

# Exploration on the Practice of English Reading Teaching in Junior High School Aiming at the Cultivation of Higher-Order Thinking

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**Abstract:** *In junior high school English reading teaching, teachers often pay little attention to the cultivation of thinking quality, especially higher-order thinking. They often replace deep thinking activities with lively classroom activities. The seemingly successful classroom is not conducive to the development of students' thinking quality. The author conducted a large number of class observations, read relevant literature and books, reflected on the irrationality of the cultivation of higher-order thinking quality in junior high school reading classes, and made improvements. The author conducted practical explorations in his own class, and summarized and extracted effective ways to improve the quality of students' higher-order thinking. First, the characteristics of the text should be interpreted and the repetitive characteristics of the text should be used to guide students to think and practice independently. Secondly, the overall design of reading should be paid attention to, thinking tools such as mind maps should be used to guide students to find connections and think about problems from multiple perspectives. At the same time, the closed-ended reading control training of filling in the blanks should be reduced, and space should be provided for the development of higher-order thinking through open-ended questions. In addition, a real context should be created, more complex problems for students to solve should be raised, and higher-order thinking should be promoted.*

**Keywords:** *Higher-order thinking, English reading teaching in junior high schools, Text features, Overall design of reading, Authentic context*

## 1. Introduction

The English Compulsory Education Curriculum Standards (version 2022) proposes to cultivate students' core English literacy, including language ability, cultural awareness, thinking quality and learning ability. The quality of thinking reflects the level and level of students in understanding, analysis, comparison, inference, criticism, evaluation, creation, etc. The improvement of thinking quality helps students learn to discover, analyze and solve problems, and make correct values for things. Judgment [1]. However, in daily English reading teaching, the cultivation of students' higher-order thinking quality is often neglected, which is reflected in the fact that the reading process is too fragmented, and the simple while-reading activities are equivalent to reading exercises. Too much "scaffolding" was built, and students were afraid to let students read independently and challenge more thinking-depth questions. In view of the above problems, the author observes the reading teaching practice of himself and his peers, reflects and summarizes the strategies to effectively improve the students' higher-order thinking in English reading teaching: correctly interpreting the characteristics of the text; paying attention to the overall design of reading and creating real contextual situations.

## 2. Overview of higher-order thinking

Thinking quality refers to the ability and level of thinking in terms of logic, criticality and innovation (General High School Curriculum Standards, 2017). The quality of thinking is an integral part of subject ability. "Any kind of subject ability must be developed in the thinking activities of students, without thinking activities, it doesn't matter subject ability" [2]. Thinking quality is an important part of the core literacy of English subjects, and cultivating thinking quality is one of the goals of English courses.

Bloom's cognitive goal classification system divides the human cognitive thinking process into six levels: memory, comprehension, application, analysis, evaluation, and creation. The first three levels

belong to low-order thinking, and the last three levels belong to high-order thinking. Low-order thinking refers to the lower levels of cognition that are primarily used for learning factual knowledge or the ability to complete simple tasks. Higher-order thinking is a comprehensive ability based on high-level cognition, such as critical evaluation of information, autonomous learning (self-regulated learning), problem-solving ability, creative thinking ability, critical thinking ability, information literacy, and writing ability [3].

### **3. Reading teaching and higher-order thinking training**

Reading teaching in English subjects is an important carrier for cultivating students' thinking quality. In reading teaching, students can cultivate higher-order thinking such as logical thinking, dialectical thinking and innovative thinking. Logical thinking ability refers to the ability of analysis and synthesis, abstraction and generalization; dialectical thinking ability includes the ability to analyze problems from multiple angles, the ability to empathize, and the ability to analyze problems from the perspective of development and change, and to see problems in two ability; innovation ability includes the ability to discover problems, criticize, and solve difficult problems [4].

Through reading skills such as skimming, searching, and close reading, students can understand and summarize the key information and main content of longer texts, which is to cultivate the ability of abstraction and generalization in logical thinking ability; learn from different characters Interpretation of texts from different angles cultivates students' ability to analyze problems from multiple angles in their dialectical thinking ability; they can adapt or create texts according to the content of the text, and can evaluate the content of the text and explain the reasons based on different information. Such reading teaching can improve students' critical thinking ability and innovation capabilities. All in all, the quality of students' thinking can be continuously improved in the effective development of English subject reading teaching.

