

The Application of Meta-cognitive Strategies in English Reading Teaching in Senior High School

Li Na

Gannan Normal University, Ganzhou, China
1442365836@qq.com

Abstract: "Under the requirements of the new curriculum standard for the cultivation of senior high school students' reading ability, this paper mainly discusses the application of meta-cognitive strategies in English reading teaching in senior high school. The author will take the reading class, 'A Day in the Cloud' in Reading and Thinking part of Wildlife Protection in the second unit of New PEP Senior High School English Compulsory II as an example. Combining meta-cognitive strategies with reading teaching process can improve students' autonomous learning ability and master the reading strategies; on the other hand, it can provide corresponding measures for senior high school English teachers and improve their ability of using meta-cognitive strategies in English teaching."

Keywords: Meta-cognitive strategies; Senior high school English; Reading teaching

1. Introduction

Reading is the process of people constructing meaning actively and the development of thinking. Reading is essentially a kind of language input. English reading teaching involves many aspects. With the reform of the new educational curriculum system, we need to actively study and develop new teaching models, new teaching objectives and new teaching methods. High school English curriculum standards require that high school English curriculum should help to optimize students' English learning methods, so that they can give full play to their autonomous learning ability, use effective learning strategies and improve the efficiency of autonomous learning through observation, exploration, practice and other learning methods. However, in the current exam-oriented education environment, the student-centered concept still cannot go deep into the classroom. Students have formed the habit of relying too much on teachers and regard reading as a passive process of receiving information, rather than flexibly using different strategies to improve their reading ability. Teachers lack guidance on students' reading methods or strategies, which leads to students' mechanical learning, low interest in English learning, little knowledge of reading skills and lack of autonomous learning. In fact, reading skills can help students learn independently. Oxford (2001) said, "Meta-cognitive strategies are closely related to autonomous learning because learners can manage learning through it ^[4]." Therefore, high school English reading teaching should not only transfer knowledge, but also focus on how to teach students to master reading strategies and become fluent and autonomous readers. Therefore, in order to change the bad situation in senior high school English reading teaching, improve students' autonomous learning ability and master the corresponding reading strategies, meta-cognitive strategies can be used in teaching.

2. Theories of Meta-cognitive Strategies

2.1. Meta-cognition

In the 1970s, Flavell, a famous psychologist at Stanford University, first put forward the term of meta-cognition according to the concept of meta-cognition. He believes that meta-cognition mainly describes a function of human self-consciousness in cognition and regulation. Its core concepts are thinking of thinking and cognition of cognition. There are three key factors: first, meta-cognition belongs to a cognitive activity or a psychological activity. Second, the object of cognition is no other people's learning activities, but their own learning activities. let me put it another way, Meta-cognition is the cognition and understanding of one's own learning activities. It is a cognitive activity of self-learning and self-reflection. Third, the object of this activity is not knowledge itself, but a kind of

thinking and learning activity. Many famous foreign scholars have conducted in-depth research on meta-cognitive strategies [2]. The content of meta-cognition includes three aspects: meta-cognitive knowledge, meta-cognitive monitoring, and meta-cognitive experience. They are interrelated and interact with each other [7].

2.2. Meta-cognitive Strategies

Meta-cognitive strategies are the knowledge of cognitive processes and the behavior of adjusting processes through planning, monitoring and evaluation. Wenden(1991)used "self-management strategy" to refer to meta-cognitive strategy. He defined meta-cognitive strategy as "management skill used by learners to monitor and manage the learning process" [5]. Cohen (2000) believes that meta-cognitive strategies are mainly related to evaluation, including evaluation in advance, planning in advance, planning and evaluation in the process, and evaluation after language learning activities and language use exercises [1]. O'Malley and Chamot (2001), based on predecessors, added that meta-cognitive strategy is "planned learning, monitoring learning or self-evaluation and reflection after the completion of learning tasks", and believed that meta-cognitive strategy is to use the knowledge obtained in the process of psychological cognition, and then establish learning objectives and plans, the behavior of language learning adjustment by monitoring the learning process and evaluating the learning results [3].

