

Original Article

A Study on the use of Metacognitive Strategies in English Learning by Senior High School Students under the Background of New Curriculum Standards

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Abstract - Based on the new requirements of metacognitive strategies put forward by English Curriculum Standards for Senior High Schools (2017 Edition) (New Curriculum Standards), this paper comprehensively investigates the use of metacognitive strategies in English learning by 100 senior high school students and explores the differences in the application of different metacognitive strategies. The findings are as follows: (1) Senior high school students have a superficial understanding of metacognitive strategies in English learning, but the usage frequency is on average level; (2) Among metacognitive strategies, senior high school students use self-evaluation strategies more frequently than self-planning strategies and self-monitoring strategies; (3) There is a significant positive correlation between the usage frequency of metacognitive strategies and English achievement of high school students. On this basis, this paper further puts forward some suggestions to improve the scientificness, effectiveness and pertinence of metacognitive strategies of high school students through multiple evaluations.

Keywords - New Curriculum Standards, English learning, Senior high school students in China, Metacognitive strategies, Multiple evaluations.

1. Introduction

1.1. Research Background

With the accelerated development of society, education has attracted a new round of reform upsurge, and English education in China has also set up a new concept, which is guided by the key competencies of English and emphasizes the cultivation of student's language ability, cultural awareness, thinking capacity and learning ability. The New Curriculum Standards require effective use of learning strategies to help students improve the effect and efficiency of English learning and develop their habits and abilities of autonomous learning (Minister of Education of the People's Republic of China, 2020). Autonomous learning must be based on a certain level of psychological development. That is, autonomous learning needs a certain level of self-awareness. Self-awareness is the most basic internal condition of autonomous learning (Pang, 2001). In modern cognitive psychology, it's roughly equivalent to metacognition. That is to say, and metacognitive strategies play an extremely important role in cultivating students' autonomous learning. Metacognitive strategies help students actively plan, monitor, evaluate, reflect and adjust their learning process in language learning, stimulate their autonomous learning behaviors, and improve the efficiency of English learning. At the same time, using metacognitive strategies is also transferable, which helps to promote the development of students' lifelong learning abilities. However, in the real educational

environment, the relationship between most students and English teachers is in a passive state. Students rely on the traditional learning mode taught by teachers and lack the understanding and training of metacognitive strategies. It is difficult for them to form a firm consciousness and ability to learn English independently. Therefore, English teachers should know students' metacognitive strategies application situation and analyze students' use of different metacognitive strategies. Then, teachers can effectively guide students to use appropriate metacognitive strategies to control and manage their learning process, motivate students' autonomous learning consciousness to strengthen English learning ability, and improve students' key competencies of English to implement the new requirements of talent training in New Curriculum Standards.

1.2. Literature Review

1.2.1. Metacognitive Strategies

Before knowing metacognitive strategies, metacognition is a core concept we should understand. Metacognition is a psychology concept proposed by American psychologist J. H. Flavell based on meta-memory in 1976. It refers to learners taking their cognitive system as the cognitive object, including self-awareness, self-control, self-evaluation and self-regulation of the cognitive process (Flavell, 1979). May, Armbruster, Brown, et al. (1983) found that metacognition was an advanced skill ensuring learning activities' success.



Nisbet and Shucksmith (1986) showed in their research on metacognition and learning activities that metacognitive strategies are applied to various learning tasks. O'Malley and Chamot (1987) proposed three categories of learning strategies based on information processing theory: metacognitive, cognitive, and effective strategies. Metacognitive strategies are higher-order executive skills that may entail planning, monitoring, or evaluating the success of a learning activity (Brown et al., 1983). Chamot and Kuper (1989) further studied and found that all learners used strategies. The difference was whether the strategies were flexibly and appropriately dependent on learners' self-evaluation and self-monitoring ability. In other words, metacognitive strategies were dominant in applying learning strategies. Peter Skehan (1998) later pointed out in his research that reflection, monitoring and evaluation were the key factors in the use of learning strategies; Lacking these factors, learners may only acquire some fragmented skills which were not conducive to the overall learning. It further confirms the importance of metacognitive strategies. Metacognitive strategies are gradually proved to be the core component of learning strategies.