### **4. Practical exploration on the cultivation of higher-order thinking in reading teaching**

Through a large number of English reading class observations and researches by myself and my peers, the author takes the design of while-reading activities in three reading classes as examples to illustrate effective strategies for cultivating higher-order thinking in reading teaching.

#### ***4.1. Correctly interpret text features and encourage independent problem solving***

Text interpretation is the starting point of reading teaching design and the basis for determining teaching objectives. Inadequate, unreasonable or incomplete interpretation of the text will increase the difficulty of stimulating students' thinking, not to mention the development of higher-order thinking. However, if the text is properly interpreted and the features of the text, especially the parallel text, are used, students will be able to read independently under the teacher's demonstration, so as to better exercise their analysis, evaluation, and even creativity. The author takes class observation as an example for analysis. This class is an open reading class for the first semester of the seventh grade. The reading materials are selected from outside the classroom. The topic is four new great inventions of modern China. This is an explanatory essay introducing China's new four major inventions. It is a typical parallel text, that is, this text is composed of four chapters: high-speed train, mobile payment, shared bikes and online shopping, each chapter has a parallel relationship, and the structure of each chapter is basically the same. Parallel texts provide space for students to develop independent reading.

The design of while-reading activities in this lesson is shown in Table 1.

It can be seen from Table 1 that the teacher paid attention to the characteristics of the text in Activity 1, and guided the students to understand that this article is an explanatory text by reading the title, introduction, subtitle and pictures. The four subtitles respectively introduced four new inventions, which also clarified the text parallel text features. However, the teacher still followed the reading design of sorting out the whole first and then excavating the details in sections, guiding students to interpret the content under each subheading one by one. For example, the first subtitle, high speed trains, guides students to discover the advantages of high-speed rail through questioning. And the fourth subtitle on online shopping also adopts a similar method. In fact, even if students can correctly answer all the questions designed by the teacher, they still only learn the reading skills of reading paragraphs and looking for details, which belongs to low-level thinking.

*Table 1: Design of while-reading activities in reading lesson "Four new great inventions of modern China".*

While-reading	<ol style="list-style-type: none"> <li>(1) Read the title, introduction, headings and pictures and identify the four new great inventions</li> <li>(2) Read the title and introduction again and find out why they are called great inventions of modern China</li> <li>(3) Scan the passage and find out when the four great inventions started</li> <li>(4) Read the whole passage and find out what changes they bring to people</li> <li>(5) Read part 1 and answer questions</li> <li>(6) Read part 2 and fill in the blanks, then discuss what else we can do with Alipay</li> <li>(7) Read part 3 and fill in the blanks about how to use a shared bike</li> <li>(8) Read part 4 and answer questions</li> <li>(9) Think and discuss which one is more helpful and give reasons.</li> </ol>
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According to the similar characteristics of each paragraph or chapter structure of parallel texts, it is more suitable for students to practice solving problems independently after the teacher's demonstration, so as to create conditions for the development of students' higher-order thinking. Therefore, the author modified the reading activity: after reading the first and second subtitles, the teacher asked what do the two inventions have in common? (Please summarize the common points of these two new inventions?) Inspire students to pay attention to these two inventions. Parallel paragraphs both present the merits of the invention by comparing today and night. In this way, students can independently interpret the other two parallel paragraphs starting from the advantages of the new invention, and can further combine the impact of the new invention on personal life, and realize the reason why they are called great. In this process, students independently analyze which sentences in the paragraph show the advantages of the new invention, summarize the common points of the four inventions, and evaluate the impact of the new invention on their daily life. In the process of solving problems independently, students are constantly extracting, organizing, analyzing and judging information, all of which promote students' in-depth thinking and are conducive to the development of higher-order thinking.