2.3. The Relationship between Meta-Cognitive Strategies and Reading

The relevance between meta-cognitive strategies and reading plays a very important role in learners' individual knowledge cognition. Its application in reading is embodied in the following three aspects:

2.3.1. Planning Strategy

Planning strategy refers to planning various activities, expecting results, selecting strategies, imagining problem-solving methods and estimating their effectiveness before the start of cognitive activities according to the specific objectives of cognitive activities. Planning strategy in learning includes setting learning goals, browsing reading materials, setting thinking questions and analyzing how to complete learning tasks [10]. Students with a high level of strategies do not just passively listen to lectures, take notes and wait for teachers to assign homework. They predict how long it will take to complete homework, obtain relevant information before writing, review notes before exams, organize study groups if necessary, and use various other methods. In senior high school English reading class, individual students set the time and goal of independent reading in the learning process, realize the hypothesis and guess of English problems through the pre-reading of reading materials, and realize the active preview of English reading materials through effective English classroom reading practice and test practice, so as to become an active learner in English reading learning.

2.3.2. Monitoring Strategy

Under the concept of meta-cognition, individual students can appropriately adjust their autonomous English learning methods and steps and realize the autonomous learning of English knowledge through the monitoring of English reading behavior and habits, such as controlling their English reading time and speed. This monitoring strategy can adopt two ways: understanding and monitoring. It requires individual students to set up the goal of English reading comprehension in the process of English reading, and have an overall grasp of the key words, core sentences, key and difficult contents in English chapters. In this way, they can obtain a sense of self-efficacy in the process of English reading. In order to achieve the goal of effective reading, learners can monitor their English reading by changing the speed of reading, skimming judgment, intellectual guessing and repeated reading. For example, for the unfamiliar parts of speech and the situation of not understanding the meaning of words encountered in the process of English reading, we can carry out jumping reading or guess the meaning of words according to the context, so as to improve the self-experience of English reading. Target monitoring: it refers to the monitoring method of reading articles. Students can search the key words and paragraph information of articles through reading; skimming can be used to grasp and monitor the central meaning of English texts. Through these methods, students can judge whether their reading deviates from the reading goal according to the reading information [6].

2.3.3. Self-regulation Strategy

In the process of English reading learning in senior high school, students can use self-regulation strategies to realize independent thinking, judgment and adaptation of English knowledge, which is

closely related to monitoring strategies. When students encounter difficulties in the process of reading, they can adopt self-regulation to improve the effect of English reading and better understand the content of reading articles.

3. The Application of Meta-cognitive Strategies in English Reading Teaching in Senior High School

3.1. The Necessity and Possibility of Applying Meta-cognitive Strategies in English Reading Teaching

Professor Wen Qiufang (2000) pointed out that meta-cognitive strategies in English teaching are management measures taken to learn English. In order to improve students' reading efficiency, teachers should consciously teach students some meta-cognitive strategies to guide students to carry out efficient reading training. The introduction of meta-cognitive strategies in senior high school has mature conditions. According to Piaget's theory of cognitive development stage, senior high school students have been in the formal operation stage of cognitive development. Based on this, it is feasible to train students in meta-cognitive learning strategies. Based on the relevant theories of meta-cognitive strategies, the author actively guides students in teaching and helps students form personalized learning strategies. Reading teaching is a practical activity for students to read under the guidance of teachers^[8]. Hu Chundong (1990) pointed out that reading ability is the most important learning ability, which directly affects the quality of teaching. Through the cognition and understanding of meta-cognitive concepts, teachers can apply meta-cognitive strategies to senior high school English reading teaching, guide students to gain experience and perception of English knowledge in the learning process of senior high school English reading, improve their understanding and understanding of senior high school English, and on the premise of clarifying senior high school English reading objectives and tasks, accurately grasp the key knowledge points in senior high school English reading, think, explore and solve the problems in senior high school English reading, and comprehensively improve English reading ability. In the actual teaching process, teachers should apply meta-cognitive strategies throughout each class^[8]. Specifically, the main methods are as follows:

- a. Guide students to understand the requirements of the syllabus and be familiar with the characteristics of teaching materials, and students should clarify their learning tasks.
- b. Targeted training on reading strategies. Common reading strategies include skimming, intensive reading, searching, prediction, word guessing, inference, theme and so on.
- c. Expand the amount of reading. Make a reading schedule for students and carry out a large number of extracurricular reading exercises according to the schedule, so as to improve the recognition of words and improve the reading speed.
- d. Overcome bad reading habits. Teachers should guide students to move their eyes back and forth and read silently, which can improve their reading speed.