1.2.2. Metacognitive Strategies and Foreign Language Teaching

With the study of metacognition in psychology, foreign language researchers gradually realized the importance of metacognition in second language learning. They began to explore how to introduce the theory of metacognition into the practice of language learning.

In 1987, Wenden used metacognition theory for the first time in his research on foreign language teaching. He called for a broader perspective on metacognitive exploration. Metacognition, he argued, was not just people's knowledge of cognitive strategies. It was also the knowledge of Learning emotions such as characteristics, motivation, attitude and Learning style (Wenden & Rubin, 1987). Subsequently, O'Malley, Bialystok, and Skehan et al. conducted studies on metacognitive strategies ability and foreign language level of second language learners and found a great positive impact between them. Other foreign language experts, such as Rubin, Oxford and Nunan, have also conducted in-depth research on metacognitive strategies and confirmed their promoting effect on second language learning. Some scholars even believe that metacognitive strategies can determine the success of second language learning. O'Malley and Chamot (1987) emphasized that metacognitive strategies, as a self-management learning method for students, helped students to continuously control their cognitive processes and were the key to successful learning of a foreign language. Professor Rebecca L. Oxford (1990), the world-renowned expert in English language teaching, divided metacognitive strategies into three categories, including planning strategies (arranging and planning your learning), monitoring strategies (centering your learning) and evaluating strategies (evaluating your learning).

These three metacognitive strategies work together and jointly promote foreign language learning.

In recent years, many scholars have explored and proved the importance of metacognitive strategies in the field of foreign language teaching in China. As early as 1996, when Wen Qiufang investigated the relationship between traditional and non-traditional learning methods and English achievement, she found that one of the variables that played a key role in academic achievement was students' self-management strategies. The core of these strategies was self-reflection and evaluation ability (Wen, 1996); that is, using metacognitive strategies has an important impact on English learning achievement. Wang Wenyu (1998) found in his study of vocabulary learning strategies that the monitoring and management strategies in metacognitive strategies had a significant predictive effect on English achievement and a great effect on memory. Based on the classification of language learning strategies, Zheng Min (2000) pointed out that metacognitive and other learning strategies were in the relationship between superior and subordinate rather than parallel.

Since the beginning of the 21st century, more and more foreign language teaching researchers in China have linked metacognitive strategies with English language skills such as listening, speaking, reading and writing. They started to think about how to cultivate metacognitive strategies. Yang Jianding (2003) conducted a semester of metacognitive strategies training for freshmen in English majors and confirmed the promoting effect of metacognitive strategies on students' listening levels. Ji Kangli (2002) trained first-year college students on metacognitive strategies through English reading course teaching and pointed out that metacognitive strategies gave students positive learning concepts and helped them cultivate independent thinking and autonomous learning abilities. Xiao Wuyun (2011) experimented on 80 college students and found that metacognitive strategies training can effectively improve students' English writing achievement. Other scholars, such as Wang Qiang, Liu Runqing, Feng Lianzi, Liu Chunyan and Lin Qiong, also explored the influence of metacognitive strategies on English vocabulary, writing, listening, speaking and reading.

It is not difficult to find that when the effectiveness of metacognitive strategies in the process of language learning is repeatedly confirmed, the research on metacognitive strategies gradually moves from theory to practice. The related research is becoming more and more abundant. It is worth noting that most existing research selected college students as the main research subjects and was dominated by theoretical research. They investigated the importance of metacognitive strategies, proved the effectiveness of metacognitive strategies on autonomous learning ability, and found the relationship between metacognitive strategies and English learning achievement, etc. However, there is a lack of

deep thinking and analysis about the metacognitive strategies of senior high school students. The research subjects and research contents need to be further developed.

1.3. Research Significance

When students master metacognitive strategies, they can plan, monitor, and evaluate their learning outcomes, which will help them better understand the learning process. Metacognitive strategies are not only of great significance to students' English learning but also conducive to realizing the ultimate goal of education, that is, students' autonomous learning. Therefore, this study selects senior high school students with relatively mature psychological development with better cognition as the research subjects. Based on the survey about students' understanding and usage frequency of metacognitive strategies and the difference in self-planning strategies, self-monitoring strategies and self-evaluation strategies, this paper analyzes the general characteristics and concrete problems of using metacognitive strategies by senior high school students to enrich the existing theoretical research. On this basis, the study explores effective measures to cultivate metacognitive strategies of senior high school students to improve students' ability to use metacognitive strategies, strengthen their awareness of autonomous learning, achieve the goals of key competencies of English, and implement the new requirements of talent training put forward by the New Curriculum Standards.

