

Using Cognitive Conflict to Develop Critical Thinking in Reading Teaching

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Abstract: The English Curriculum Standards for Compulsory Education (2022) for the first time incorporates the cultivation of thinking quality into the junior high school English curriculum, and describes the specific manifestations of critical thinking in terms of “sub-characteristics” by academic segments. In English teaching, teachers can use cognitive conflict to cultivate students' critical thinking, but most teachers do not have a clear understanding of cognitive conflict. Besides, the frequency and amount of cognitive conflict that teachers consciously use in the classroom varies from teacher to teacher. Therefore, this paper analyzes four types of cognitive conflicts that can be tried to use in reading teaching. What's more, this paper divides the development process of cognitive conflict in reading learning into four stages: stimulation, analysis, dissolution and reflection. Finally, this paper proposes effective strategies for using cognitive conflict in reading teaching to develop students' critical thinking.

Keywords: Cognitive Conflict; Critical Thinking; Reading Teaching.

1. Introduction

The English Curriculum Standards for Compulsory Education (2022) (hereinafter referred to as the Standards) for the first time incorporates the cultivation of thinking quality into the junior high school English curriculum, proposing that logical, dialectical and innovative thinking should be gradually developed, so that thinking embodies a certain degree of agility, flexibility, creativity, criticality and profundity (Ministry of Education, 2022). Criticality refers to the degree of independent analysis and criticism in thinking activities, such as reflection, self-monitoring and questioning (Mei & Wang, 2022). The Curriculum Standard describes the specific manifestations of critical thinking in terms of “sub-characteristics” and proposes that students in grades 7-9 should be able to know and understand the world from different perspectives, think independently about various points of view, judge the truthfulness of information, make correct value judgments, and try to put forward reasonable questions (Ministry of Education, 2022).

Critical thinking consists of the following six cognitive skills: Interpretation, Analysis, Evaluation, Inference, Explanation, and Self-regulation (Fachon, 2013). The training of critical thinking requires creating situations and posing problems for students, so that they can train critical thinking awareness and ability in the mental state of cognitive conflict, which is determined by the characteristics of critical thinking (Bi et al., 2018). Teachers can create cognitive conflicts in the classroom at the right time, changing pure instillation into deep thinking in order to promote the growth of critical thinking (Gao, 2023). In reading teaching, teachers can use cognitive conflict to guide students to think deeply and carry out critical thinking activities.

In order to better understand the current situation of teachers' use of cognitive conflict to cultivate students' critical thinking in reading instruction, the author conducted several classroom observations and teacher interviews, and found that most teachers did not have a clear understanding of cognitive conflict, and even many teachers did not know what cognitive conflict was or what cognitive conflict could be used in the

classroom. In addition, the frequency and amount of cognitive conflict used in the classroom varies among teachers. Even though many teachers stimulate cognitive conflicts, there are problems in the process of using them, such as using Yes/No questions directly and not responding to students' answers in time, which reduces the effectiveness of cognitive conflicts. How to use cognitive conflict in junior high school English reading class to effectively improve students' critical thinking ability?

2. Literature Review

2.1. Cognitive Conflict

Cognitive conflict refers to the contradiction or conflict that arises psychologically when the existing cognitive structure in the process of cognitive development does not match the real situation (Lin & Hu, 2010). Cognitive conflict first appeared in Piaget's cognitive development theory in the “cognitive imbalance” view. According to Piaget (1969), “the cognitive development of an individual is to achieve cognitive balance through both assimilation or conformity during cognitive imbalance, and cognitive imbalance helps students construct their own knowledge system” (as cited in Zhao et al., 2018). Cognitive conflicts can cause certain difficulties in teaching on the surface, but properly utilized can be an effective way to enhance students' critical thinking.

