

Original Article

Learning Strategies in Senior English Reading Aiming at the Cultivation of Thinking Quality

Jiang Yuxue¹, Wang Hongyuan²

^{1,2}Faculty of Foreign Languages, Sichuan University of Science & Engineering, Zigong, China.

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Abstract - English Curriculum Standards for General Senior High School (2017 Edition) condenses the core competencies of English subjects into four elements: language ability, cultural awareness, thinking quality, and learning ability. Among them, learning strategies, as the due meaning of learning ability, can promote students' effective learning. However, in China, there are few studies on how senior high school students use reading learning strategies in English reading classes to promote the development of their thinking quality. Based on Constructivist Learning Theory and Bloom's Taxonomy of Educational Objectives, this paper analyzes the feasibility of cultivating thinking quality in English reading teaching and explores the learning strategies that focus on cultivating students' thinking quality in senior English reading. The research results about required reading learning strategies are presented at both the psychological level and the executive level. Among them, the psychological level includes two learning strategies, and the executive level covers three. This study can not only enrich the research on learning strategies but also provide some reference for English teachers to guide students of senior high schools to cultivate their thinking quality via learning strategies in reading lessons.

Keywords - Learning strategies, Thinking quality, Senior English, Reading strategies, Cultivation.

1. Introduction

English Curriculum Standards for General Senior High School (2017 Edition) clearly points out that the core competencies include four aspects, which are language ability, cultural awareness, thinking quality, and learning ability, respectively.^[1] Among them, learning strategies are conducive to learning ability, and appropriate learning strategies can effectively promote improving language ability, enhancing cultural awareness, and cultivating thinking quality.

At the same time, thinking quality indicates "the ability and level of thinking in logic, criticality, innovation and other aspects", which is an important manifestation of the mental characteristics of English subject core competencies. What is more, developing thinking quality can expand students' perspectives on problems, improve their ability to analyze, foster their capability to solve problems from multiple perspectives and help them form reasonable value judgments.

Consequently, it is significant to figure out how thinking quality, as an abstraction that cannot be easily observed, can be developed in senior English teaching practice through learning strategies. Based on this, this paper focuses on exploring reading learning strategies that students can try in senior English reading teaching to support the cultivation of thinking and the quality of high school students.

2. Literature Review

2.1. The Definition of Key Terms

2.1.1. The Definition of Learning Strategies

Researchers at home and abroad have different opinions on the definition of learning strategies. To be specific, Stern argues that learning strategies are the general tendency or general characteristics of the methods used by language learners;^[2] O'Malley & Chamot take the view that learning strategies are learners' unique ideas or measures to help them understand and learn information;^[2] Oxford holds the view that learning strategies were actions carried out by learners to strengthen the learnability, interest, and adaptability of language;^[4] Cohen perceives language learning strategy as a specific learning behavior or mental activity, which may involve the participation of consciousness.^[4] When it comes to domestic researchers, Wen, after interpreting Oxford's definition of learning strategy, defined it as "a series of actions taken by students to learn English well", including three forms;^[6] Liu & Huang support the view that learning strategies refer to "the procedures, rules, methods, skills and regulation methods that learners effectively learn in learning activities".^[7]

It is worth noting that the definition of learning strategies in this paper is based on the scholar Zhang's interpretation of the definition of learning strategies based on five aspects: 1) Learning strategies are the methods and means adopted by learners to improve the level of a second language or foreign language, which runs through the whole process of language learning and application; 2) Learning strategies are problem-driven; 3) Learning strategies are



influenced by many factors and are incorporated with flexibility and diversity; 4) Learning strategies “can be perceived as either explicit external behaviors or implicit mental activities”; 5) Learning strategies can be acquired through training and learning.^[8]

2.1.2. The Definition of Thinking Quality

According to Chen, Wang & Qian, thinking quality refers to the performance of intelligence and ability in intellectual activities, especially in thinking activities, and is, in essence, the personality characteristics of human thinking. To be specific, thinking quality is the indicator that distinguishes the level of a person's thinking and even the level of intelligence, mainly including profundity, flexibility, creativity, criticism, and agility five aspects.^[9]

2.2. Studies on Learning Strategies in Recent Years

The related researches on learning strategies are still popular in recent years, whether at home or abroad.