2. Research Design

2.1. Research Objectives

Considering the psychological mechanism of learners, this study is to know the general characteristics of the use of learners' metacognitive strategies, contrast and analyze the differences in the use of different metacognitive strategies, and put forward effective advice about training metacognitive strategies. Therefore, the study needs to solve the following issues:

- What is the current situation of using metacognitive strategies by senior high school students?
- What are the differences in using different metacognitive strategies among senior high school students?
- How to cultivate the application ability of metacognitive strategies of senior high school students in English learning?

2.2. Research Subjects

The subjects participating in this study are one hundred high school students randomly selected from Guangyuan

High School in Sichuan Province, China.

2.3. Research Instruments

The survey instrument of this study is the "Questionnaire on the Use of Metacognitive Strategies by High School Students in English Learning" in Appendix 1 for details. The questionnaire is designed according to Wen Qiufang (2001)'s metacognitive strategies questionnaire in her essay "Changes and characteristics of English learners' learning motivation" Deng Xiaofang (2002)'s metacognitive strategies questionnaire in her essay "Mastering the development of metacognitive strategies and cultivating autonomous learning ability of high school students", and the new requirements of metacognitive strategies in the New Curriculum Standards.

The questionnaire consists of 30 items divided into two parts: the first is single choice (Item1-10) to know students' basic information and explore students' understanding of metacognitive strategies; The second is scale choice (Item11-30). According to three aspects of metacognitive strategies, this part is divided into three sub-parts, which respectively measure the application of self-planning strategies (Item11-15), self-monitoring strategies (Item16-25) and self-evaluation strategies (Item26-30). It adopts a 5-level Likert scale, and each question has 5 options, including "I never do this", "I rarely do this", "I sometimes do this", "I mostly do this", and "I always do this". The score includes 1 point, 2 points, 3 points, 4 points, and 5 points. The higher the score, the better the application of metacognitive strategies in English learning. In order to ensure the reliability and validity of the questionnaire, 10 students were selected for a pilot survey before the formal distribution of the questionnaire, and the Cronbach Alpha is 0.962, which indicates a high reliability of the items.

2.4. Data Collection

One hundred questionnaires were distributed in this survey, and 100 were recovered. The Cronbach Alpha is 0.960 in Table 1, which is greater than 0.9, indicating that the reliability of the research data is of high quality. The KMO coefficient is 0.918 in Table 2, and the KMO coefficient is greater than 0.8, indicating that the study data are very suitable for information extraction (The validity is very good from the side). Therefore, the survey research can be carried out in the next step of data statistics and analysis.

Table 1. Cronbach Alpha coefficient test

Item	N	Cronbach Alpha coefficient
20	100	0.960

(When Cronbach α coefficient is higher than 0.8, it indicates high reliability; Between 0.7 and 0.8, it indicates good reliability. A coefficient between 0.6 and 0.7 indicates that the reliability is acceptable. If the coefficient is less than 0.6, the reliability is not good.)

Table 2. KMO & Bartlett test

KMO		0.918
Bartlett test	The approximate chi-square	1730.586
	<i>df</i>	190
	<i>p</i>	0.000

(When the KMO coefficient is higher than 0.8, it indicates that the research data are very suitable for information extraction, and the validity is very good from the side; If the coefficient is between 0.7 and 0.8, it indicates that the research data is suitable for information extraction and has good validity from the side. If the coefficient is between 0.6 and 0.7, it indicates that the research data are suitable for information extraction, and the validity is generally reflected from the side. If the coefficient is less than 0.6, the data is unsuitable for extracting information.)

3. Research Results

All the questionnaire data of the study was put into the computer, and conducted frequency, description and correlation analysis of the data by SPSS23.0. The research results include four parts: the basic information of students, the application of self-planning strategies, the application of self-monitoring strategies and the application of self-evaluation strategies. The specific results and analysis are as follows.