3.2. Design of English Reading Teaching in Senior High School Based on Meta-cognitive Strategies

Under the background of the new curriculum standard, how to effectively combine meta-cognitive strategies with English reading teaching, improve students' autonomous learning ability and master the corresponding learning strategies is the focus of this paper. Based on the three aspects of planning, monitoring and self-regulation strategies embodied in meta-cognitive strategies in reading, the author combines them with English reading teaching in senior high school, and takes the reading course "A Day in the Cloud" in the reading and thinking part of wildlife protection in unit 2 of senior high school English compulsory 2 of people's education edition as an example to design the teaching of this English reading course.

3.2.1. Design Concept

- a. Matching degree between meta-cognitive strategies and reading teaching: This class is a reading class. The theme is to protect wild animals, which belongs to the category of man and nature. Cultivating students to pay attention to animal protection and harmony between man and nature is the focus of this class. Teachers guide students to use planning, monitoring and self-regulation strategies to read, so as to enhance students' self-confidence and self-efficacy in English reading, cultivate students' problem discovery ability, thinking ability, reasoning and analysis ability and problem-solving ability in

autonomous reading, and improve students' autonomous learning ability and master corresponding reading strategies.

b. Teaching methods: Communicative teaching method, autonomous learning method and cooperative learning method.

c. Teaching tasks: According to the teaching content and meta-cognitive strategy content, design relevant teaching links according to the characteristics of teaching materials and students, so as to improve students' autonomous learning ability and let students master corresponding reading strategies.

3.2.2. Analysis of Teaching Materials and Students

The theme of this unit is to protect wild animals, which belongs to the category of man and nature. The reading chapters are to describe what the author saw, heard and thought in a day, to show the changes in the situation of Tibetan antelope, further cultivate students' awareness of animal protection and understand how to protect wild animals in life. The focus of this lesson is to let students understand the importance of protecting wild animals. Through what the author heard, students can have a good understanding of the changes in the number of Tibetan antelopes before and after and have a deeper understanding of protecting wild animals; through understanding the measures taken by human beings to protect the Tibetan antelope and what the author thought, students know how to protect wild animals in their daily life. Because the students have learned "Why do you like pandas?", they have a better understanding of wild animals, and the theme of this article is close to students' life, which is convenient for students to preview, so as to realize self-learning. This unit focuses on cultivating students' cultural awareness of wildlife protection. Students not only know the importance of protecting wildlife, but also know how to protect wildlife in their daily life. Students are in the first stage of senior high school. They have strong self-esteem and are afraid of making mistakes. Therefore, they are often unwilling to express their views in English in class. Therefore, teachers should help students and make them dare to express themselves. For the wildlife information, students have learned the same animal topics in junior middle school, so they are more familiar with wildlife topics. Facing the familiar topics, students are willing to take the initiative to preview, make preparations, have a strong sense of autonomous learning, and are willing to cooperate with students to discuss and express their views. However, because students only know the basic information of wildlife, relevant links should be designed in this class to cultivate students' cultural awareness of wildlife protection. Students can better carry out autonomous learning and master corresponding reading strategies based on meta-cognitive strategies, so as to better understand the significance of wildlife protection.

3.2.3. Teaching Objectives

The teaching objectives of this reading class are set as follows:

a. Language ability: By discussing several pictures of beautiful things such as skin videos and handicrafts made of wild animals, students will feel pity and want to protect the animals, it can guide and inspire students to understand the knowledge of this article. Students can understand the situation of wild animals and the background knowledge related to wild animals; it can lay a good foundation for later reading.

b. Learning ability: Students' autonomous learning ability can be improved, and corresponding reading strategies can be mastered by discussing issues related to the content of articles raised by teachers and carrying out a series of activities under the guidance of teachers; by making a mind map, students can be familiar with the article structure of the travel diary and the general idea of the article in this film.

c. Cultural awareness: By understanding the changes in the situation of Tibetan antelope, students will pay more attention to wildlife protection and know how to protect wildlife in their daily life. Students will better understand the importance of harmony between man and nature.

d. Thinking quality: By writing a proposal on the protection of Ganzhou pangolin, not only students' creative thinking can be cultivated, but also more profound on how to protect wild animals in daily life.

