English Learning Self-efficacy and Metacognitive Strategies of Non-English Majors in China

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Abstract: English self-efficacy is an important psychological factor that greatly influences non-English major undergraduates to study English. However, it is not common to develop their English self-efficacy from the perspective of metacognitive strategies. This paper explored the correlation between English self-efficacy and metacognitive strategy in order to make non-English major undergraduates become more proactive in English learning and promote their English learning ability. After the questionnaire survey and statistical analysis, the result indicated that English self-efficacy and metacognitive strategy of non-English major undergraduates are generally in the middle level. And there is a positive and strong correlation between English self-efficacy and metacognitive strategy. According to analysis of the result, the author attempts to put forward some advice and an enhancement program to improve students' English self-efficacy and promote their awareness of metacognitive strategy.

1. Introduction

With the development of economic globalization, English has become an international lingua franca and plays an indispensable role in international communication and cooperation. More and more attention has been paid to English learning from all sectors of society. However, how to improve the effect of English learning has always been a difficult problem for English learners and language educators. Since the 1970s, scholars at home and abroad have conducted a lot of research on reading strategies, listening strategies, writing strategies and other specific learning strategies, but self-efficacy in English learning has not paid enough attention to the student strategies of non-English majors. Metacognitive strategies are an indispensable part of language learning strategies and play a crucial role in students' English learning. However, the effective use of metacognitive strategies is influenced by many different factors, among which the self-efficacy of language learners cannot be ignored. Therefore, the study of learning self-efficacy is a more prospective topic. This study investigated the overall situation of non-English major college students' self-efficacy and metacognitive strategies in English learning, as well as the correlation between the two and the degree of correlation. Through this research, we hope to help non-English majors to find effective English learning strategies and enhance their confidence in English learning.

2. Review and Literature

2.1. English Learning Self-efficacy

In 1977, educational psychologist Bandura proposed the important concept of self-efficacy [1]. A new conceptual interpretation was made after the 1980s, that is, the belief and expectation of an individual's behavior organization and execution ability to achieve his specific behavioral goals, which not only involves his own skills, but also an estimation of the skills he has mastered [2]. This concept represents an individual's confidence or expectation in achieving his or her behavioral goals, that is, a subjective judgment and estimation of his or her own behavior [3]. Self-efficacy in English learning is students' confidence or belief in their ability to achieve their English learning goals and obtain satisfactory English level, and it is the concrete embodiment of students' ability confidence in English learning related activities [4]. The specific manifestation of this behavior is the degree of confidence or belief of English learners in the skills and abilities they have mastered in the process of completing English learning tasks and goals, which is a subjective recognition and evaluation of English learners. In this paper, the subjective cognition and evaluation cover the English learners' sense of confidence in the goal, the sense of judgment of behavioral ability and the sense of judgment of behavioral processing [5].

2.2. Metacognitive Strategies

Metacognitive strategy is a concrete approach and means for learners to put their metacognitive beliefs into practice. Later metacognitive strategies were divided into planning strategies, monitoring strategies, and evaluation strategies [6]. On the basis of metacognitive strategies, Wen Qiu fang puts forward the concept of management strategies that manage both cognitive and affective processes, and divides them into goal setting, plan making, strategy selection, self-monitoring, self-evaluation and self-adjustment [7]. Wen and Johnson (1997) investigated the use of learning strategies by English majors in colleges and universities, and found that management strategies are indirectly related to performance. These empirical studies mainly focus on the relationship between metacognitive beliefs and strategies or metacognitive strategies and learning performance. However, the relationship between metacognitive belief and strategy and academic achievement is still lacking of empirical test [8].

3. Methods

By means of questionnaire survey and data analysis, the study analyzed the self-efficacy of the participants with different English academic achievements. Whether there is any difference between competence and autonomous English learning ability, self-efficacy and metacognitive strategies are tested. Besides, the paper will verify whether there is a causal relationship between the two factors.

3.1. Participants

A total of 423 non-English majors in the first and second years of Anhui Xinhua University were randomly selected to participate in the survey. A total of 396 valid questionnaires were collected by anonymous method. The subjects majored in arts and sciences. Specific majors are news communication, information engineering, electrical engineering, financial management and so on. Among them, 109 were boys and 130 were girls. The subjects came from different places of origin, such as urban and rural areas, and all had taken the National College English Test Band 4.

3.2. Instruments

The questionnaire of Non-English Major Students' Self-efficacy in English Learning (20 items) and English Learning Metacognitive Strategy (20 items) were adopted as research tools. In order to make it more convenient for the subjects to understand and ensure accuracy, all questions in both questionnaires are accompanied by Chinese explanations.

3.3. Procedure

As was revealed in the result of pilot test, all of the Cronbach Alpha were beyond 0.7, which suggested that the questionnaires were reliable and stable in consistency. Data was collected through Wen Juanxing-an online APP for questionnaires. SPSS Statistics 22 was used to analyze the following data: 1) T test was used to detect whether there were differences in self-efficacy and autonomous learning ability of students with different English academic achievements; 2) Correlation analysis was used to detect the correlation between self-efficacy and metacognitive learning strategies and their several dimensions; 3) Using linear regression analysis to detect the influence of efficacy on metacognitive learning.

