



Middle School English Reading Teaching Methods Aimed at Developing Thinking Quality

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Abstract. The acquisition of language extends beyond the mastery of linguistic skills and should be more focused on enhancing the cognitive abilities of learners. This study, grounded in Bloom's Taxonomy of Educational Objectives, explores and constructs a model specifically designed to foster the thinking quality of students in the context of middle school English reading instruction. The primary objective of this research is to propose an effective teaching model that promotes students' logical, dialectical, and creative thinking by analyzing and discussing various definitions and developmental pathways of thinking quality. The model for developing thinking quality in teaching English reading proposed in this study underscores the significance of logical, dialectical, and creative thinking.

Keywords: English Reading; Thinking Quality; Middle School.

1 Introduction

Nowadays, English reading instruction gradually shifted from merely imparting linguistic proficiency to fostering deeper cognitive abilities. This change aligns with modern educational frameworks that view language learning as a vehicle for broader intellectual development. Inspired by Bloom's Taxonomy of Educational Objectives, this study investigates how English reading lessons can cultivate logical, dialectical, and creative thinking in students. Developing these aspects of thinking quality through English reading offers students a structured means to refine their analytical skills, confront and assess contrasting viewpoints, and enhance their creativity. By analyzing key theories on thinking quality and examining current instructional practices, this research aims to establish an effective teaching model.

2 Concept and Various Definitions of Thinking Quality

The concept of thinking quality has been defined variably by scholars both domestically and internationally. Among researchers, Soviet psychologist Smirnov was the first to investigate the nature of thinking quality, positing that different individuals possess varying levels of cognitive activity and distinguishing qualities such as breadth,

depth, independence and flexibility, sequentiality, and quickness^[9]. Subsequently, Krutetskii highlighted the characteristics of individual thinking, suggesting that differences in people's cognitive activities manifest as distinct cognitive traits (intellectual characteristics), which are integral to a person's personality^[16]. American psychologist J. P. Guilford, in terms of the overarching concept of "thinking quality", studied the relationship between thinking quality and flexibility, divergent thinking, and creativity, concluding that the realization of creativity to a certain extent requires the enhancement of divergent thinking^[5].

Soviet psychologist Bogoslovskii, in his book *General Psychology*, posits that the quality of thinking can, to a certain extent, be considered synonymous with the quality of intelligence, with curiosity, inquiry, depth of thought, intellectual flexibility, logic, argumentation, and Dialectical thinking being manifestations of intellectual quality^[16]. Sternberg's triarchic theory of intelligence, comprising the componential theory of intelligence, the contextual theory of intelligence, and the experiential theory of intelligence, has been a substantial research topic concerning the development of cognitive abilities^[22]. Marzano delineates the development of cognitive abilities into several components: basic cognitive skills, cognitive processes, Dialectical thinking, creative thinking, metacognition, and self-systems^[14]. In his work on the divergent theory of thinking attributes, Guilford summarizes the various components of thinking into sensitivity, fluency, precision, originality, and redefinition^[6].

Chinese scholars Zhu and Lin posit that thinking quality can also be referred to as the intellectual quality of thinking, as it represents the manifestation of the intellectual characteristics of an individual's cognitive activities, that is, the display of the thinking process and individual differences^[30]. Lin further indicates that the quality of thinking is an individual characteristic of human cognition, reflecting the differences in cognitive levels among individuals, and also serves as a criterion for assessing intellectual capacity^[12]. In recent years, some scholars have focused on the development of thinking quality, considering it to encompass both intellectual and non-intellectual factors; the former includes cognitive skills such as analysis, evaluation, and creation, while the latter includes thinking characteristics like curiosity, openness, confidence, honesty, and perseverance^[13]. The Compulsory Education English Curriculum Standards (2022 edition) in China defines "thinking quality" as a characteristic of human cognition that reflects students' levels of understanding, analysis, comparison, reasoning, criticism, evaluation, and creativity^[17].