3.1. Basic Information of Students

Item1-10 of this questionnaire are for students' basic information, including gender, English scores, learning styles and other questions.

For their preferred way of English learning, most students choose to be taught by teachers, accounting for 68%, cooperative learning accounts for 21%, and autonomous learning accounts for only 11%. It is obvious that students rely on the traditional teaching model dominated by teachers, which indirectly reflects the lack of students' autonomous learning ability and the urgency of cultivating their metacognitive strategies.

As for the understanding of metacognitive strategies, 72% of the students know little or not, which can be seen in the actual teaching activities, the training of metacognitive strategies has not attracted the attention of English teachers, and the training of metacognitive strategies has not been fully implemented.

As for the three sub-strategies for metacognitive strategies, the findings about students' degree of understanding and mastery are as follows.

3.1.1. Self-planning

In terms of self-planning, all the students believe that clear learning objectives are very important for English learning, indicating that high school students have strong learning beliefs. Under this concept, students are more willing to set long-term or short-term learning goals for their learning process.

3.1.2. Self-monitoring

Regarding self-monitoring, most students show an average concentration on English learning, indicating that although high school students have strong learning beliefs, they lack lasting self-control. Some scholars point out that a high metacognition level leads to strong self-control, consciousness, purpose and planning in learning, and is good at choosing suitable learning objectives, approaches and strategies (Liu, 2000). Culturing metacognitive strategies of senior high school students and improving their metacognitive level will help students strengthen self-monitoring in English learning to achieve better English learning effects.

3.1.3. Self-evaluation

Regarding self-evaluation, 58% of the students answered they did not know much about the English curriculum standards and the level of academic quality they are supposed to achieve. It is one of the important reasons that students' self-evaluation is not clear enough. Students do not understand the English curriculum standards. They cannot accurately evaluate their learning behavior in the process of learning, so it is difficult to predict their learning level and learning objectives. Without knowing how to evaluate their learning behavior effectively, students are prone to evaluate their learning ability only by test scores. This, to a great extent, reduces students' self-confidence, increases learning anxiety and affects students' sense of self-efficacy. Contrary to the curriculum idea of the New Curriculum Standards, it is not conducive to the all-around development of students.

3.2. The Application of Self-planning Strategies

Self-planning strategies are an important part of metacognitive strategies, which mainly include setting learning objectives, scanning learning materials, asking questions and analyzing how to complete learning tasks. It is not only a successful start to a learning activity. It also establishes a standard for evaluating learning outcomes. If students can make proper plans before learning activities, they are more likely to adopt different strategies to achieve learning goals.

Item 11-15 of this questionnaire is about the application of self-planning strategies, including "I have long-term and short-term English learning goals and plans.", "My learning objectives are in line with my level and learning needs.", "My study plan is clear, including what to do, why to do it and how

to do it.", "I will put my learning goals and plans into practice.", "Before doing an English learning activity, I will think about why and how to do it more effectively." Detailed data analysis results are shown in Table 3.

Table 3. Results of the questionnaire (Self-planning)

Item	M	SD	P (Pearson correlative analysis)				
			English Achievement	Metacognitive Strategies	Learning Objectives	Learning Mindfulness	Curriculum Standards
Q11	3.180	0.914	0.334**	0.392**	0.159	0.504**	0.417**
Q12	3.340	0.997	0.355**	0.433**	0.118	0.322**	0.444**
Q13	3.030	1.000	0.229*	0.440**	0.279**	0.461**	0.327**
Q14	3.090	0.854	0.169	0.409**	0.110	0.412**	0.390**
Q15	3.130	1.060	0.374**	0.396**	0.122	0.434**	0.443**

* p<0.05 ** p<0.01

According to the mean and standard deviation results, the overall average score of self-planning strategies is 3.154. According to the theory of Oxford and Burry Stock, the usage frequency of self-planning strategies in students' daily English learning is average ($2.5 \leq M \leq 3.4$).

The highest average score in Q12 (M=3.340, S=0.997) means that students believe the learning goals they set align with their own English proficiency and learning needs. Q13 receives the lowest average score (M=3.030, S=1.000), which means that although students make study plans, they rarely consider what to do, why to do it and how to do it. The average scores of Q14 and Q15 are also low, reflecting that students have a plan for self-planning but lack practical action. In other words, many students fail to complete their study plans for various reasons.

