking, and helps them develop problem-solving skills. Teachers can guide students to think independently, stimulate their interest in learning, and improve their language skills so that they can think about problems from different angles and come up with reasonable solutions. It also describes how to design and implement the question chain activities, and provides some examples and cases to illustrate its effects. The results indicate that using question chain can effectively improve students' thinking quality and promote their academic growth and personal development. Considering the significance of critical thinking in higher education, implementing this strategy in curricula can aid students in becoming more astute and reflective thinkers.*

Keywords: *College English teaching, problem chain, thinking ability, problems-soling ability*

1. Introduction

Question chain is an effective teaching method, which can improve students' thinking quality in college English teaching. Teachers can guide students to think and solve problems actively by means of inspiring questions, exploratory questions and guided questions, and cultivate their critical thinking and innovation ability. Problem chain is a well-designed learning process, which is a learning process from the known to the unknown, from the concrete to the abstract, from the local to the whole. Problem chain can effectively guide students in the process of language learning, realize the construction of knowledge, skills and abilities, and help students to acquire the ability of independent learning and innovation. In college English teaching, teachers should use problem chains to guide students to understand the contents of texts and the cultural connotations behind language forms. In the classroom, teachers should set up a series of question chains around the theme, through which students' critical thinking, creative thinking and cooperation ability should be cultivated. The author will discuss how to design question chains in college English teaching, and put forward some strategies to design question chains in college English teaching.

2. The Important Role of Problem Chain in College English Teaching

As an innovative teaching method, the problem chain is created by a teacher who designs a series of logical problems in order to guide the students to carry out inquiry activities and form a deep understanding of the knowledge. It can transform the learning process of knowledge into the process of cultivating students' ability of creative thinking, critical thinking and cooperation. Through the question chain, teachers can effectively guide students to use the knowledge to analyze and interpret the text content in depth, and cultivate students' divergent thinking and critical thinking ability. In college English teaching, teachers should design some pertinence and operability problem chains based on students' actual learning and psychological characteristics[1].

2.1. Constructing Problem Situations for Students

The application of problem chain in college English teaching can promote students' active thinking

and promote the efficient development of classroom teaching. When designing the problem chain, teachers should consider the actual situation of students, pay attention to the knowledge and life experience of students, and create the problem situation related to the contents. Teachers should design some open and probing question chains based on the contents of the textbook, such as: "Do you know what a holiday is? What kind of festivals do you like? Why?" and so on the question chain.

This kind of question chain can lead students to think actively, actively explore, and then improve students' thinking ability. For example, in the unit How to Introduce China in English, the teacher can ask the students questions: " What festivals Do you know in China?" Then, after the student answers, the teacher can ask: What are the traditional festivals in China? Why do China celebrate these festivals? "This kind of question chain can arouse the enthusiasm of the students to study, and promote the students to study the knowledge of inquiry. In college English teaching, teachers should rely on teaching materials and construct problem chains by integrating teaching contents and teaching objectives. Through the construction of question chain to guide the students to probe deeply into language and culture knowledge, thus promoting the students' thinking ability, language ability and cultural accomplishment[2].

2.2. Guiding students to explore independently

In the traditional teaching mode, teachers mainly teach and students passively accept knowledge. In this teaching mode, students can only accept the teacher's explanation passively, can't effectively play their own initiative and enthusiasm. But under the problem chain teaching mode, the teacher is to guide the students to explore independently, it can effectively stimulate the students' enthusiasm for learning.For example, under the theme of "Cultural Background" in Unit 3 of College English, teachers can guide students to explore the different cultural phenomena in the theme. For example, students can learn about the festivals and eating habits of western countries. On this basis, the teacher introduces the traditional festivals to the students. For example, in introducing the theme of "Chung Yeung Festival", teachers can guide students to understand the traditional Chinese virtues of "the old and the old" and the historical origin of the festival. After learning about the Chinese festival and the western festival culture, the teacher introduces the Chinese culture of food, architecture and other aspects. In this way, students can better master knowledge and skills.

2.3. Enhancing student cooperation and exchange

In the teaching of problem chain, students do not simply accept knowledge, but take the initiative to solve problems through the guidance of problem chain, and cultivate students' ability of independent inquiry. By designing a chain of questions, teachers can enable students to learn to listen to other people's opinions and perspectives in the process of collaborative inquiry. During the exploration, students can discuss and analyze the questions raised. This will not only enhance the communication between students, but also stimulate students' interest in learning English. During the discussion, students are also able to reflect on themselves by answering questions in the chain. This can not only enable students to deepen their understanding of the text in the mutual communication, but also effectively improve their critical thinking ability. In the process of cooperative learning, they can actively participate in teaching activities, and reflect and summarize their views.