*Table 2: Modified while-reading activities*

	Original while-reading activities	Modified while-reading activities
While-reading	<ol style="list-style-type: none"> <li>(1) Read the title, introduction, headings and pictures and identify the four new great inventions</li> <li>(2) Read the title and introduction again and find out why they are called great inventions of modern China</li> <li>(3) Scan the passage and find out when the four great inventions started</li> <li>(4) Read the whole passage and find out what changes they bring to people</li> <li>(5) Read part 1 and answer questions</li> <li>(6) Read part 2 and fill in the blanks, then discuss what else we can do with alipay</li> <li>(7) Read part 3 and fill in the blanks about how to use a shared bike</li> <li>(8) Read part 4 and answer questions</li> <li>(9) Think and discuss which one is more helpful and give reasons.</li> </ol>	<p>Activity 3 is deleted or reserved as a research topic for interdisciplinary project-based learning (why all new inventions are produced in the early 21st century).</p> <p>Add discussion after activity 5 and activity 6: what do the two inventions have in common? (They bring great convenience to people...).</p> <p>Activity 7 and Activity 8 are changed to: discuss what advantage(s) do the other two inventions have? How do they affect your daily life?</p>

In addition, the teacher asked the students to draw the time axis after reading in Activity 3, pointing out the sequence of the four inventions, the original intention was to pave the way for the output activity after reading, but after carefully interpreting the text, it was found that the four new inventions were in the original text It does not appear in chronological order, nor does it affect the interpretation of the text because of the order of appearance. Sorting by time has caused difficulties for students: why should the four new inventions be arranged in chronological order? Does time have any effect? Such a link interferes with the formation of students' correct logical thinking and will affect the development of students' higher-order thinking. It is recommended to delete it. In fact, these four new inventions were all produced in the early 21st century, which is inevitable for China's economic and social development. If they are

used as interdisciplinary research project learning tasks, they will actually be more conducive to the development of students' higher-order thinking. Please refer to Table 2 for specific revisions of while-reading activities in this lesson

**4.2. Pay attention to the overall reading design and reduce the control of teaching design**

A common problem in reading teaching is fragmented reading. The students' reading was interrupted many times, and the teacher often asked the students to read a paragraph to complete one or several tasks, and the students were always led away by the teacher. It is easy for students to "see the trees but not the forest", unable to make an overall judgment, analysis, evaluation, etc. of the text, and it is difficult to improve students' higher-order thinking, habitually rely on the teacher's guidance, so pay attention to the overall reading design, reduce the Teachers design too many activities to control students' thinking, so as to promote the development of students' higher-order thinking.

Try to compare the author's revision of some while-reading activities of "Unit 2 A day in the life Whizz-kid Wendy" in Module 1 of the first semester of Grade 8 (Table 3).

*Table 3: The first draft of the reading activity design of "8A M1 U2 A day in the life... Whizz-kid Wendy"*

While-reading	(1) Skim the title, introduction and pictures. (2) Scan the whole passage and fill in the timetable of Wendy (fill in blanks) (Table 2) (3) Read the whole passage again and find out (4) When Wendy does with her business (fill in blanks) (Figure 1) (5) What Wendy's family members do in her business (6) What Wendy does after school (fill in a table) (7) Discuss and think what you can learn from Wendy?
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It's known from Table 3 that the author guides students to observe the characteristics of the text in reading activity 1, and grasp the whole text by skipping (reading titles, introductions, pictures). But in the follow-up activities, in order to make it easier for students to output answers, and to sort out and analyze the text by filling in multiple forms, especially in order to allow students to learn key vocabulary, the stereotyped correspondence of blank and blank is adopted in Figure 1, and students are restricted to use the phrases in the original text to complete the form information. This makes the original teaching design of sorting out the context of the article (activity 2) and analyzing why Wendy became Whizz-kid (activity 3-4) become superficial, and become a low-level thinking that only focuses on vocabulary usage and details and simply extracts information. But it can't accomplish the desired goal in the design: to cultivate students' higher-order thinking, so that students can analyze and summarize the dual identities of Wendy, evaluate Wendy correctly and express it rationally.

Time	As a student	As a business girl
6 a.m.	gets up, _____ and _____ her school uniform	_____ the business over breakfast
7:30 a.m.	_____ in her family car	_____ to clients on her way to school
8 a.m.	_____ school	
12:30 p.m.		_____ with a client
4:15 p.m.	_____ a club; _____ her homework before dinner	
7 p.m.		_____ the business over dinner; _____ her office and _____ her games until 11:30 p.m.