According to the correlation analysis results, self-planning strategies significantly positively correlate with a learning focus, metacognitive strategies, knowledge of curriculum standards, and academic achievement. This paper

selects the most closely related issues for in-depth analysis and explanation. The significant correlation between Q11 and learning mindfulness (P=0.504**) indicates that setting up long-term and short-term learning goals and plans positively impacts English learning focus. The significant correlation between Q12 and curriculum standards (P=0.444**) proves that students who know English curriculum standards are more likely to establish permissible learning goals that meet their level and learning needs.

3.3. The Application of Self-monitoring Strategies

Monitoring strategies include tracking attention, conducting self-questioning and monitoring speed and time in learning activities. Monitoring strategies make students aware of problems in their thinking and understanding during the learning process. Once they identify their problems, they take action to correct their behavior. Studies have shown that conscious monitoring activity increases the total cognitive load and positively affects the transfer of learning (Gong, 2008).

Table 4. Results of the questionnaire (Self-monitoring)

Item	M	SD	P (Pearson correlative analysis)				
			English Achievement	Metacognitive Strategies	Learning Objectives	Learning Mindfulness	Curriculum Standards
Q16	3.03	0.926	0.190	0.348**	0.059	0.465**	0.365**
Q17	3.31	0.895	0.355**	0.532**	0.024	0.504**	0.620**
Q18	3.01	0.859	0.272**	0.456**	0.027	0.438**	0.455**
Q19	3.12	0.856	0.292**	0.340**	0.108	0.311**	0.361**
Q20	3.12	0.977	0.328**	0.513**	0.209*	0.490**	0.485**
Q21	3.1	0.980	0.403**	0.422**	0.119	0.464**	0.425**
Q22	3.43	0.967	0.298**	0.496**	0.117	0.429**	0.542**
Q23	3.58	1.027	0.253*	0.387**	0.253*	0.345**	0.425**
Q24	3.3	0.937	0.220*	0.441**	0.223*	0.404**	0.491**
Q25	3.02	0.964	0.285**	0.390**	0.018	0.402**	0.469**

* p<0.05 ** p<0.01

Table 5. Results of the questionnaire (Self-evaluation)

Item	M	SD	P (Pearson correlative analysis)				
			English Achievement	Metacognitive Strategies	Learning Objectives	Learning Mindfulness	Curriculum Standards
Q26	3.16	0.961	0.232*	0.445**	0.089	0.359**	0.338**
Q27	3.25	0.936	0.243*	0.410**	-0.004	0.340**	0.480**
Q28	3.46	0.892	0.344**	0.472**	0.251*	0.438**	0.474**
Q29	3.09	1.016	0.073	0.202*	0.106	0.271**	0.209*
Q30	3.32	0.886	0.148	0.491**	0.066	0.335**	0.510**

* p<0.05 ** p<0.01

According to the mean and standard deviation results, the overall average score of self-monitoring strategies is 3.202. According to the theory of Oxford and Burry Stock, the usage frequency of self-monitoring strategies in students' daily English learning is on an average level ($2.5 \leq M \leq 3.4$).

The high scores of Q23(M=3.58, S=1.027) and Q24(M=3.3, S=0.937) reflect that most senior high school students have the concept of autonomous learning and know how to use reference books, dictionaries, computer networks, mobile phone software and other learning resources to broaden the channels of English learning. The lowest score in Q18 (M=3.01, S=0.859) indicates that students have difficulty properly planning, allocating, utilizing and managing their time. The score of Q16 is also low, indicating that the habit of active review and preview of high school students has not reached expectations. The results of Q18 also reflect the characteristics of poor self-control of students. Q25 reflects that some students' English learning still stays on the study of written knowledge, rarely use the opportunity of using English in and out of class for oral English communication, and fails to put what they learn into practice. However, pragmatic competence is the most important purpose of English learning. In the face of the situation, how to create a language environment, increase students' oral practice opportunities, and improve the enthusiasm for oral communication, need English teachers to think deeply about the teaching focus and difficulty.