3.2.4. Teaching Process

a. Lead in: Stimulate interest and active thinking

In this part, the author allows students to use the planning strategy to independently use the Internet for investigation before class, they should browse and investigate the protection of wild animals, and then understand the theme of the article. Through the introduction of fur fashion show videos and

pictures of clothes and crafts made of wild animals, it can stimulate students' interest and let students focus on beautiful things. Then the author asks the students "What are they made of?" and let the students focus on the topic of wild animals. With the students' deeper attention to the topic, the author will present the pictures of wild animals being killed, so that the students can understand the real situation of wild animals behind beautiful things. By setting up a series of questions for students to think independently and discuss in groups, the students know that human beings harm animals not only for interests, but there are also for the sake of beauty and appetite, so as to be more familiar with the theme of the article. Students can establish a clear reading awareness of this article and clarify their own learning tasks. To better enter the next stage. And the purposes of these activities are: the students preview before class, have a better understanding of the theme of the article, and use videos and pictures to stimulate students' interest in learning. The author uses pictures, videos and questions to inspire students, provide students with background knowledge, it can stimulate students' interest in wildlife protection topics, and promote students to clarify their learning tasks.

b. Pre -reading: Link with reality and predict the text

In this part, the author asks two questions: "Do you know any other wild animals?" And "How about their life now?", lets students pay attention to the familiar wild animals in their daily life to promote students' in-depth understanding of the theme of this class. The author introduces the topic of Tibetan antelope by contacting the students' actual life, so as to realize the prediction of the text. The students have learned about the current situation of wild animals in the introduction link. The author asks the students to contact their actual life and share the information about wild animals that they are familiar with. The author asks again "What the animal is in this picture?" and asks students to introduce the topic of Tibetan antelope by looking at the pictures of the article, and further guide students to associate the theme of the text through the topic, to predict the main content of the article. Students need to predict the structure of the article while looking at the title, to clarify their learning tasks. And the purposes of these activities are: in this part, the author asks the students to introduce the topic of Tibetan antelope by asking questions and discussing. The students begin to pay attention to the topic of wildlife protection. After predicting the text, the students' reasoning ability can be improved, and they can be more familiar with their learning tasks.

c. While-reading: Problem guidance and self-monitoring

This part is the formal reading stage. The author asks students to test whether their prediction content is correct through skimming, and then designs relevant mind map to let students understand the structure of the article through skimming. Students can clearly understand what the author saw, heard and thought in the article from the mind map. For what the author heard, that is, what did the author hear, students can read the article in detail and fill in the form as required. Students need to pay attention to the changes in the number of Tibetan antelopes in the table. The author asks, "What can you learn from this table?" and lets the students exchange their views on the theme of the article, further understand the situation of wild animals and better understand the theme of the article. The author further asks students to pay attention to "Actually, we're trying to save our lives." And discuss and share their views, so that students can express their views freely. At this time, students have a deeper understanding of wildlife protection, and their awareness of wildlife protection has been cultivated. In this process, teachers should prompt and monitor students' speed and time in the process of English reading, cultivate students' awareness of self-monitoring in the process of reading, and prompt and monitor students to think about the author's writing intention and main points in English reading, as well as their independent thinking after reading, which cannot just stay in the reading itself. Through a series of questions, students can improve their awareness of reading self-monitoring, and organize students to tell each other about their different reading methods and skills, such as context guessing reading comprehension, using background cultural knowledge understanding, so as to improve students' self-monitoring and autonomous learning ability. And the purposes of these activities are: in this part, the author makes the students master content framework of the article through the way of mind mapping, guides the students to find the relevant information of the article through the form of tables, skimming, scanning, intensive reading and other reading strategies to improve the students' reading skills, and interprets and integrates the text to make the students deeply understand the main idea of the article. Tips on students' reading time and speed can improve students' self-monitoring ability. Through a series of exercises, students' autonomous learning ability can be improved.