4. Results and Discussions

According to the correlation analysis in Table 1, metacognitive strategies are aligned with the first dimension of self-efficacy in English learning. The correlation coefficient of target confidence is 0.862, and the significance coefficient is 0.000, which indicates that metacognitive strategies are significantly correlated with target confidence. Obviously, there is a strong relationship between metacognitive strategies and confidence in goals. This means that the frequency of metacognitive strategies used by non-English major college students will increase, and their level of goal confidence will also increase. As a result, there is a strong correlation between metacognitive strategies and the perception of behavioral competence. This indicates that the higher the level of metacognitive strategies used by non-English majors, the higher their level of judgment on behavioral competence.

Table 1: Correlation analysis between metacognitive strategies and self-efficacy in English learning and its various dimensions

		Goal Confidence	Behavioral Ability	Behavioral processing	self-efficacy
Metacognitive strategies	Pearson correlation.	.862	.875	.862	.903
	Significance (bilateral)	.000	.000	.000	.000
	N	285		285	285

The correlation coefficient between metacognitive strategies and the third dimension of self-efficacy in English learning is 0.862, which suggests that metacognitive strategies are significantly related to the perception of behavior processing. Therefore, there is a strong relationship between metacognitive strategies and the sense of judgment on behavior processing. This reflects that non-English major college students will increase the frequency of using metacognitive strategies, and their level of judgment on behavior processing will also be improved.

It can be seen from the observation data that although metacognitive strategies are significantly positively correlated with the self-efficacy in English learning and have reached the degree of strong relationship, the correlation coefficient between metacognitive strategies and judgment of

behavioral ability is relatively large. It is apparent that the correlation between metacognitive strategies and judgment of behavioral ability is slightly higher than that between the other two aspects.

Researches showed that there was a significant positive correlation between perceived academic self-efficacy and learning strategies, indicating that students with high self-efficacy could use learning strategies more effectively [9-10]. Self-efficacy mainly influenced learning strategies through three aspects: influencing students' use of strategies they already had; influencing students' choice of different strategies; affecting students' motivation of using strategies [11-12]. There was a two-way relationship between self-efficacy and learning strategies, and the selection and application of learning strategies by students also affected their judgment of their own efficacy. In addition to general perceived academic self-efficacy, there was a positive correlation between specific self-efficacy and learning strategies such as speaking, listening, reading and writing [13-15].

4.1. Correlation Analysis between Goal Confidence and Metacognitive Strategies

Table 2: Correlation Analysis between Goal Confidence and Three Kinds of Strategies

		Planning Policy	Monitoring Policy	Evaluation policy
Sense of Confidence in Goals	Pearson correlation.	790	859	825
	Significance (bilateral)	000	000	000
	N	285	285	285

The table 2 statistics implies that the confidence of the goal is significantly related to the planning strategy. Meanwhile, it can be inferred that when the level of goal confidence of non-English major college students is enhanced, they will use planning strategies frequently. The correlation coefficient between the confidence toward the target and the monitoring strategy is 0.859, indicating that the confidence toward the target is significantly related to the monitoring strategy. Undoubtedly, it can be found that target confidence and monitoring strategy are strongly connected each other. This means that the higher the level of non-English major college students' confidence in the goal, the higher their use of monitoring strategies. Moreover, the confidence of the goal and the evaluation strategy are also closely related.

In this research, it was found out that students' English learning self-efficacy is at a medium level and has a significant positive correlation with metacognitive strategies. As a result, it is necessary for both teachers and students to increase their awareness of self-efficacy in English learning and improve it. Based on research findings of this study, teachers and students can improve students' English learning self-efficacy from the important factors in which students have low self-efficacy. Some pedagogical implications are listed as follows:

For English teachers, it is important to improve students' confidence in English learning. Teachers can set appropriate English learning goals according to students' English proficiency to create more opportunities for success [16].

4.2. Correlation Analysis between the Sense of Judgment of Behavioral Ability and Metacognitive Strategies

According to the correlation analysis in Table 3, the second dimension of self-efficacy in English learning has a significant impact on behavioral competence. The correlation coefficient between the sense of judgment and the planning strategy is 0.799, showing that the sense of judgment of

behavioral ability is significantly connected to the planning strategy. Meanwhile, r=0.799 is greater than 0.5 but less than 0.8, so there is a medium correlation between the sense of judgment on behavioral ability and planning strategy. This reflects that when non-English major college students improve their sense of behavioral competence, their frequency of using planning strategies will also increase. The correlation coefficient of 0.860 indicates that the sense of judgment of behavioral ability is significantly correlated with the monitoring strategy. What's more, the perception of behavioral ability are strongly related with the monitoring strategy, so the higher the level of non-English major college students' judgment of behavioral ability, the higher the level of their use of monitoring strategies. From the above table, it can be seen that when non-English major college students improve their judgment level of behavioral competence, their frequency of using assessment strategies will also increase.