3 Analysis and Discussion of the Development of Thinking Quality

For an extended period, the concept has garnered widespread interest. International academics have dedicated extensive effort to examining the intricacies of thought processes. Each component is deemed crucial and merits further investigation. Chinese scholars, after assimilating the insightful perspectives of foreign experts on cognition, have introduced the notion of thinking quality. This concept aligns with the developmental objectives formulated in response to China's academic context and has been

integrated into the English curriculum as a key competency. As such, thinking quality is approached holistically, with comprehensive expectations for its various dimensions. Numerous Chinese educators have conducted in-depth studies on the cultivation of students' thinking quality, following a thorough interpretation of curriculum guidelines. Consequently, the research into the three dimensions of thinking quality has yielded substantial outcomes.

The contemporary construct of thinking quality has been progressively elaborated and reinforced by scholars as they explore its depths, establishing a dynamic progression of research themes over time. The term "thinking quality" was first introduced by Guilford (1956)^[5], who identified the definition and characteristics of creative ability as the focal point of his inquiry. In subsequent research, Guilford progressively immersed himself in exploring the cultivation of divergent thinking, the essence of creative cognition, and the distillation of its attributes. Initially, thinking quality was primarily equated with creative thinking^[5]. Guilford's profound exploration of thinking sparked extensive discourse on reading cognition within the psychological community^[6]. Building upon the concept of creative thinking, which entails a sophisticated and complex interplay of diverse cognitive elements, Bloom (1956)^[2] categorized educational objectives into six hierarchical levels based on the cognitive process. This taxonomy laid a robust groundwork for English curriculum development and offered a valuable framework for crafting comprehensive instructional goals. Subsequently, Sternberg (1985)^[22] introduced a three-dimensional model of intelligence, encompassing analytical, creative, and practical thinking. His emphasis was broader and more nuanced than previous studies, highlighting the influence of language on reading thinking. Since then, scholars have expanded their contributions to the realm of civic cognition development, focusing on creative and dialectical thinking. These approaches have their roots in Socrates' Midwifery Technique, an exemplary pedagogical strategy designed to provoke thought and uncover contradictions.

The advancement of logical thinking is predominantly situated within the psychological domain, with a particular focus on the adolescent phase. Logical thinking encompasses the cognitive processes that employ language-based concepts for judgment, inference, and problem-solving. This process is integral to every tier of the educational continuum, from foundational to advanced levels. The English curriculum primarily targets the enhancement of students' logical thinking skills by nurturing their cognitive approaches, including observation, comparison, analysis, induction, and concept formation. These dimensions are also crucial for assessing transformations in logical thinking over time. Tarasenkova and Akulenko (2014)^[25] have conducted experimental research on the development of logical thinking, revealing that its progression and formation are common to every individual's cognitive journey. The Jigsaw-based learning approach^[24] and collaborative learning strategies^[21] have both been identified as effective methodologies for enhancing logical thinking capabilities.

The study of dialectical thinking has gained momentum in the 21st century, with a primary focus on pedagogical strategies aimed at enhancing students' Dialectical thinking skills. Dialectical thinking facilitates the comprehension of the developmental processes of objects and the generalization of their developmental laws. It is a cognitive approach that integrates the principles of universal interconnection and constant evo-

lution, guided by dialectical perspectives and insights. Although the concept's complexity may not match that of higher education levels, it is in harmony with the educational material on Dialectical thinking. Research indicates that students possessing advanced Dialectical thinking skills tend to excel in reading comprehension^[19]. Moreover, text selection is a pivotal decision in curriculum design, emphasizing faculty's focus on critical reading and the cultivation of Dialectical thinking^[3]. It is evident that students' Dialectical thinking can be enhanced through various instructional strategies, including mobile learning^[10], active-learning approaches^[4], and argument mapping (AM) techniques^[18]. These studies have solidly established that Dialectical thinking can be systematically cultivated and improved through scientific teaching strategies, reasonable guidance, and interactive teaching methods. Despite its complexity, Dialectical thinking is a robust predictor of students' logical thinking abilities^[7, 11].