According to the results of correlation analysis, the use of self-monitoring strategies has a significant positive correlation with a learning focus, metacognitive strategies, the degree of understanding of curriculum standards, and academic achievement. This paper selects the most closely related issues for in-depth analysis and explanation. The significant correlation between Q17 and curriculum standards (P=0.620**) indicates that students who have a clearer understanding of the academic quality they should achieve are more active in self-monitoring during the learning process, that is, they can consciously strengthen their focus on learning activities and know how to listen carefully and think positively than others.

3.4. The Application of Self-evaluation Strategies

The evaluation policy refers to the behavior after the monitoring policy. The learner should adjust and revise according to the monitoring results and then reflect. In practice, evaluation strategies are always accompanied by monitoring strategies.

Item 26-30 of this questionnaire are about the application of self-planning strategies, including "I will evaluate myself according to my learning objectives and plans.", "I will regularly reflect on and evaluate my gains, progress and shortcomings in English learning.", "I will listen to my English teacher's comments on me and summarize myself according to the teacher's suggestions.", "I will pay attention to my classmates' evaluation of me, and the words of my peers will affect my evaluation of myself.", "I will accept the evaluation of my parents and family and reflect on myself through their guidance. Detailed data analysis results are shown in Table 5.

According to the mean and standard deviation results, the overall average score of self-evaluation strategies is 3.256. According to the theory of Oxford and Burry Stock, the usage frequency of self-evaluation strategies in students' daily English learning is average ($2.5 \leq M \leq 3.4$).

The score of Q28 is the highest (M=3.46, S=0.892), indicating that the students attached high importance to the evaluation of English teachers, similar to that of American psychologists Rosenthal and L. The Pygmalion effect found by Jacobson is consistent, indicating that students pay attention to the verbal instruction of English teachers. It indirectly explains why most students like the learning style taught by the teacher. The score of Q29 is the lowest (M=3.09, S=1.016), which reflects that the subjects did not pay much attention to peer evaluation but paid more attention to teachers' and parents' self-evaluation.

According to the results of correlation analysis, the use of self-evaluation strategies has a significant positive correlation with a learning focus, knowledge of metacognitive strategies and curriculum standards. This paper selects the most closely related issues for in-depth analysis and explanation. Q28 significantly correlates with all

the items, indicating that students are more willing to listen to English teachers' comments and suggestions.

It is worth noting that among these questions, items 11 have a significant positive correlation with English achievement. Among them, the correlation coefficients of item 21 ($P=0.403^{**}$) and item 15 ($P=0.374^{**}$) are significantly higher than those of other items, indicating that students with higher English levels will think more deeply in the early and later stages of learning activities, summarize learning methods suitable for them and enhance the efficiency and effect of the learning process. To some extent, it verifies the views of Wen Qiufang (1996) that metacognitive strategies are closely related to English proficiency, and the difference in metacognitive strategies is an important reason attributed to the difference in English learning proficiency.

4. Discussion

The results show that applying metacognitive strategies is at an average level. Still, the usage frequency of self-evaluation strategies is higher than that of self-planning and self-monitoring strategies. Through self-evaluation, they realize their strengths and weaknesses in English learning and then think about adjusting their plan, attitude and behaviors to optimize self-planning and self-monitoring. Therefore, giving full play to the positive role of self-evaluation can effectively improve metacognitive strategies. As an important way to improve students' self-evaluation ability, multiple evaluations mean that the evaluation method of practice teaching has changed from a single test to a more diversified evaluation mode of evaluation contents, subjects and evaluation methods (Luo, 2022). Therefore, this paper puts forward some suggestions for improving the application of metacognitive strategies from the three aspects of multiple evaluation contents, multiple evaluation subjects and multiple evaluation methods.