2.4. Cultivating Students' Critical Thinking

Critical thinking is a way of thinking that can examine and evaluate the opinions and beliefs of others and society on the basis of self-reflection. In college English teaching, teachers can develop students' critical thinking by designing question chains. As a typical "learning activity", problem chain is an effective way for students to understand and master knowledge at a deep level. Students need to use critical thinking in reading, writing and comprehension. Therefore, teachers can use problem chain as an effective teaching method to develop students' critical thinking. Specifically, teachers can design some hierarchical and logical chain of questions, guide students to analyze the content of the text and to interpret and analyze the content. In this process, students can analyze and judge the characters and events mentioned in the text, and at the same time reflect and evaluate the cultural phenomena and values embodied in the text, thus forming an understanding and understanding of the text. In this process, teachers should fully respect students' subject status, encourage students to actively participate in the problem chain activities. This can effectively cultivate students' critical thinking and make them form a correct understanding of the use of English in free discussion and communication.

For example, when teaching the unit "Chronology of Chinese Culture", teachers can design a chain of questions such as: "Why introduce Chinese culture? What are the benefits of introducing Chinese culture?" This chain of questions can motivate students to actively participate in the discussion, so that they can better understand and grasp the text content during the learning process. At the same time, teachers should encourage students to introduce Chinese culture in English, so that they can deepen their understanding and knowledge of Chinese culture in exchanges and communication. In this way, teachers can effectively cultivate students' critical thinking. In short, teachers should fully realize the important role and value of question chain in college English teaching. In this way, the question chain can become an important starting point to improve students' comprehensive English ability.

2.5. Helping students develop cultural awareness

In college English teaching, teachers should start with cultivating students' cultural consciousness, so that students can analyze and understand the text contents deeply and form cultural consciousness on the basis of mastering language knowledge. In the traditional college English teaching, teachers mainly help students to learn English from grammar and vocabulary, but neglect students' understanding and analysis of culture. Therefore, in the traditional college English teaching, students' language ability is improved rapidly, but their cultural awareness is relatively weak. If teachers only pay attention to the teaching of language knowledge and neglect the cultivation of students' cultural consciousness, students will not understand the text thoroughly and completely.In order to cultivate students' cultural consciousness better, teachers can try to help students form cultural consciousness by the way of problem chain. For example, when the teacher is teaching "Chinese Traditional Festival", the teacher can design the Chinese traditional festival and culture, food, architecture, folklore and other related issues into a problem chain. In this way, students can understand and analyze the cultural knowledge in the text at a deep level when reading the text. After reading the text, students will find that traditional Chinese festivals have rich cultural connotations. By teaching in the way of question chain, students can discover more cultural information in the text, and then understand and analyze it in a deeper level. In this way, the students will cultivate their love and respect for Chinese culture and become talents with international vision, world-mindedness and cross-cultural awareness.

2.6. Stimulating students' interest in learning

In the traditional teaching mode, teachers mainly teach and students passively accept knowledge. In this teaching mode, students can only accept the teacher's explanation passively, can't effectively play their own initiative and enthusiasm. But under the problem chain teaching mode, the teacher is to guide the students to explore independently, it can effectively stimulate the students' enthusiasm for learning.For example, under the theme of "Cultural Background" in Unit 3 of College English, teachers can guide students to explore the different cultural phenomena in the theme. For example, students can learn about the festivals and eating habits of western countries. On this basis, the teacher introduces the traditional festivals to the students. For example, in introducing the theme of "Chung Yeung Festival", teachers can guide students to understand the traditional Chinese virtues of "the old and the old" and the historical origin of the festival. After learning about the Chinese festival and the western festival culture, the teacher introduces the Chinese culture of food, architecture and other aspects. In this way, students can better master knowledge and skills.

First, problem chain can stimulate students' interest in learning, make students feel the sense of success and achievement when they complete task-based activities, and then cultivate students' interest in learning English. Secondly, problem chain can stimulate students' creative thinking and critical thinking. In English teaching, teachers can lead students to explore learning by putting forward a series of logical questions, so that students can have more space in reading and writing. Finally, problem chains can facilitate interaction between teachers and students. In classroom teaching, teachers should fully respect, listen to students, pay attention to their difficulties and obstacles in learning. To stimulate students' enthusiasm and interest in learning English through timely affirmation and encouragement, and to improve the teaching effect of college English classroom.