Creative thinking is universally acknowledged as a sophisticated aspect of higher-order cognition. According to American professor Wakefield, creative thinking is "a meaningful response to any situation that demands the identification and resolution of a problem in a manner unique to the thinker"^[27]. It represents an advanced cognitive activity that employs innovative approaches to problem-solving. This process values the application of current thinking patterns and prior knowledge to devise unconventional and remarkable solutions within a specific context. The thought process is characterized by its openness and divergence^[23]. Within educational research, the original and divergent application of reading materials and linguistic knowledge is a crucial element for monitoring the evolution of students' creative thinking abilities.

Research into thinking quality has established that the problem-solving context is essential for the advancement of cognitive skills. Addressing a variety of questions highlights the importance of teacher guidance in synthesizing knowledge to form comprehensive and meaningful solutions, and in motivating students to explore and question through collaborative inquiry. Generally, the entire spectrum of thinking, from fundamental logical reasoning to advanced dialectical and creative thinking, can be integrated into the cognitive process.

Investigations into thinking quality often adopt a qualitative approach, detailing methods of nurturing students' cognitive abilities from a linguistic standpoint. This study specifically explores English reading instruction methods in middle schools that focus on fostering thinking quality, with the goal of offering a model and specific pedagogical techniques for English educators in Chinese middle schools.

4 A Model for Developing Thinking Quality in Teaching English Reading

Bloom's Taxonomy of Educational Objectives is a prevalent framework for categorizing and assessing the levels of expertise and student learning outcomes, comprising six categories of knowledge-based goals^[2]. Initially, the taxonomy presented a static view, focusing on the end goals represented by nouns. However, over time, curriculum theorists and instructional researchers have shifted their focus from this static concept

to a more dynamic interpretation of the classification system. The revised version of the taxonomy introduces a dynamic element, employing verbs and gerunds to denote the categories and subcategories. These “action words” illustrate the cognitive processes through which individuals engage with and manipulate knowledge, with an emphasis on the role of creativity^[2]. A comparison between the original and the revised taxonomies^[28] is depicted in Figure 1, demonstrating that the updated version more effectively captures the dynamic evolution of students’ thinking abilities.

In English language education, a significant portion of activities dedicated to listening, speaking, reading, and writing is typically aimed at lower-level cognitive functions, namely memory, comprehension, and application. There exists a notable deficiency in emphasis on the higher cognitive levels that are indicative of Dialectical thinking skills, including analysis, synthesis, and evaluation^[26]. This underscores the necessity to not only concentrate on students’ abilities in logical thinking, such as retention and understanding, but also to nurture their critical and creative thinking proficiencies, empowering them with the capacity to dissect, appraise, and generate novel ideas. As a result, it becomes crucial for educators to craft tailored instructional strategies that aim to bolster students’ cognitive quality across a spectrum of intellectual goals.

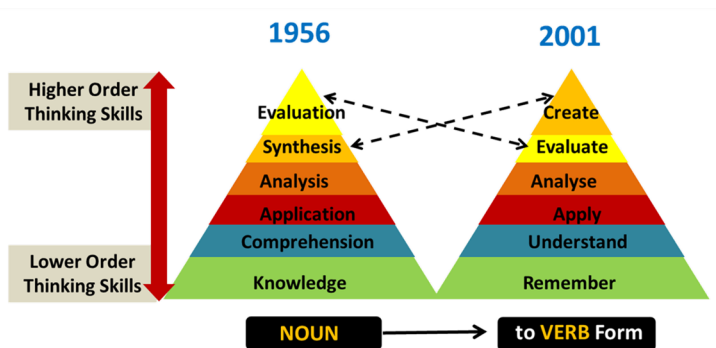


Fig. 1. Original Taxonomy and Revised Taxonomy.

Drawing upon Bloom’s Taxonomy of Educational Objectives, and targeting the enhancement of logical, critical, and creative aspects of cognitive quality, a tripartite reading instruction model - encompassing pre-reading, while reading, and post reading stages - is utilized to craft an English reading curriculum specifically designed to nurture cognitive excellence. Within the educational framework that encourages the development of creative thinking, the establishment of logical thinking serves as a foundational phase, which then progressively transitions into the cultivation of dialectical thinking, and ultimately reaches the pinnacle with the achievement of creative thinking^[26, 29].