Abrams (1988), a contemporary American literary scholar, believes that literature is composed of four elements: the work, the writer, the world, and the reader (as cited in Wang & Wang, 2014). When teachers look for the conflict between students' existing knowledge and experience and literary works, they should pay attention to the conflict between students' existing knowledge and the content and artistic form of the literary works, as well as the conflict between them and the world reflected in the works and the writer's unique point of view, purpose, and intention. Meanwhile, for the teaching of literary works, it is also an interaction between works, teachers and students, and conflict arises in the interaction of the three, in addition to what has been mentioned above, there are also conflicts between teachers and students and students due to

their different knowledge experiences, which lead to their feelings, understanding, and evaluations of the works (Wang & Wang, 2014). Referring to the conflicts in the teaching of literary works and combining with the characteristics of junior high school English reading teaching, cognitive conflicts can be roughly divided into four categories:

Firstly, conflict between students and texts. Students' prior knowledge and experience do not enable them to understand the content and thematic meaning of the text well.

Secondly, conflict between students and text characters. Students have limited life experience; they will be distant from the characters in the text and cannot understand their ideas or opinions well.

Thirdly, conflict between students and authors. Different people see the world from different perspectives and in different ways, which also causes the students as readers and the authors to differ in their ways of analyzing and solving problems.

Fourthly, conflict between students. Students have different life backgrounds and they perceive and think differently. Teachers can try to use one or even several of these conflicts to develop students' critical thinking. The teacher can try to use one or even several of these conflicts to develop critical thinking in students.

Lee et al (2003) proposed the Cognitive Conflict Processing Model (CCPM), which consists of three constituent phases: initiation, conflict, and dissipation, i.e., after becoming aware of the conflict, the learner develops an interest in the conflict or an anxiety about the conflict, engages in a cognitive reappraisal, dissipates the conflict, and finally makes a decision to produce the outcome (Wang et al., 2021). In the context of teaching English literature, in order to realize the spiral upward development of "balance - imbalance - new balance" in the cognitive structure of text interpretation, the learner first selects, adjusts or constructs the input information of literary reading. Cognitive conflict arises when the information obtained from the literary text is inconsistent with the originally formed knowledge, and the learner mobilizes the components of thought operations to conform through encoding, reasoning, connecting, applying, creating, and other thought operations to form a new cognitive structure and resolve the cognitive conflict (Lan, 2015).

With reference to the above views, the author tries to divide the development process of cognitive conflict in reading learning into four stages: stimulation, analysis, dissolution and reflection. In pre-reading activities, teachers activate students' existing cognitive structures by stimulating conflicts. In the mid-reading activity, the teacher guides students to analyze the cognitive conflicts, question, think, discuss and re-evaluate cognition. Teachers should seek suitable breakthrough points to dissolve cognitive conflicts and help students form new cognitive structures in the light of the textual characteristics. Reflecting on cognitive conflicts is to mobilize the operational components of thinking in combination with real-life situations to make the cognitive structure more complete. In these four stages, students will utilize the appropriate critical thinking skills, thus enhancing their thinking ability.

2.2. Critical Thinking

Kurfiss (1988, as cited in Bonk & Simth, 1998) argues that critical thinking manifests itself in making reasoned judgments in complex situations based on available evidence and value systems.

Huang Huaxin and Pu Fangping (2000) asserts that critical thinking is a kind of individualized thinking, which is based on suspicion, observation, and experimentation. In the face of "stereotyped thinking", one dares to "think backwards". People with this quality of thinking are less susceptible to the suggestion of others and dare to challenge conventional wisdom. He Yunfeng (2000) thinks that critical thinking is a process of active thinking, because a truly creative subject can never passively accept stimuli from the environment, and uncritically "take in the information" from other people's viewpoints. Critical thinking is also a process of questioning. The formation of questions is a prerequisite for creativity, and it gradually elaborates the subject's own new viewpoints by asking different questions. Kong Lingcui (2000) believes that critical thinking is reflected in the process of problem solving, and there is no critical thinking without problem solving.

From the views of several scholars on critical thinking above, the author concluded that critical thinking has a clear object of thinking, and questions a certain aspect of this object, and then makes a reasonable judgment on it based on the background knowledge and evidence.

3. Problem Solutions

The paper takes the discourse "Should I Be Allowed to Make My Own Decisions?" in 2b of Unit 7 Section B, Grade 9 in the Renjiao edition of English as an example to discuss how to optimize the teaching activities based on the theory of cognitive conflict and develop students' critical thinking.