4.1. Enhance the Scientificness of Self-planning by Multiple Evaluation Contents

The correlation analysis shows that the use of metacognitive strategies is significantly positively correlated with the level of understanding of English curriculum standards. In other words, when students are more familiar with curriculum standards and the level of academic quality they are expected to achieve, they use metacognitive strategies more frequently. The New Curriculum Standards sets clear learning objectives and specific behaviors for senior high school students. Taking the specific academic quality standards of the New Curriculum Standards as the evaluation content and evaluating students' learning behaviors rather than their academic achievement in various aspects can effectively improve the scientific nature of students' self-planning. In traditional evaluation, students often think about how to improve test scores. However, the famous American psychologist Gardner (1984) pointed out that

everyone has a variety of intelligence. Therefore, exam results should not be used as the only evaluation content in English learning. It is really beneficial to evaluate students' intelligence from multiple angles, with a comprehensive and developmental perspective (Yi, 2011). In the multiple evaluations based on the New Curriculum Standards, students will think more about their behaviors in the learning process, which helps them to understand the core competencies of English subject clearly, and effectively make more comprehensive plans to monitor their learning behaviors and the learning process of scientific evaluation. The research shows that the students have a superficial understanding of English curriculum standards. Taking the specific quality requirements of the New Curriculum Standards as the evaluation contents not only helps students' growth but also promotes students and English teachers to get familiar with the New Curriculum Standards and to implement the new requirements of talent training in the new era of education.

4.2. Improve the Effectiveness of Self-monitoring by Multiple Evaluation Subjects

Research results show that many students can take the initiative to make self-planning but lack practical action ability, which cannot ensure the quality and quantity of their study plan. It indicates that students' self-monitoring strategies in their learning activities do not play their due role, or students fail to use self-monitoring strategies effectively. Training monitoring strategies can improve the ability of students to solve problems. However, to improve students' effectiveness of self-monitoring, they can rely on themselves and the joint supervision of other subjects, such as parents, classmates, teachers, etc. Patton ((1986) put forward the concept of "multiple subjects participation" in the process of studying new evaluation theories and models. In the book *Effective Student Evaluation*, Weber (1999) also clearly pointed out that students themselves, peers, teachers and parents should become active participants and important evaluation resources in evaluation. Multiple evaluations encourage participants in students' learning activities to monitor the learning process jointly and evaluate the learning results. The participation of multiple subjects is conducive to stimulating students' comprehensive learning motivation. Students can find and solve problems more quickly by thinking about the evaluation of different subjects. And when students evaluate others as evaluation subjects, their self-evaluation ability is also improved, which motivates students to think about their learning process from another angle to find advantages and disadvantages more easily and summarize learning methods more effectively in the learning process.

4.3. Deepen the Pertinence of Self-evaluation by Multiple Evaluation Methods

Through the research and analysis, it can be found that good English learners will be more active in self-evaluation before and after learning activities. High-level learners often

use diagnostic and summative evaluation to evaluate their learning performance in different learning stages, making their evaluation results more targeted to lay a solid foundation for planning and monitoring. American educator Bloom (1981) carried out a practical study of multiple evaluations in the field of education and put forward diagnostic, formative, and summative evaluations according to the teaching stage. Their positive effects on education and teaching have been repeatedly verified. Many studies have discussed the importance of the combination of formative and summative evaluation (Yu, 2008). Therefore, English teachers should guide students to conduct self-evaluation in different periods to help them better know their current learning level and predict their future learning ability. Students can more accurately evaluate their learning behavior and result through long-term reflection. It should be noted that the diagnostic and summative evaluations here do not refer to the evaluation given by English teachers but to the students' evaluation by themselves. This is helpful for students to track their learning progress actively, enhance their subjective initiative, and cultivate their autonomous learning ability.

In the actual teaching activities, English teachers need to guide students to think deeply about how to achieve their learning plan, which is conducive to their future autonomous learning, increase students' chances to learn English independently to reduce teachers' dependence and exercise their pragmatic ability and optimize English evaluation methods to change students' learning attitudes and roles. Under the promotion of multiple evaluations, learners will use self-planning, self-monitoring, and self-evaluation strategies more effectively so that metacognitive strategies can be fully applied. Through long-term cultivation of metacognitive strategies, students will gradually transform into autonomous learners and possess the basic ability of core literacy and the intrinsic quality of lifelong learning.