Figure 2 illustrates the Model for Developing Thinking Quality in Teaching English Reading, designed based on a reading passage about a clothing store advertisement.

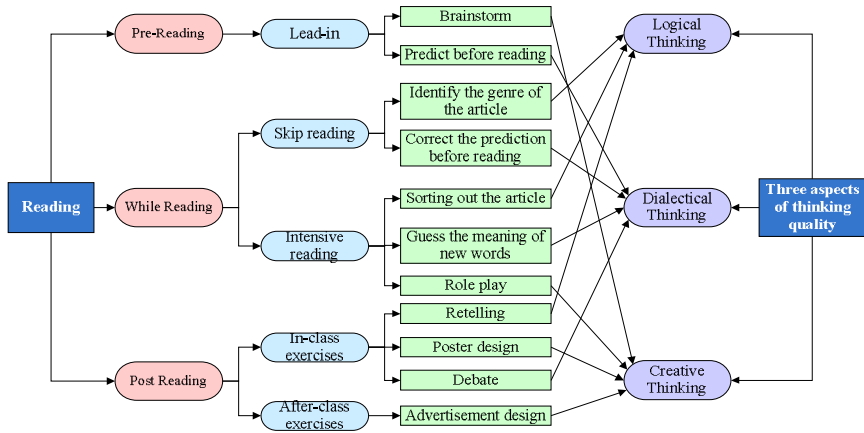


Fig. 2. A Model for Developing Thinking Quality in Teaching English Reading

According to the instructional process depicted in Figure 2, the following steps are outlined:

Step 1: Activation of Background Knowledge. In the pre-reading phase, multimedia teaching aids such as images and PowerPoint presentations are employed to assign related tasks that integrate new and existing knowledge. This approach not only develops students' logical thinking but also stimulates their interest in reading and fosters Creative thinking through a series of probing questions.

Step 2: Text Analysis. During the while-reading phase, students are guided to skim the text to grasp the general idea and structure, activities that assist in understanding the details of the text and enhance the logical aspect of thinking quality.

Step 3: In-depth Text Exploration. In the detailed reading phase, students are led to infer the meanings of unfamiliar words through contextual clues and express their own viewpoints, activities that elevate the critical aspect of thinking quality.

Step 4: Practice. In the post-reading phase, various activities such as role-playing, retelling, designing posters, debating, and mock interviews are conducted to train students in the logical, critical, and creative aspects of thinking quality.

Step 5: Post-class Consolidation. Through post-reading and homework activities, students are guided to further consolidate their learning by engaging in activities such as continuation writing and advertising design. This process transforms input into output, leading to the comprehensive development of thinking abilities.

5 Useful English Reading Teaching Methods in Middle School

5.1 Logical Thinking

Drawing upon the three dimensions of Thinking Quality, logical thinking skills encompass analysis and synthesis, classification and comparison, induction and deduction, as well as the ability for abstract generalization. The developmental Regular of

students' logical thinking adheres to a process that progresses from perceptual intuition to inductive generalization and then to abstract reasoning. Consequently, educators must implement targeted cultivation measures during the critical period of rapid abstract thinking development in middle school students^[20]. Therefore, researchers design and implement the following teaching activities and methods during the reading phase to foster the logical aspect of students' thinking quality.

Distinguishing Literary Genres of Texts. Researchers guide students to observe the overall structure of a text and then perceive the linguistic characteristics through reading. Narrative, expository, and applied texts are the main literary genres involved in the middle school curriculum. Among them, applied texts are diverse and frequently appear in middle schools, such as letters (thank-you letters, suggestion letters, letters of introduction, etc.), notes (diaries), and announcements (notices, posters, advertisements, etc.). Different genres impose restrictions on the content, perspective, and form of a text; therefore, to achieve comprehensive understanding and efficiency in reading, it is essential to analyze the literary genre of the text. By identifying the genre or source of the text, students can understand the stylistic and structural characteristics of different text genres, deepen their understanding of the text, and facilitate the selection of appropriate reading strategies. Consequently, students engage in analytical, categorizational, and comparative thinking skills in this activity, which is beneficial for the enhancement of logical thinking quality.