3.1. Creating Situations to Stimulate Cognitive Conflicts

In the pre-reading session, the teacher activates the students' existing knowledge by creating a situation, and stimulates the contradiction between the students' experience and new knowledge by setting up suspense and triggering cognitive conflicts. When a cognitive conflict arises between an individual's existing cognitive structure and new knowledge, in order to reach a new state of cognitive equilibrium, students tend to self-regulate through both assimilation and conformity, in order to seek a deeper development of thinking and cognition (Zhang & Wang, 2021). Of course, cognitive conflict should be stimulated by focusing on the topic, so that the conflict can effectively promote students' understanding of the meaning of the topic. As we endeavor to determine the meaning and significance expressed by the material, we have to use paraphrasing, a core competency of critical thinking and the habit of wise and prudent thinking. The first rule of fair paraphrasing is to be sensitive to context and purpose (Fachon, 2013).

3.1.1. Discussing Topics and Expressing Opinions

In the warm-up session, teachers can guide students to discuss and express their opinions around the topic by setting up situations. Through the discussion, students discover conflicts and activate critical thinking. As students have different upbringing and values, theme-based discussions can trigger a great deal of collision of viewpoints, and such collisions are conducive to students' use of interpretive skills to better understand the theme and develop critical and profound thinking.

Unit 7 of Grade 9 belongs to the People and Self thematic category, covering the Life and Learning thematic cluster, with the sub-themes of Difficulties, Problems and Solutions in Life and Learning. The discourse "Should I Be Allowed to

Make My Own Decisions?" tells the story of Liu Yu, the main character, and his parents: 15-year-old Liu Yu is a running star from Shandong province who dreams of becoming a professional runner, so he is adamant that he should do what he wants to do. Although his parents support his hobby, they think he should recognize the gap between his dream and reality, and want him to spend more time and energy on his studies. This kind of conflict is common in students' daily lives and can resonate with them.

At the beginning of the class, the teacher shows a video of a youth mental health variety show and asks students to indicate whether they agree or disagree with the situations in the video by raising their cards and briefly explaining their reasons. When discussing whether studying is above all else, most students expressed disagreement, but for different reasons. Some students said: although studying is hard, it is indeed important at this stage and there will be other important things when they grow up. Some students thought that apart from studying, there are other equally important things such as developing interests and hobbies.

3.1.2. Setting up Suspense and Activating the Known

In the pre-reading session, the teacher can also make full use of the context maps and discourse titles of the textbook to activate students' prior knowledge and stimulate conflicts by guiding them to describe the pictures and interpret the titles and other activities. Students try to raise reasonable questions around the suspense set by the teacher and express themselves according to their own understanding, and the teacher can make full use of the cognitive conflict between students to trigger critical thinking. Such cognitive conflicts can disperse students' thinking and develop reasoning skills. In addition, students reading with suspense can develop their critical thinking skills of self-monitoring.

In the pre-reading activity for this lesson, the teacher presents the text situation picture (which shows a boy running hard on a sports field) and the caption. The teacher asks students to describe the picture and read the title, and then asks the question: What do you want to know about the boy after looking at the picture and the title? in order to trigger students' thinking in relation to their prior experience. Students have different expectations and opinions about the content of the text. What kind of decision may the boy make? And they made different guesses. The cognitive conflict triggered by this suspense leads students to actively engage in the next reading activities.

3.2. In-depth Reading to Analyze Cognitive Conflicts

Students' reasoning, evaluating and making personal judgments about textual content reflect their high-level thinking in perceiving, understanding and processing the information contained in the text itself (Lan, 2015). Many textual contents in middle school English textbooks imply dilemmas in real life, which are effective materials for cultivating students' critical thinking skills. Teachers should guide students to fully study the textbook, interpret the text from multiple perspectives, and analyze these cognitive conflicts in depth, so as to develop analytical and evaluative skills and enhance critical thinking ability.