On the one hand, in foreign research, Multazam investigated the interaction of anxiety, learning strategies, and reading comprehension among students.^[10] After that, Jarinya et al. looked at vocabulary acquisition (VA) and vocabulary learning strategies (VLS) employment of Thai EFL graduates of a government university in southern Thailand.^[11] Then, Dagim & Italo attempted to assess the language learning strategies through English major students of Addis Ababa University.^[12] At the same time, Zahrani & Chaudhary studied the knowledge level and preference of English majors in vocabulary learning strategies.^[13] Meanwhile, Omare, Aloka & Ochieng investigated the effect of metacognitive learning strategies on English language performance among students in Kenya.^[13]

On the other hand, in domestic studies, Wang & Wu studied the influence of learning motivation and learning strategies on self-directed English learning and tested the mediating effect of learning strategies through a questionnaire survey of 1018 non-English major undergraduates from 4 universities in China.^[15] In addition, based on Oxford's (1990) Strategy Inventory for Language Learning (SILL), Li & Zhang aims to explore the correlation between learning strategies and domestic college students' English performance and the moderating effect of research characteristics affecting the relationship between the two.^[16] At the same time, an empirical study, by Cui & Zhao, on the individual affective variables and learning strategies of 358 undergraduates with different majors showed that individual affective variables such as self-efficacy, internal motivation, and learning goals are positively correlated with English learning strategies, which means that stimulating students' internal motivation and enhancing their learning goals and self-efficacy are helpful for them to use English learning strategies for effective learning.^[17] Later, Chen exerted vocabulary tests and vocabulary strategy questionnaires to explore the correlation between learning strategies and vocabulary of

college students in autonomous learning states.^[18] Likewise, He intended to discover the differences in the use of vocabulary learning strategies among Tibetan college students of different genders.^[19] After that, Xu & He conducted a study on the emotional regulation strategies of English learning for college students in China.^[20]

2.3. The Summary of the Above Studies

According to the previous studies in recent years, it is obvious that most of them, on the combination of learning strategies and English teaching practice, take college students as the research objects. Besides, the relative researches tend to be associated with the domain of psychology, such as self-efficacy and internal motivation. Furthermore, the research field is mostly concentrated on vocabulary teaching.

To sum up, the above studies have enriched the research on learning strategies in English teaching and provide a sound base for researchers to carry out relevant research. However, taking high school students as the research object and focusing on how to use learning strategies to cultivate thinking, the quality of high school students is insufficient, comparatively. To this end, the study of learning strategies aiming at cultivating thinking quality in senior English reading has certain theoretical significance. Furthermore, the reading learning strategies obtained from the research results can, to some extent, support the teaching practice of English teachers during reading lessons and thereby has certain practical significance.

3. Research Design

3.1. Research Method

The main research method adopted in this study is a literature review. Through the search of works of literature related to “learning strategies”, it can be found that there are fruitful results on learning strategies in English teaching. However, there are few studies that focus on high school students. Likewise, studies concentrated on the development of thinking and the quality of high school students through learning strategies are still scarce. Considering this, this investigation is full of value.

3.2. Research Questions

To reach the research aim, the following research questions are raised.

1. Is cultivating students' thinking quality in senior English reading teaching feasible?
2. In order to cultivate students' thinking quality, what reading strategies can be adopted in senior English teaching?

3.2. The Related Theories

3.3.1. Constructivist Learning Theory

Constructivist Learning Theory arose in the 1990s and was first proposed by Piaget, a Swiss psychologist. According to Piaget, learning is a process in which learners actively mobilize their own cognitive ways to “understand knowledge, generate meaning and construct a system”

based on learners' existing knowledge and experience. This theory highlights that students are the main body of learning. Besides, it emphasizes learners' enthusiasm and covers the view of learning, knowledge, students, teaching, and other rich views.^[21]

In view of the knowledge and learning views, this theory emphasizes that the answer to knowledge is not absolute. With the development of The Times and the progress of civilization, people's interpretation of knowledge may become more diversified and in-depth, which reflects the dynamic nature of knowledge and the relativity of truth. As such, teachers should give students more opportunities to understand knowledge from multiple dimensions in the process of guiding students to construct themselves. Meanwhile, it is vital to fully respect the subject status of students in learning and maximize their subjectivity.^[21]