*Figure 1: Wendy's one-day activity schedule*

In order to allow students to develop higher-order thinking during the reading process, the author modified the middle-reading activity 2 from filling in the blanks to complete the daily schedule to draw a fishbone diagram as follows (see Figure 2). After skipping to understand the text features in activity 1, pass the question what does Wendy do? (What does Wendy do?) Guide students to sort out and summarize Wendy's dual identities (a top student/a successful business girl on the left). After clarifying the two identities, ask the question what does Wendy do as a student/a business girl? Draw the time axis

on the right side of the fishbone diagram on the blackboard and show the daily activity schedule of each identity up and down while students ask and answer questions. This link shifts from paying too much attention to vocabulary and details to allowing students to grasp the two identities of Wendy as a whole to analyze the text, so as to cultivate students' high-level thinking in analysis and synthesis.

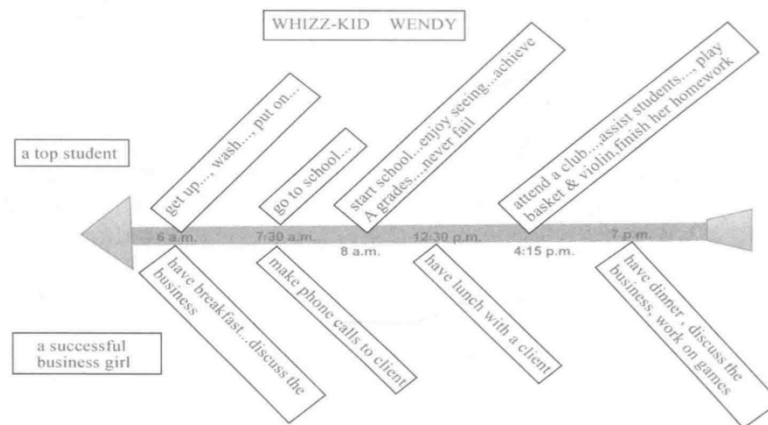


Figure 2: Timeline of Wendy's daily activities

The fishbone diagram that visually shows the context of the article also makes it easier to carry out the next teaching activity — evaluating Wendy (higher-order thinking activity). For example, in the first part of activity 3 in Table 4, When Wendy does with her business, there is no need to fill in the blanks (looking for details is a low-level thinking). But students can directly compare and conclude from the timeline of the fishbone diagram that Wendy is always in the gap between learning and life time to deal with business work. It is inferred that she is a person who is very good at using time (comparison, inductive inference belongs to higher-order thinking).

Table 4: The first part of activity 3 When Wendy does with her business

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| <ol style="list-style-type: none"> <li>(1) Wendy discusses the business over breakfast.</li> <li>(2) Wendy makes phone calls to clients on her way to school.</li> <li>(3) Wendy has lunch with a client.</li> <li>(4) Wendy discusses the business over dinner.</li> </ol> |
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More in this unit Practice is a blog (applied text) of Sandy, a student and acrobat, although it is related to A day in the life...Whizz-kid Wendy (narrative) has a different style, but through Wendy's article, it pays attention to the overall design of reading, and guides students to grasp Wendy's dual identity to sort out the context of the article, analyze and evaluate the characters, and when studying Sandy's article, students can develop Independent learning, combing and summarizing Sandy's dual identities, analyzing and evaluating characters, also proves that Wendy's teaching design has effectively promoted the growth of students' abilities, especially the development of higher-order thinking.

#### 4.3. Create real contextual situations to stimulate and challenge complex issues

In order to enable students to learn the language better, the "Oxford English" textbook will set a context for the text, allowing students to learn the language in a certain context. However, limited by the length and language difficulty, the context is often relatively simple, so that the learning activities are in a "vacuum", lacking pertinence, complexity and challenge, so the requirements for students' thinking ability are not high, and only understanding and imitation can be competent. It is also difficult to activate students' higher-order thinking. [5] Therefore, in teaching design, teachers should supplement appropriate information, increase the "authenticity" of contextual situations, increase the complexity of student activities, guide students to discover specific problems, analyze problems and solve problems.

In the Reading section of Oxford English 6AM2places and activities U5 Open Day, the teacher-student dialogue mentions a number of activities that will be open to parents in Open Day, and defines the sequence of activities through first, next, then, finally and so on. Most teachers' post-reading activities in this reading class will ask students to design activities and arrange the sequence for their own school Open Day. It seems to create a real contextual situation-students' own school activities. However, in practice, due to the lack of open day experience (only participating in the open day of "parents attending classes") or the lack of experience in organizing and planning activities, the final output is to simply

imitate the activities provided by textbooks. The learning level of such post-reading activities is low, which is not beneficial to the promotion of students' high-level thinking.