5. Conclusion

Through the investigation of the use of metacognitive strategies by senior high school students, it can be found that although high school students are not familiar with metacognitive strategies in English learning, they all use metacognitive strategies in learning. The usage frequency of different metacognitive strategies varies. Among them, the frequency of self-evaluation strategies is higher than that of self-planning and self-monitoring strategies. In view of the prominent role of evaluation, this paper combines the New Curriculum Standards, multiple evaluation contents, multiple evaluation subjects and multiple evaluation methods to put forward some suggestions for cultivating metacognitive strategies for senior high school students. In addition, the usage frequency of metacognitive strategies of senior high school students is significantly positively correlated with their English achievement, which further confirms the positive

effect of metacognitive strategies on English learning. However, due to the limited span of time and space, this study also has some limitations in the investigation process, such as the small number of research subjects and the single research method, which needs to be improved in future research.

Appendix 1

A Questionnaire on Metacognitive Strategies in English Learning for High School Students

Dear students,

This is a questionnaire about high school students' metacognitive strategies (self-planning, self-monitoring, self-evaluation) in English learning. This questionnaire aims to understand the current situation on using metacognitive strategies in English learning among senior high school students and to provide suggestions for students, teachers and relevant educators. The survey was conducted anonymously. There is no right or wrong answer. The results are for research purposes only. It won't have an adverse effect on you. Please answer according to your true situation without any scruples. All information you fill in will be treated in strict confidence. Thank you for your support in this investigation.

Basic Information

1. Your gender [single choice]
A. Male B. Female
- 2 Your grade [single choice]
A. Grade One B. Grade Two C. Grade Three
3. Your daily English score (full score of 150) [Single choice]
A. 0 to 30 points B. 30 to 60 points C. 60 to 90 points
D.90 to120 points E. 120 to150 points
4. What is your preferred way of learning English?
A. Teaching B. Cooperation C. Independent study
5. The teaching style of your English teacher [one choice]
A. Authoritarian B. Liberal C. Democratic
6. The parenting style of your parents and family [single choice]
A. Authoritarian B. Liberal C. Democratic
7. How much do you know about metacognitive strategies (self-planning, self-monitoring, self-evaluation) [single choice]
A. No B. A little C. Well D. Very well
8. In terms of self-planning, do you think clear learning objectives are important for English learning [single choice]
A. Not important B. Somewhat important
C. Important D. Very important
9. In terms of self-monitoring, how focused you think you are on English learning [single choice]
A. Low B. Average C. High D. Very high
10. In terms of self-evaluation, how well do you know the English curriculum standards and the level of academic qualifications required for yourself [single choice]
A. No B. A little C. Well D. Very well

Metacognitive Strategies (Please choose one of the five options that best conform to your real thoughts and actual behaviors.)

Self-planning Strategies (11-15)

11. I have long-term and short-term English learning goals and plans. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes
D.I do this mostly E.I do this all the time
12. My learning objectives align with my level and learning needs. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes
D.I do this mostly E.I do this all the time
13. My study plan is clear, including what to do, why, and how to do it. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
14. I will put my learning goals and plans into practice. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
15. Before doing an English learning activity, I will think about why and how to do it more effectively. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time

Self-monitoring Strategies (16-25)

16. I can take the initiative to preview and review according to the learning content and key points. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
17. I can consciously strengthen my concentration, listen carefully and think positively in my study. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
18. I am able to plan, allocate, utilize and manage my time in a reasonable way and have good self-control. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
19. I will organize and summarize what I have learned. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
20. I will carry out and check my learning plan and adjust my goals and plans according to needs. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
21. I will conduct phased reflection, analyze my progress and shortcomings, and summarize the learning methods suitable for me. [scaled-response question]

- A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
22. When I encounter difficulties in English learning, I will take the initiative to solve them and ask others for advice. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
23. I will choose and use tools such as reference books and dictionaries to assist my English study. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
24. I will learn English through the library, computer network, mobile phone software and other ways to expand the learning resources. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
25. I will use English in and out of class to learn and communicate. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time

Self-evaluation Strategies (26-30)

26. I will evaluate myself according to my learning objectives and plans. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
27. I will regularly reflect on and evaluate my gains, progress and shortcomings in English learning. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
28. I will listen to my English teacher's comments on me and summarize myself according to the teacher's suggestions. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
29. I will pay attention to my classmates' evaluations of me, and the words of my peers will affect my evaluation of myself. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time
30. I will accept the evaluation of my parents and family and reflect on myself through their guidance. [scaled-response question]
A.I never do this B.I seldom do this C.I do this sometimes,
D.I does this mostly E.I do this all the time

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