d. post-reading and homework: Thinking after reading and self-regulation

In this part, the author asks students to pay attention to the sentence "If we really want to save the planet, we must change our way of life." Students need to think about this sentence, discuss and

analyze in groups, deeply understand the text, grasp the theme of the article, and share their opinions and how to protect wild animals in real life in combination with relevant situations. At this time, the students have fully mastered the ideological connotation and knowledge framework of the article and have a more in-depth interpretation of the article. The students understand the urgency of protecting wild animals and the importance of harmonious coexistence between man and nature. After the sublimation of emotion, the author looks for the surrounding things to guide the students to transfer and innovate the knowledge they have learned. The author introduces to the students that the accelerated growth of the number of red fire ants in Ganzhou City is caused by the killing of pangolins by humans. The author lets the students call on the people of Ganzhou City to protect pangolins by writing a proposal. The author will give the corresponding proposal format, so that students can complete and display their works in class. Students can monitor their mastery degree through the display of works and remedy their deficiencies in the summary part in time. In this activity, students can use the relevant knowledge within the specific scene and experience to summarize and expand, expand and innovate the meaning of the article, and solve the things around them. Students know how to protect wild animals in real life and what measures to take to protect wild animals in real life. After class homework, students are asked to write a diary, and asks students to imagine returning to the nature reserve mentioned in the article ten years later and describe the situation of Tibetan antelope in the nature reserve ten years later. The number of words is about 80 words. At the end of the class, the author summarizes and evaluates the class and puts forward corresponding rectification suggestions. At the same time, the students are also invited to evaluate and summarize their own autonomous learning process. And the purposes of these activities are in this part, the author guides the students to discuss the central sentence of the article, helps them deeply understand the article and cultivate their awareness of protecting wild animals. By writing a proposal, students understand the importance of protecting wild animals around them, and check whether they master the relevant knowledge of the article by sharing works, promote students' self-regulation through summary and assignment and cultivate students' meta-cognitive ability.

4. Teaching Enlightenment

Applying meta-cognitive strategies to senior high school English reading teaching can effectively improve students' autonomous learning ability, and students can master the corresponding reading strategies^[9]. For applying meta-cognitive strategies to senior high school English reading teaching, the author puts forward the following measures:

a. Students should learn the theoretical knowledge of meta-cognitive strategies and understand their role in language learning. Firstly, teachers should explain the theoretical knowledge of meta-cognitive strategies to students in class and analyse its role in language learning. Secondly, teachers should make students understand the use of meta-cognitive strategies in the process of reading through the form of questionnaire.

b. Teachers are the first object of students' learning. Therefore, in the classroom, teachers should be able to reasonably integrate arrange the classroom procedures scientifically and effectively. Before class, you should first design your own teaching activities. In class, you should often set questions for students to think independently or discuss in groups, such as "How do you understand the first paragraph of the article?". At the end of the class, students should summarize and evaluate their own class and put forward corresponding rectification suggestions. At the same time, students should also evaluate and summarize their own autonomous learning process. These processes can make students learn meta-cognitive knowledge and skills imperceptibly, and gradually cultivate their meta-cognitive ability.

c. Students' self-assessment is a very important part of meta-cognitive strategies. Teachers need to guide students to conduct self-assessment. Students can make an accurate analysis of reading materials and their personal ability through self-assessment after reading. If self-evaluation and other evaluation can be effectively combined, it can more objectively show what students' learning situation is at this stage. The way of English reading can be improved through students' evaluation and it can also cultivate students' good English reading habits. In this part, the work done by the author is not enough and needs to be corrected.

5. Conclusion

To sum up, in senior high school English reading teaching, meta-cognitive strategy is an effective teaching strategy and method. It can greatly stimulate students' interest and passion in English reading. By setting corresponding strategies in the English reading plan based on meta-cognitive strategy, teachers can lead students into the in-depth understanding and analysis of English reading, enable students to perceive the structure and key knowledge points of English text, the students can understand the main idea of the article, grammar, vocabulary and other knowledge, and create favorable conditions for the improvement of their English listening, speaking, writing and translation ability. In this paper, the application of meta-cognitive strategies in senior high school English reading teaching can effectively improve students' autonomous learning ability and enable students to master the corresponding reading strategies. However, the author still has deficiencies in the application of meta-cognitive strategies and needs to explore constantly.

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