When it comes to the notion of students and teachers, the theory holds that students are people with certain knowledge and experience and have the ability to process new knowledge in their unique cognitive ways to realize the link between existing and new knowledge. However, the perception of new knowledge depends on the individual student and can also be affected by the external environment. On this ground, teachers should make efforts to tailor their teaching to their students.^[21]

Through constructivist learning theory, it is easy to find that both it and learning strategies emphasize students' subjectivity. For this reason, teachers can guide students to exert a variety of learning strategies in the English classroom to give full play to learners' logical thinking, divergent thinking, creative thinking, and other thinking qualities.

3.3.2. Bloom's Taxonomy of Educational Objectives

Bloom first proposed Bloom's Taxonomy of Educational Objectives in 1956. The core content of the theory consists of six levels: "memorization, understanding, application, analysis, synthesis and evaluation".

In 2001, Anderson et al. proposed a new taxonomy, Bloom's Taxonomy of Educational Objectives. The classification takes "memory, understanding, application, analysis, evaluation and creation" as the six levels of cognitive teaching objectives and gives specific definitions of cognitive skills at each level. To be specific, 1) "Memory" refers to the knowledge associated with new knowledge in learners' long-term memory; 2) "Understanding" is a process in which learners construct themselves through various learning strategies under the guidance of teachers; 3) "Application" means that learners connect new knowledge with real life, so as to put what they have learned into practice; 4) "Analysis" signifies that learners further explore the correlation between the new knowledge and try to clarify the context of knowledge in the

thinking process; 5) "Evaluation" represents that learners make corresponding judgments according to standards; 6) "Creation" shows that learners build new knowledge structure information creatively based on their inherent knowledge and combined with their understanding of new knowledge.^[22]

According to the theory, "memory, understanding and application" are low-order thinking, whilst "analysis, evaluation and creation" are high-order thinking, and students' thinking process is gradually transformed from low-order thinking to high-level thinking. In order to make the process smoother, appropriate learning strategies in senior English reading are supposed to be carried out.

4. Results and Discussions

4.1. The Feasibility of Cultivating Students' Thinking Quality in Senior English Reading Teaching

The study of learning strategies that aim to cultivate thinking quality in senior English reading is determined to help high school students cultivate their thinking quality by giving them some learning strategies that can be referred to in English reading. Following this, its due meaning is that English reading can be regarded as the carrier of cultivating students' thinking quality. Thus, careful thinking about the reason why English reading lessons are able to cultivate students' thinking qualities is indispensable.

On the one hand, when students read English, they are not instilled with textual knowledge in a single direction but actively process information in their own unique cognitive ways. In the period of processing information, students may need to summarize the general meaning of a text, infer the meaning of a statement in context, integrate their existing knowledge and experience with newly acquired knowledge, or interpret a problem in multiple dimensions, etc. To this end, logical thinking, creative thinking, divergent thinking, and other thinking qualities are indispensable to this process.^[23]

On the other hand, English reading is not only limited to the superficial understanding of text information but also requires in-depth interpretation of the text. In addition, deep reading needs the assistance of thinking quality. At the same time, thinking ability can be promoted in the process of deep reading.^[24]

Therefore, it is feasible to cultivate students' thinking quality through senior English reading teaching. What is more, exploring the English reading learning strategies, which students are supposed to adopt in senior English reading classes, can definitely pave the way for students' thinking quality.

4.2. Senior English Reading Learning Strategies Aiming at the Cultivation of Thinking Quality

Reading learning strategies, as one of the important categories of learning strategies, are not only limited to specific operations, such as skimming and scanning of a

piece of passage, but also include invisible psychological activities.[8]

In other words, in the reading process, all psychological strategies that can help learners improve their foreign language or second language proficiency more effectively are important parts of English reading learning strategies. On this ground, senior English reading learning strategies aimed at cultivating thinking quality can be divided into the following two dimensions, the psychological and the executive levels.