3.2.1. Sorting out Ideas and Understanding Differences

Analytical skills in critical thinking refer to identifying proposed or actual reasoning relationships between statements, questions, concepts, descriptions, or other forms

of statements intended to express beliefs, judgments, experiences, reasons, information, or opinions (Fachon, 2013). Teachers should help students sort through the characters' perspectives and guide them in using analytical skills to understand cognitive conflicts.

In this lesson's text, Liu Yu has a disagreement with his parents. Teacher's questions: Which paragraphs tell us about Liu Yu's opinion? Which paragraphs tell us about his parents'? Lead the students to analyze Liu Yu's opinion and his parents' opinion independently. Then, the teacher asks: What do Liu Yu's parents say about Liu Yu's hobby? Do they agree with each other? Why do they have different opinions? Students list the opinions and differences between the two sides. Why do they have different opinions? The teacher triggers students to analyze the cognitive conflict through a series of questions and gives timely feedback on students' answers, so that students' understanding of the conflict is deeper and students' analytical ability is improved.

3.2.2. Evaluating Characters and Experiencing Themes

Evaluation is the key to independent thinking and critical thinking towards maturity, and it is an important step from seeking knowledge to questioning, to analyzing, and ultimately generating our own opinions (Dong, 2018). Characters in a discourse are reflections of the author's thoughts. Students' life experience is limited, and with the fact that everyone's life experience is not the same, they will have a distance from the characters in the discourse. Teachers can guide students to evaluate the characters objectively and interpret the characters and themes from different perspectives.

The teacher designed a character evaluation activity in the reading section of this lesson, through the question "What kind of person do you think Liu Yu is?" to guide the students to interpret the text, analyze and evaluate the characters from various angles. Students gave some answers as follows: He is hard-working because he is serious about running and works hard to achieve his dream. / I think Liu Yu is a brave boy. His parents don't like his goal. But he is serious about running. It's the only thing he has ever wanted to do. It can be seen that such questions can guide students to better appreciate the theme and provoke them to use conflict to improve critical thinking skills such as analyzing and evaluating.

3.2.3. Rational Dialogue to Dissolve Cognitive Conflicts

Junior high school students do not have enough social experience, and their outlook on life and values are in the process of formation, which also results in the differences in analyzing and problem-solving methods between the students as readers and the characters in the text and even the author. And the core of cognitive conflict resolution is negotiated dialog (Wang et al., 2021). Teachers should guide students to use critical thinking skills such as analyzing and interpreting to better understand the characters' ideas and the author's writing intention and figure out the truth contained in the problem through rational dialogues between teachers and students, as well as between students and characters and authors. Through the gradual dissolution of conflicts, students form new cognitive structures and at the same time accomplish emotional sublimation, which helps them transform their values and develop them in a correct and positive direction.

3.3. Analyze the Reasons and Think Differently

A positive habit of mind for critical thinking is open-mindedness, which means that a person is able to tolerate differences of opinion and is sensitive to the possibility that he or she may hold biases (Fachon, 2013). During the mid-reading session, teachers should encourage students to learn to think differently through teacher-student and student-student dialogues. Students may not be able to express their thoughts accurately and completely in English, but their analytical and interpretive skills can be enhanced.

In this lesson, through teacher-student and student-student dialogues, students further analyze in depth the reasons behind the characters' views. First, the teacher asks: Liu Yu's parents don't allow him to make his own decisions. Why? Do your parents worry about your success at school? By thinking about the above questions, students analyze that Liu Yu's parents want Liu Yu to pursue other careers because the road to success for a professional athlete is very hard. Every parent wants his or her child to be successful, and his or her own parents have the same expectation. After that, the teacher asks: Did Liu Yu want to be a professional runner when he started the hobby? Which word or phrase shows how much he wants to be a professional runner? Students can understand Liu Yu's ideas well by answering these questions. Some students find Liu Yu's words in the text: I'm serious about running. It's the only thing I've wanted to do. Some students summarize it as follows: for Liu Yu, running is not only a hobby but a dream. Some students summarize it as follows: For Liu Yu, running is not only a hobby but a dream. Students explore the relationship between hobbies and learning, dreams and success.