Summarizing and Inducing the Main Idea. Researchers instruct students to comprehend the general idea of a text by skimming through it and focusing on the initial sentences of the article and each paragraph, thereby summarizing the main theme. Summarization is a cognitive process that transforms specific concepts into generalized ones and recognizes the essence of things through logical thinking. After reading the text in its entirety, students identify the central sentences of the article, complete the summarization of the title induction, and select appropriate titles for the text, which benefits the development of their logical thinking skills.

Organizing Textual Content. Researchers utilize organizational strategies such as mind maps to guide students in identifying key words and sentences to organize the structure of a text. Reading instruction is a process that can reflect logical thinking, and teachers should lead students to approach from the discourse level, analyzing sentences and paragraphs to clarify the text's coherence and cohesion. It is evident that the primary task of English language learning through textual units is to comb and master the structure and content of the article. Middle school English reading materials are relatively straightforward, and teachers can employ mind maps, fishbone diagrams, tables, content sequencing, and other methods to help students clarify the context of the text, thereby training their comprehension and logical abilities.

Analyzing and Comparing Character Traits. Researchers guide students in analyzing and summarizing aspects such as the spirit, image, personality, and habitual characteristics of characters, thereby training their analytical skills and enhancing logical thinking. After reading the text in its entirety, students can compare the habitual characteristics of two characters, which improves their abilities in analysis and generalization.

5.2 Dialectical Thinking

Dialectical thinking ability within the domain of thinking quality is characterized by critical reasoning, questioning and problem-solving, discerning similarities and differences, and evaluative and predictive skills. Dialectical thinking essentially involves a process of posing and addressing questions, through which, by raising various issues and engaging in repeated contemplation and comparative analysis, one gradually forms their own new perspectives^[15]. Consequently, teachers should utilize English reading instruction to help students understand that textbook knowledge does not equate to truth; some reading materials present facts, while others may represent the author's judgments and reasoning. Based on this, researchers believe that the following teaching activities and methods can encourage students to develop their Dialectical thinking qualities by prompting them to generate new perspectives through contemplation, comparison, analysis, and reasoning.

Anticipating the Development of the Textual Plot. In English reading instruction, researchers guide students to mentally predict the content and development of the text by examining the title, central sentences, concluding sentences, headings, or illustrations. The process of prediction is inherently a cognitive one, involving the identification and formulation of questions and a high degree of generalization. For instance, students are prompted to predict the content of the article before reading based on the title, and to revise their predictions during the reading process. This approach cultivates students' abilities to reason, judge, and analyze, thereby fostering the development of Dialectical thinking.

Inferring the Meanings of New Vocabulary. Researchers guide students to deduce the meanings of unfamiliar words through contextual cues, while simultaneously developing their analytical and inferential skills. A central aspect of assessing students' reading abilities is the ability to infer, and within a specific discourse, it is possible to make educated guesses about the meanings of new words using linguistic and non-linguistic clues, such as background knowledge. For example, middle school students can infer that the title "Lost & Found" in the context of a notice should be interpreted as "Lost and Found" or "Items Lost and Found".

Inferring the Author's Attitude. Researchers guide students to identify emotionally charged vocabulary and assess the author's attitude in conjunction with the broader

context. The focus in English reading instruction should be on leading students to infer the author's intentions and attitudes by delving deeply into the text, rather than merely concentrating on the learning of vocabulary and other superficial aspects of knowledge. This indicates that understanding the author's attitude is conducive to a better comprehension of the article and fosters the development of Dialectical thinking skills. For instance, the author of an article might use the central sentence "I'm tidy, but Gina is not." to elaborate on their own and Gina's characteristics, while also expressing an advocacy for a clean and organized lifestyle. As students infer the author's attitude, they also deepen their reflection on their own habits, developing their abilities to speculate and judge.

Group Debate. An effective strategy and significant indicator of Dialectical thinking skill development is the willingness to question and the ability to ask thoughtful questions. Group debate serves as a process for questioning and resolving doubts, and it is also a potent method for fostering Dialectical thinking among students. Through debate, not only is students' enthusiasm effectively mobilized, prompting them to analyze texts independently and engage in critical reading, but it also creates an environment conducive to critical learning. This environment encourages students to develop a spirit of non-conformity, the courage to doubt, and the willingness to question. Researchers guide students in conducting group debates to establish a correct set of values.