2.7. Effectively promoting practical application of language

Through the question chain, students can actively transform their thinking into language. Problem chains can effectively help students to apply the knowledge they have learned. For example, when teaching "Chinese culture", teachers can design question chains according to the teaching objectives,

such as "introducing Chinese traditional festivals" and "introducing Chinese food". Through these question chains, students can perform role-playing, lectures, performances and other practical activities. Students can turn their knowledge into practical ability in practical language practice and improve their comprehensive English ability to a certain extent.In this way, students can apply the knowledge they have learned to practice, and then improve their comprehensive language use ability. Teachers should respect students' main body status and allow students to learn and practice independently.

2.8. Cultivating Students' Thinking Quality

Thinking quality refers to the comprehensive embodiment of people's thinking process, thinking method and thinking ability. Therefore, teachers should introduce the problem chain into English teaching, help students improve their critical thinking ability, and promote students' creative ability, cooperative consciousness and cultural accomplishment[3].

In English teaching, teachers should pay attention to cultivating students' problem consciousness and exploration consciousness. Problem is the starting point of learning activities, the basis of teacher-student communication and dialogue, and an effective learning strategy. In the teaching of problem chain, the teacher can design some logical questions by using the problem chain to guide the students to carry on the inquiry activities. For example, in the course of "How to introduce China in English", the teacher can ask the students to read "Chinese Culture Chronology" and introduce the unit in English. Next, the teacher has to ask the students to think about how to introduce Chinese culture to others in English. Students can think in the following ways: First, how to introduce Chinese food?

Second, how to introduce Chinese clothing? After analyzing these questions, teachers can ask students to give their answers in group discussions.In this way, teachers can help students realize that they should actively understand each other's cultural traditions and habits in cross-cultural communication. In addition, teachers can work in small groups in the classroom. For example, when talking about "Chinese Festival", the teacher can organize a group discussion about the origin and significance of "Mid-Autumn Festival" and "Spring Festival". In this process, students split the group into two camps for discussion. Then let the students report their views and understanding of the two festivals.

Finally, the teacher put forward some requirements for the students: First, we should respect what we have learned. Second, respect what others have learned. Third, learn to cooperate with others. Through this way, students can exercise critical thinking ability, cooperation spirit and team consciousness.

3. Strategies for problem chain design

The design of problem chain is a dynamic process, in which teachers should adjust and optimize the problem chain according to different learning contents and tasks. The teacher can design a hierarchical problem chain that accords with the law of cognitive development by analyzing the contents of the text, students' cognition level, learning task and knowledge level, combining the structural elements, relevant elements and hierarchical elements of the problem chain [4].

3.1. Build a knowledge framework with questions as the main line.

When designing the problem chain, teachers should focus on the theme and construct the knowledge framework with the theme as the main line. When studying the theme, the teacher should guide the students to make clear the learning goal and organize the teaching content with the goal as the main line. Teachers can first introduce relevant topics or topics to guide students to think, so that students have an overall impression, and then find a main thread that runs through the whole teaching process.

For example, in teaching the topic of "Cultural Diversity", the teacher could divide the readings for this module into two parts: The first part is cultural diversity, which means that different countries and regions have cultural differences in different aspects. The second part is cultural diversity, which means that different countries and regions have different cultural differences in the same aspect. When learning the content of this unit, students can first learn about the topic of cultural diversity through pictures and videos, and then discuss and think based on their own understanding of the text content.

3.2. LProblem-oriented and improve students' reading ability.

When reading the text, the teacher should guide the students to grasp the overall structure and main content of the text, let the students understand how the author will unfold a story. Therefore, teachers should pay attention to the relevance of problems when designing problem chains. For example, in teaching the topic of "topic versus text," teachers could design question chains, "What does the matter talking about the story? The two questions are a set of interrelated questions that students can compare and analyze in their answers to improve their reading and writing skills.

3.3. Problem-centered, to train students critical thinking and creative thinking [5].

In teaching, teachers should help students develop the habit of critical thinking and creative thinking through problem chain. Teachers can help students identify the information and viewpoints contained in the text by analyzing and interpreting the text. Teachers can guide students to think about the information and viewpoints contained in the text by setting open, critical and innovative questions. Through these three question chains, the students find that there are some problems such as incomplete information, unclear logic and unclear viewpoint.

In designing this topic, teachers can extract three key messages from the topic: (1) What is the author trying to say? (2) Why does the author write this way? (3) What does the author want to tell us? When answering these three questions, students can make clear what the author wants to express by comparing the behaviors of different characters in the text; To understand the author's point of view by sorting out the relationship between different characters in the text; By combing through the dialogue between different characters in the text to understand what the author is trying to convey.

4. Teaching practice of creating problem chain in college English teaching

4.1. Clear Teaching Objectives to Improve Classroom Efficiency

When designing the problem chain, teachers should closely follow the teaching goal and carry out the teaching activities step by step according to the step of "putting forward the problem, analyzing the problem and solving the problem". Teachers should make clear teaching objectives, understand students' cognitive level and learning ability, and design problem chains based on them to avoid the situation that teaching objectives do not match students' actual situation.