3.3.1. Experiencing Emotions and Bringing People Closer Together

Middle school students' thinking and emotions are constantly developing and changing, coupled with each person's emotional experience is not the same, in the reading of the characters in the text will have different feelings about the expression of emotions, will produce cognitive conflict. Teachers can guide students to deeply experience the emotions of the characters in the text, try to dialog with the characters in the text, and close the distance with the characters in the text.

In this lesson, the teacher asks students after analyzing and sorting out the different opinions of Liu Yu and his parents: Liu Yu and his parents have different opinions about running. But does this mean they don't understand each other? Do they understand each other? At first, students only see the differences between parents and children, but the teacher guides them to realize that they actually understand each other. Then the teacher asks: which words tell us that they understand each other? Students find relevant language in the text. For example, Liu Yu's father says: "We know how much he loves running. My wife and I have supported every one of his races. We have nothing against running." Liu Yu also understands his parents' expectations of him, as stated in the text: My parents have always taught me how important it is to work hard at school and enter university and taught me how important it is to work hard at school and enter university. Parents even recognize that their own ideas are too harsh. For example, "maybe he thinks it's too strict or unfair". Liu Yu also feels that his parents care about him. For instance, "I know my parents care about me". Through interpretation and

analysis, students learn to look at the problem dialectically and realize that although parents and children have different views, they can understand each other's position.

3.3.2. Analyze the Intention and Sublimate the Emotion

Discourse is a personalized expression made by an author based on his or her own experiences and understanding. Teachers should guide students to use the critical thinking skills of analysis and interpretation to appreciate the author's intention, establish a link between students' existing knowledge and the author's point of view, and enable students to understand the text in depth so as to resolve cognitive conflicts.

In this lesson, the teacher guides the students to analyze the author's point of view in the post-reading section and says to the students: Let's read the title again: "Should I Be Allowed to Make My Own Decisions? Does the writer express his own opinion?" Students find that the writer does not express his own opinion directly in the article. The teacher guides the students to think about the real intention of the writer in telling Liu Yu's story and asks: Why does the writer tell us this story? Under the guidance of the teacher, the students realize that the writer wants to take Liu Yu and his parents as an example to show that it is very common for parents and children to have conflicts in daily life. At the same time, the author makes the readers understand that there is nothing wrong with both sides of the argument by showing the different points of view of both sides, but there is no unique way and method of success, and the students have to learn to communicate with their parents to solve these conflicts effectively.

3.3.3. Transferring Applications and Reflecting on Cognitive Conflicts

The development of thinking in the classroom can be reflected in: firstly, the acquisition of new thinking skills; secondly, the expansion of the application scene of existing thinking skills and the realization of the migration of thinking skills (Zhao et al., 2018). Teachers should provoke students to reflect on the cognitive conflicts existing in real life in specific situations, so that students can learn to face real-life conflicts and dilemmas, and guide them to transfer the use of critical thinking skills such as analyzing, explaining and evaluating. Teachers can scaffold the development of students' thinking by asking follow-up questions, responding to feedback, breaking down activities, and guiding cooperation among students. In the process, students' cognitive structure is improved, their critical thinking skills are enhanced, and they are able to develop the ability to effectively solve life problems and establish a correct outlook on life, the world, and values.

In the post-reading section of this lesson, the teacher asks: Are you allowed to make your own decisions at home? Do you have problems similar to Liu Yu's? The students discuss and share their own experiences of similar problems and learn to understand the theme of the text. Students discuss and share similar problems they have experienced, reflect on the conflicts and contradictions in the process of growing up, and gain a deeper understanding of the theme of the text, learn to face conflicts positively, learn to think differently, and look at things dialectically, so as to rationally resolve the conflicts in their lives.

4. Conclusion

Cognitive conflict is the starting point of the development

of thinking and a necessary condition for the development of thinking (Zhao et al., 2018). In reading teaching, teachers' use of cognitive conflict can guide students to better use critical thinking skills, promote students' knowledge and understanding of the world from different perspectives, think independently about various viewpoints, and make correct value judgments, so as to enhance core literacy.

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