4.2.1. The Psychological Level

The following are two reading learning strategies coming from the study's results on the psychological level, which try to assist senior students in regulating their emotions towards a more positive state in the reading process and support them in improving the efficiency of English reading. Also, the two strategies are expected to strengthen students' agility in the reading process and contribute to developing their thinking quality.

Taking Positive Psychological Cues

The positive state of emotion helps improve the concentration degree of high school students in the process of reading. Furthermore, it also encourages students to communicate "wholeheartedly" with the author's text, thus laying a solid foundation for students to perceive the author's intentions, understand the cultural implications of the text, and train their thinking skills.[25]

Expanding on this, when learning a new lesson, students can hint at themselves like "This is going to be a very interesting article!", "I cannot wait to learn something new!" and so on. In a review lesson, students can think like "This is a great time to test my learning, so great!". Under the catalysis of positive psychological cues, students can think more actively in English reading class so as to optimize their thinking quality.

In addition, students can take various forms of encouragement, such as "I must do it!", "I'm the best, for sure!". By virtue of self-encouragement and mutual encouragement with peers, high school students are able to strengthen their self-efficacy and thereby promote their efficiency in reading and active thinking.

Abandoning the "Score-Only" Mentality

The "score-only" mentality is not only a concept that is held by some parents and teachers but also by some students who have been perceived as learning subjects. Students who adhere to the "score-only" view tend to focus only on teachers' explanation of knowledge points, hence mentally scoffing at other teaching activities from teachers. As a matter of fact, teachers' teaching designs are usually progressive and interlocking, and activities that do not seem to be closely related to the knowledge points are extremely significant.

More specifically, the teacher's introduction design in reading teaching can be looking at some pictures and predicting, brainstorming, or playing related videos, etc. No matter what the particular activity design is, it can stimulate, more or less, the prior knowledge and interests of students. Besides, it also brings variety towards teaching activities. Taking the introduction design of "picture predicting" as an example, students who hold the "score-only" view may feel unnecessary. In their cognition, teachers are supposed to tell them what the article mainly conveys directly and what test points the article involves. In other words, only the information directly related to the test is truly necessary.

From another perspective, however, the "picture predicting" is in line with one of the language skills "viewing", required by New College Entrance Examination in China. In the meanwhile, it enables us to convey information more explicitly in the form of a vivid imagination. Moreover, the process of "picture predicting" requires not only reasonable inference based on the consideration of content but also involves the use of divergent thinking for outputting multi-dimensional possible answers, accordingly boosting students' thinking quality.

Furthermore, in the complete instructional session, the wholehearted participation of students not only enhances the learning experience and the acquisition of new knowledge but also promotes excellent qualities of them in all aspects, such as cooperative awareness, cross-cultural perspectives, analytical and problem-solving skills, divergent thinking, and creative thinking.

In conclusion, there is no doubt that the importance of marks is self-evident. Nevertheless, for senior high school students, the concept of the "score-only" view, to a certain extent, may act as a trigger for the neglect of the cultivation of some key skills, such as logical thinking, divergent thinking and other thinking qualities advocated in the core competencies of English.

4.2.2. The Executive Level

Thinking quality requires a gradual transition from lower-order to higher-order thinking. In the reading classes, this is reflected in the transition from the acquisition of superficial knowledge of the text to a deeper sense of cultural meaning, in which students gradually explore authors' intentions and perceive the thematic meaning of the content they are studying. This process of moving from superficial to deep is a key process for developing students' thinking quality. According to this, the following three points represent the reading strategies students can attempt at the implementation level to foster their thinking quality in senior English reading.

Implementing the "Four-Step" Strategy

First of all, if students need to read a piece of text independently, they can skim through the title, illustrations (if any), and layout of the text to basically determine the

type of text so that they are able to automatically link prospective reading strategies with the text, such as “skimming”, “scanning”, “predicting”, etc. Also, it can help students to activate their existing knowledge related to the new knowledge to a certain extent.

Secondly, for different types of discourse, teachers may guide students to identify the topic sentence of each passage to summarize the main idea of each passage or guide them to divide the structure of the text and briefly explain the meaning of each part, etc., so as to grasp the main ideas of the text. In addition, it involves careful consideration of the relationship between a paragraph and its title, the relationship between paragraphs and paragraphs, and the relationship between arguments and arguments, usually. In the process, laying a solid foundation for constructing structured knowledge is beneficial.

