

The Impact of Cognitive Biases in College English Reading and Strategies for Their Dissolution from a Cognitive Perspective

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Abstract: During the process of college English reading, learners are often influenced by cognitive biases, which not only affect their understanding of reading materials but may also hinder the improvement of their language abilities. Through information processing and schema restructuring, learners may form or adjust their reading biases. This study, from a cognitive perspective, explores the formation mechanisms of biases in college English reading, analyzes the impacts of these biases, and proposes bias-dissolution strategies based on metacognitive strategies and cognitive conflict theory. It attempts to provide theoretical support for the research on bias adjustment mechanisms and the improvement of college English reading instruction.

Keywords: Cognitive bias; College English reading; Reading bias; Dissolution strategies

Introduction

Cognitive research on reading indicates that learners may form or adjust their cognitive biases through the processes of information processing and schema restructuring while dealing with textual information^[1]. In college English reading instruction, learners often encounter varying degrees of cognitive biases, which may stem from personal experiences, cultural backgrounds, and preconceived notions. These biases unconsciously influence learners' understanding of the text and the processing of information, thereby affecting learning outcomes and the improvement of reading skills. Therefore, studying how to identify, analyze, and dissolve reading biases has become an important issue in improving the effectiveness of English reading instruction and enhancing learners' reading levels. This study aims to analyze cognitive biases in college English reading, explore the mechanisms of bias formation, and propose bias-dissolution strategies based on metacognitive strategies and cognitive conflict theory, in order to provide theoretical support for the research on bias adjustment mechanisms.

1. The Formation Mechanisms of Cognitive Biases in College English Reading

1.1 The Information Processing Pathway and the Formation of Biases

During the process of college English reading, learners construct meaning through information processing. Based on individual factors such as prior knowledge, emotional attitudes, and cultural backgrounds, learners often exhibit phenomena such as selective attention and biased memory when processing information, which in turn leads to the formation of cognitive biases. The "filtering" mechanism in the information processing process may cause learners to overlook certain information, overly rely on existing knowledge and experience, and even distort the information, resulting in errors in reading comprehension^[2]. For example, when reading an article involving a foreign culture, learners may, due to preconceived biases or old notions about that culture, ignore some of the cultural differences reflected in the article, leading to one-sided understanding or misinterpretation.

1.2 Schema Restructuring and the Adjustment of Biases

One important mechanism for the formation and adjustment of biases is schema restructuring. Schema restructuring theory posits that when learners encounter new information, they often organize and interpret it based on their existing knowledge frameworks (schemas). These schemas are not always accurate or comprehensive. During the reading process, learners may selectively interpret information based on their existing schemas, thereby forming cognitive biases. If there is a conflict between the learners' schemas and

the new information, they may choose to set aside, distort, or reorganize the information to make it fit with their existing schemas. For example, when reading an article about gender equality, learners may interpret the information based on traditional gender role schemas, thereby generating gender biases.

2. The Impact of Cognitive Biases in College English Reading

2.1 The Negative Impact on Reading Comprehension

Cognitive bias refers to the tendency of an individual to process information in a biased manner based on their existing experience, beliefs, or cultural background during the information processing. In the context of college English reading, such bias often directly affects the learner's comprehension of the text. If a learner's cognitive bias conflicts with the information in the text, it may lead to misunderstandings, distortions, or even the complete disregard of the information. Some learners might, due to a negative bias against a certain culture, miss the positive cultural representations in the text and even misinterpret the words and their emotional connotations. Bias can also lead learners to impose their preconceived notions onto the text, causing them to make mistakes in understanding and even draw conclusions that are completely opposite to the author's original intent. This not only affects the learner's ability to understand and read the text but also hinders their in-depth grasp of the text and multidimensional thinking.

2.2 The Barrier on Intercultural Communication

College English reading is not just a process of language comprehension; it also involves the development of intercultural communication skills. In today's world, where globalization is deepening, the importance of intercultural communication is becoming increasingly prominent. Learners' cognitive biases can interfere with their understanding of foreign materials and may also hinder their ability to recognize and respect different cultures. This is especially true when reading texts with different cultural backgrounds. Biases may cause learners to misunderstand certain cultures or even develop a sense of aversion. A few learners may also, due to their entrenched cultural concepts, be unable to accept the foreign customs and values reflected in the text. Such biases often lead to a decrease in their intercultural sensitivity. In real social interactions, misunderstandings caused by biases can create barriers in the interactions between learners and people from different cultural backgrounds, and may even cause them to unconsciously offend others or make biased remarks during communication.