In teaching the subject of "cultural diversity", teachers first stratify and classify students and determine the learning objectives of different levels of students. Teachers can divide students into three levels: The first level is low-level students, they do not understand the cultural knowledge contained in the text, the different characters in the text are not clear of the behavior; The second level is middle-level students, who already know the cultural knowledge and social phenomena contained in the text; The third level is the high level students, they not only know the cultural knowledge and social phenomena, but also understand the author's writing intention.

In teaching the theme of "Master Diversity of Themes and Texts", teachers can first introduce students to the definition of cultural diversity, the reasons for cultural diversity and the meaning of cultural diversity. The teacher then asks three chains of questions: First question chain "What is this?" Let students understand the cultural differences in different countries and regions; The second question chain "What do you think?" Let students understand how the author unfolds a story. Third question chain "What does this mean?" Allow students to understand how the author sees the subject and to present different perspectives through their own thinking.

Then the teacher asks three questions, "What do you think?" Let students identify the information and ideas contained in the text; When teaching the theme of "theme and text", teachers can first let students understand that theme means that different countries and regions have cultural differences in the same aspect; Then the teacher asks three more questions, "What does this mean?" Ask students to identify information and ideas contained in the text[6].

4.2. Respecting students' cognition and stimulating students' interest

Problem chain design is the process of teacher's interpretation of text and introduction of students into class. Therefore, we should respect students' cognition and arouse students' interest when

designing problem chain. When designing problem chain, teachers can design problem chain by asking questions about students' understanding of the problem and their evaluation. Teachers should start from students' knowledge level and cognitive ability, provide students with appropriate teaching materials, and stimulate students' interest in learning. Teachers can lead students to think about three questions: First, what is cultural diversity?

Second, what are the forms of cultural diversity?

Third, what impact does cultural diversity have on us? Through these three question chains, students are introduced to the theme of cultural diversity. Next, the teacher can design the following three questions: The first question is, "What do you mean in cultural differences? In answering these three questions, students can extract relevant information from the text and then analyze and evaluate the information.

When teaching the theme of "Chinese traditional festivals", teachers can first use pictures and videos to let students know what traditional Chinese festivals are.

4.3. Programs and Activitie Cultivating Students' Thinking and Improving Their Thinking Ability [7]

In the design of problem chain, teachers should combine students' cognition level and knowledge level, take students as the main body to design problems, so that students can gradually improve their thinking ability. In this process, the teacher should design the problem chain according to different teaching contents and learning tasks, and guide the students to develop good thinking habits. In the design of problem chain, teachers can use "1 + 1" to guide students to think. and "What are the social diversity?" Two questions to guide students to think about the cultural differences between different countries and regions, thereby improving students' thinking ability.

"1 + 1" problem chain

In English learning, the "1 + 1" problem chain can be carried out from two aspects.

First, in English teaching, teachers can connect the words and sentences in the textbook with the theme of the text, and guide students to learn words, understand sentences and master knowledge.

Second, teachers can also use some extracurricular books and movies as supplementary materials to guide students to read and think in class, which can help students consolidate their English learning achievements. For example, teachers can design problem chains in conjunction with the movie Gone with the Wind after teaching a text about love. "Why do you like shelter?" and "Why do you like it?" "Two questions can help students better understand the meaning of love.

"What are the social diversity?"

The design of the question chain not only stimulates students' interest in learning, but also allows students to think about cultural differences between countries and regions. For example, a teacher could design a question like What do you think are the cultural differences between different countries? "After the students have answered this question, the teacher should guide them to think deeply, to find the key points of cultural differences, and to be able to analyze them according to their own learning experience and knowledge. In this process, students not only have to think about the cultural differences between their own country and other countries, but also need to consider the cultural similarities and differences between their own country and other countries. If teachers simply list and contrast cultural differences, students will find it too boring to stimulate their interest in learning. Therefore, when designing the problem chain, the teacher should design the problem according to the teaching content and learning task[8].

5. Conclusions

The quality of teachers' questioning in class directly affects the teaching effect. Teachers should design relevant question chains according to the teaching content, students' situation and teaching objectives, and evaluate and improve them to better serve the teaching activities. In the classroom, teachers should constantly encourage students to question and develop students' critical thinking and cooperation skills through the chain of questions. With the ever-changing demand for talents in society, college teachers should constantly explore the teaching mode suitable for students' development, and keep trying in the teaching process, so as to better cultivate students' thinking quality and improve their comprehensive literacy.

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