5.3 Creative Thinking

Creative thinking are encapsulated in lateral thinking, associative imagination, metaphorical synesthesia, and imitative creation. The quality of Creative thinking is composed of divergent and convergent thinking. Divergent thinking primarily refers to the generation of a variety of different answers and the production of a multitude of unique new ideas^[1]. Therefore, teachers should design unique and novel teaching activities that encourage students to employ divergent thinking when considering problems, thereby enhancing their innovative capabilities.

Brainstorming. Researchers utilize auxiliary tools (multimedia, sticky notes, mind maps, etc.) and employ conversational methods, interviews, and other techniques to encourage students to engage in brainstorming. Teachers can effectively cultivate students' Creative thinking qualities by adopting methods such as brainstorming, focal exploration, critical construction, and associative learning. For instance, before reading, researchers might present the article title "My Family" and encourage students to brainstorm associated vocabulary, thereby fostering the development of Creative thinking qualities.

Role-Playing. Role-playing is one of the most effective methods to help students achieve the aforementioned learning objectives, as it exercises the flexibility, breadth, and creativity of students' thinking, leading to a more profound understanding and

experience of the characters in a story^[8]. Unit 5, which presents the perspectives of three students on the sport of football, is an example where researchers ask students to assume the roles of these characters for short essay exercises. This approach not only consolidates the learning of textual content but also deepens students' comprehension of the characters and hones their Creative thinking, particularly in terms of synesthetic thinking.

Continuation Writing after Reading. Continuation writing after reading is an effective method for enhancing the outcomes of foreign language learning. Its purpose is to closely integrate language input with output, enabling imitation and creation, as well as the learning and application of new knowledge. This approach highlights the value of conducting writing exercises following reading activities as a means to stimulate students' imagination and innovation capabilities. For instance, if the reading content is about introducing one's family, researchers may assign related writing tasks after the reading session. This guides students to connect new and existing knowledge, transitioning from imitation to creation, and fosters the development of students' Creative thinking and writing skills.

Designing Advertisements or Posters. The creation of artistic works is inseparable from Creative thinking and inspiration. Utilizing the English language to design advertisements not only hones students' linguistic skills but also develops their imagination and creativity. For instance, after students have read an advertisement for a clothing store, researchers may guide middle school students to design their own advertisements and posters for a clothing store and explain them in English. This activity not only cultivates Creative thinking but also adds enjoyment to the learning of the English language.

Journalistic Interviewing. Conducting interviews in English assesses students' language organization skills and adaptability, effectively exercising their divergent thinking. For example, if a reading passage involves a journalist interviewing a sports star about their dietary habits, researchers may ask students to take on the roles of both the interviewer and the interviewee to conduct an interview about their own eating habits. Alternatively, based on special interrogative sentences led by "Where", researchers might have students engage in interviews with each other about their birthdays and school activities. This encourages students to associate and imagine their roles, creatively carrying out dialogues.

6 Conclusion

This study, grounded in Bloom's Taxonomy of Educational Objectives, constructs a model and methodology for middle school English reading instruction dedicated to the cultivation of thinking quality. English reading instruction oriented around thinking quality is integrated with the cognitive development patterns of students. By activating

background knowledge and engaging in lead-in activities, the innovation of students' thinking quality is nurtured. Text analysis is conducted, with an emphasis on the logical aspect of students' thinking quality during the fast-reading phase. In-depth text exploration focuses on the logical aspect of students' thinking quality during the intensive reading phase. Post-reading exercises are designed to cultivate all three dimensions of students' thinking quality. Consolidation after class aims to holistically develop thinking quality through assignments, with various teaching activities designed for pre-reading, while-reading, and post-reading stages to foster students' thinking qualities. Building on the foundation of this study, to delve deeper into the cultivation of students' thinking quality, it is necessary for researchers to further refine the research design, increase practical applications, and consider the impact of various factors to enhance the reliability and universality of the study.

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