2.3 The Restriction on Language Skill Development

Cognitive biases not only affect students' reading comprehension but may also restrict the expansion of their language skills. During the language learning process, learners often develop fixed patterns of thinking due to their cognitive biases. These rigid mindsets can hinder their ability to demonstrate flexibility and creativity in language use. For example, learners might over-rely on a particular grammatical rule, thereby neglecting the understanding and mastery of other linguistic phenomena. They may also become overly attached to certain grammatical structures in their expression, failing to appreciate the existence of diverse ways of expression in the language^[3]. Cognitive biases may also cause students to develop unnecessary fear or aversion to certain linguistic phenomena, which in turn can impede the improvement of their language skills, especially in terms of innovative expression and the flexible use of language.

3. Strategies for Dissolving Cognitive Biases in College English Reading

3.1 The Application of Metacognitive Strategies

Metacognitive strategies refer to the self-monitoring and adjustment of one's own cognitive processes by learners. They not only focus on how learners acquire external information but also pay attention to how learners become aware of the cognitive biases that arise during the process of obtaining and processing information, and how they can use appropriate strategies to regulate themselves. This kind of strategy is particularly crucial in college English reading. During reading, learners are often influenced by preconceived notions, cultural backgrounds, and emotional inclinations, which may lead to biased understandings unconsciously. With the help of metacognitive strategies, learners can use effective means to identify these biases and take measures to correct them^[5]. In the process of college English reading, learners can employ self-questioning to facilitate metacognitive monitoring. For instance, after reading each paragraph, they might ask themselves: "Do I really understand the author's point of view?" "Is my understanding of this content biased by preconceived notions?" Through such questions, learners can promptly detect potential cognitive biases and make necessary adjustments. Summarization and review are also common metacognitive strategies. After reading a section of content, learners can briefly summarize what they have read and then compare it with their initial understanding to see if their comprehension has been affected by biases.

Clarifying the purpose of reading is also a key metacognitive strategy. Before beginning the reading process, learners should first

understand their goals and tasks for reading, which helps to avoid getting lost during reading and forming biased understandings due to personal preferences. Engaging in discussions with others or summarizing the content is also an important means of calibrating cognitive biases. Through communication with others, learners can gain different perspectives, which in turn allows them to reflect on and correct their own understanding, preventing errors that may arise from a single perspective. With the help of these metacognitive strategies, learners can become more actively involved in the reading process, enhance the depth and accuracy of their understanding of information, and prevent the negative interference of biases on cognition.

3.2 The Application of Cognitive Conflict Theory

Cognitive conflict theory emphasizes that when learners encounter new information, if there is a conflict between their existing knowledge and concepts and the new information, it will trigger a cognitive contradiction. Cognitive conflict can stimulate learners to engage in self-reflection activities and promote the adjustment and reconstruction of their original cognitive structure. This theory has important application significance in college English reading, especially when facing various different cultural backgrounds and viewpoints. Learners may encounter inconsistencies in cognition. Some English texts may contain viewpoints or expressions that are quite different from the students' existing cultural cognition. The thinking stimulated by this conflict prompts students to re-examine their own ways of understanding, in order to eliminate biases and promote the improvement of cross-cultural understanding abilities. In the context of college English reading, teaching design can be achieved by introducing a variety of cultural backgrounds and viewpoints to specifically trigger cognitive contradictions^[4]. This method can stimulate students to encounter inconsistencies with their existing knowledge when they come into contact with new information, thereby arousing doubts and prompting serious thinking.

4. Summary

In summary, this paper, from a cognitive perspective, has explored cognitive biases in college English reading and their formation mechanisms, and proposed bias-dissolution strategies based on metacognitive strategies and cognitive conflict theory. Learners are prone to forming biases during the processes of information processing and schema restructuring, which not only affect their reading comprehension but also restrict the improvement of their intercultural communication abilities and language skills. By applying metacognitive strategies and cognitive conflict theory, learners can identify and adjust their biases, thereby enhancing the effectiveness of English reading. How to observe the formation of biases and how to help learners identify and actively adjust reading biases during the learning process in college English reading instruction and the reading process of learners are topics that still need further research in the future.

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