Thirdly, teachers can guide students to work with detailed information. The overall principle is “question-oriented”, which can be either a reflection question from the reading textbook or a carefully crafted “chain of questions” set by teachers. This process can be perceived as a further version of the previous step, which assists students in strengthening their understanding.

Finally, after completing the three points mentioned above, students are able to build text-based structured knowledge. Then, teachers ought to guide students to think about what the author is desired to convey through the text, in addition to the explicit, structured knowledge. In response to this question, students need to consider further their understanding towards the structured knowledge they have already built in order to perceive the cultural meaning and values that the text connotes. Meanwhile, in this process, students will look for arguments from the text to express various ideas logically and justifiably, share their unique opinions creatively, and accept others’ ideas critically, which are all good ways to cultivate students’ logical thinking, divergent thinking, creative thinking, and critical thinking.

Consequently, the above steps constitute indispensable parts of fostering students’ thinking quality.

Using Mind Maps to Output What was Learned

A mind map is a tool for organizing and articulating knowledge by using diagrams, a graphical representation of knowledge and thought processes.^[26]

The construction of a mind map helps students to know the topic of the text and the relationship between various points of knowledge, which supports the narrative of the topic, thus helping them figure out the text's knowledge structure. At the same time, training in thinking quality is an integral part of the process.

When students construct their mind maps, teachers can decide whether to provide “scaffolding” and the strength of “scaffolding” according to students’ actual level to balance the relationship between teachers’ guidance and students’ subjectivity.

Once students have completed the mind map, teachers can organize students to share what they have learned with the assistance of the mind map. First, the output based on the mind map favors students to reinforce the logical framework of the text in their minds again. Furthermore, the keywords on the mind map allow students to link with the relevant points they have learned while also helping them to expand their own thinking based on it. Finally, students can learn mutually by virtue of others’ mind maps, which is advantageous to students’ awareness of multi-dimensional perspectives.

Consequently, with the support of a mind map, the output process can effectively cultivate students’ thinking qualities, such as logical thinking, divergent thinking and innovative thinking.

Adopting the “Collaborative Strategies” Properly

Different students in senior high schools have diverse interpretations and reading strategies for the same text. Regarding the use of “collaborative strategies” in students’ reading, first and foremost, it does not imply reading and perceiving the text together from the start. Instead, it indicates that only when students have developed their own unique understanding of the text they are working with can they share their ideas with their peers, thereby aiding students in thoroughly comprehending the material once more while they are transmitting their ideas.

Furthermore, working with others does not signify a complete acceptance of their ideas. That is to say, the students can accept the ideas of others critically and upgrade their understanding of the text, either in depth or in breadth, via different perspectives of their peers’ interpretations, hence paving the way for promoting the development of their own thinking quality.

Besides, it is worth noting that the “collaborative strategy” here also represents that students can make an attempt to “collaborate” with modern information technology. To this end, teachers can guide students to explore online learning resources appropriately for the sake of assisting their understanding, internalization, and expansion of knowledge, etc., thus broadening their horizons and developing their thinking quality.

5. Conclusion

Learning strategies are related to developing learning ability, which is an indispensable component for students to analyze and solve problems. In the meanwhile, thinking quality is also very important as the embodiment of students’ ability to understand knowledge from multiple

dimensions and creatively output knowledge. Nevertheless, the related research on cultivating the thinking quality of senior high school students via learning strategies seems scant. Considering this, the research on senior English reading learning strategies aiming at cultivating students' thinking quality has theoretical and practical significance.

Then, the relevant reading strategies presented in this study can be summarized in two levels and five points of elaboration. Specifically speaking, the psychological level

includes two points: taking positive psychological cues and abandoning the "score-only" mentality. The executive level covers three arguments, which are implementing the "four-step" strategy, using mind maps to output what was learned, and adopting the "collaborative strategies" properly. Whereas, the study is not able to validate the proposed reading strategies with experimental methods; accordingly, there are some limitations, and further research needs to be done in the future.

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