However, the author repeatedly studies the textbook, looks at the unit as a whole, concatenates all the text and picture information of this unit, and finds the real valuable "real context" from the Open Day of the virtual Rose Garden School, so as to find the breakthrough of "criticism and innovation" in cultivating students' high-level thinking quality. The author's post-reading design is shown in Table 5.

Table 5: 6A M2 U5 Open Day's post-reading activity design

While-reading (part)	Make a program for the Open Day
Post-reading	(1) Show the floor plan (P33) and discuss: Will your parents be happy with the programme? Why or why not? (2) Work in group and improve the Open Day program (3) Think and discuss: to make a better Open Day programme, what should we pay attention to? (4) Work in group and make an Open Day program for the parents of junior students (5) Check the list and comment on your own program and others'

In the author's while-reading activity design, teachers and students jointly list the Rose Garden school open day schedule (see Table 6). Show P 33 the school floor layout in post-reading activity 1 (as shown in Figure 3). The author asks the students to talk about whether they are satisfied with the arrangement of this open day based on these two materials.

Table 6: Schedule of Open Day in Rose Garden School

No.	Time	Activities	Place
1	2:00 pm	Arrive	At the entrance
2	2:15 pm	Visit classroom	In the classroom
3	2:30 pm	Look at projects	In the arts and crafts room
4	3:10 pm	Listen to the school choir	In the hall
5	4:00 pm	Look at the English Club noticeboard	In the library
6	4:25 pm	Have tea and cakes with teachers	In the music room

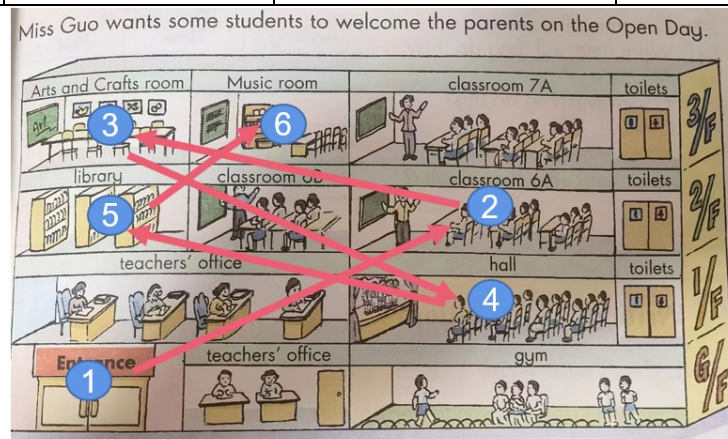


Figure 3: Rose Garden School Floor Plan

In the post-reading activity 2, the author used questions to guide the students to observe the activity schedule and the floor plan, compared the two, and actually went through the activity day arrangement in the textbook by using the floor plan, and immediately found that the activity day arrangement was inappropriate. It made parents climb up and down the stairs many times. This "surprise" discovery ignited the students' enthusiasm for learning and inspired them to think deeply about how to arrange the activity day activities more reasonably. In post-reading activity 3, the author guides students to think deeply: In addition to the activity content, time, and place provided in the text, what else should we pay attention to when arranging a reasonable activity day? Post-reading activities 4 and 5 Middle school students use their self-summarized checklists to plan school activity days and evaluate their own and others' activity days. Although the post-reading activities designed by the author use the virtual campus floor plan in the textbooks, they create a real context for students and encourage students to think deeply about how to

plan an open day activity in a more reasonable way based on their personal experience and real open day needs. Conduct in-depth learning to inspire students to challenge difficult learning to develop higher-order thinking: analysis, evaluation and innovation.

## 5. Conclusion

English subject reading teaching is an important carrier for cultivating students' higher-order thinking. In the daily reading teaching, the author has carried out beneficial exploration and practice through classroom reflection and observation, which has certain reference and reference value for myself and my peers to improve students' higher-order thinking through reading teaching. Of course, there is still confusion in research and practice: the cultivation of higher-order thinking requires students to be given sufficient time to think and discuss, and to supplement and learn extracurricular knowledge. For example, the author asked students to think about why the four new inventions appeared concentratedly in the early 21st century. In other words, under the condition of limited classroom time for English subject reading teaching, which ones are extended after class and which ones are suitable for classrooms are worthy of further sorting and research.

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