Table 3: Correlation analysis between judgment of behavioral ability and three kinds of strategies

		Planning Policy	Monitoring Policy	Evaluation policy
Sense of Judgment of Behavioral Ability	Pearson correlation.	799	860	851
	Significance (bilateral)	000	000	000
	N	285	285	285

Self-efficacy was defined as an individual's expectation of whether he or she is capable of operating a behavior in a specific context, which is completely different from an individual's expectation of the outcome of the behavior. It can be seen that self-efficacy can be deepened into a value system [17]. It is a belief that can help individuals produce strong self-actions, actively control and regulate individual behaviors, and produce valuable results. According to a large number of studies, the formation of individual self-efficacy is based on four sources of information: the experience of completing tasks, vicarious experience, verbal persuasion and emotional physiological state. The experience of accomplishing a task is the behavioral experience of the individual, which is direct and personally experienced in the acquisition and operation of the behavior. The experience of continuous success can improve an individual's self-efficacy, and repeated failures can reduce an individual's self-efficacy. But Bandura also points out that after a strong sense of self-efficacy is developed through persistent effort, occasional failures don't have a big impact on an individual's judgment of efficacy.

4.3. Correlation Analysis between Sense of Judgment in Behavior Processing and Metacognitive Strategies

Table 4: Correlation analysis between the sense of judgment on behavior processing and the three types of strategies

		Planning Policy	Monitoring Policy	Evaluation policy
Sense of Judgment of Behavioral Processing	Pearson correlation.	800	857	821
	Significance (bilateral)	000	000	000
	N	285	285	285

According to the correlation analysis in Table 4, it can be seen that the third dimension of self-efficacy in English learning has a significant impact on behavior processing. At the same time,

r=0.800 is equal to 0.8 but less than 0.95, so there is a strong correlation between the sense of judgment on behavior processing and the planning strategy. This means that when non-English majors improve their judgment of behavior processing, their frequency of using planning strategies will also increase. The correlation coefficient between the sense of judgment on behavior processing and the monitoring strategy is 0.857, which indicates that the sense of judgment on behavior processing is significantly related to the monitoring strategy. Thus, there is a strong correlation between the sense of judgment on behavior processing and the monitoring strategy. This indicates that the higher the level of non-English major college students in the sense of judgment of behavior processing, the higher their level of use of monitoring strategies. This reflects that when non-English major college students improve their sense of judgment on behavior processing, their frequency of using assessment strategies will also increase. In addition, the correlation coefficient between the judgment of behavior processing and the monitoring strategy is relatively large.

Among the influencing factors of college English learning efficacy, most students think that the previous successful experience is the first. This coincides with Bandura's point of view. Successful experiences can increase an individual's sense of self-efficacy, while unsuccessful experiences can decrease the sense of self-efficacy [18]. This shows that teachers should enrich students' successful experience. Pleasant English learning experience will arouse students' stronger learning interest and confidence, and exert their learning subjectivity to a greater extent. And the positive influence of the classmates are likely to stimulate the students' learning competition consciousness. The teacher's earnest guidance helps students relieve tension and impatience. In addition, the encouragement of classmates, parents and teachers plays a very important role in the face of difficulties such as remembering words and being afraid to speak English [19]. Obviously, according to Bandura's ternary interaction theory, students' learning behavior is the result of the cross-interaction of the three factors of the subject (students, behavior and environment), and the environmental factors cannot be ignored. For language learning, the creation and restoration of language environment are very necessary. For non-native language learners, the English learning environment directly affects students' learning interest and confidence, that is to say, it affects students' subsequent learning behavior

5. Conclusion

This paper aims to explore the overall situation of their English learning self-efficacy and metacognitive strategies, as well as the correlation between the two and the degree of correlation. After careful and in-depth analysis of the collected data, the following results were obtained:

(1) It is found that non-English major college students are at a moderate level in self-efficacy in three aspects: confidence in goals, judgment of behavioral ability and judgment of behavioral processing, among which self-efficacy in English learning goals is the lowest. They are very poor at setting reasonable learning goals. (2) Non-English major college students' application level of planning strategy, monitoring strategy and evaluation strategy in their English learning is also in the medium range, and their application level of planning strategy is the lowest. This result reflects the necessity of cultivating and training non-English major college students' self-planning, monitoring and evaluating learning habits. (3) There is a significant positive correlation between the overall efficacy and its three dimensions and the overall metacognitive strategies and their categories.

Therefore, teachers should guide students to set reasonable learning goals. In addition, it is important to attach importance to the cultivation of students' metacognitive consciousness in the process of English teaching [20]. In this regard, students can realize the application of this strategy in the specific learning process and they can understand the characteristics and functions of metacognitive strategies, and thus provide effective guidance and training for non-English major

college students to use metacognitive strategies in the English learning process.

Acknowledgements

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