The Investigation of the English Grammar Learning Strategy of High School Students in China

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Abstract—The article conducts a questionnaire survey and interview on the students in a high school in Hubei Province of China. The result indicates that the level of high school students' grammar learning strategy is low. Among the three factors of grammar learning strategy, the cognitive strategy ranks first, then the meta-cognitive strategy and social-affective strategy. And the grammar learning strategy is not correlated with English grammar achievement. The research result demonstrates that there is great difference between female students and male students in English grammar strategy using and grammar score. This outcome is conducive to knowing better about high school students' condition of grammar learning strategy using, and supplying some reference for enhancing the high school English teaching efficiency.

Index Terms—high school students, grammar, cognitive strategy, meta-cognitive strategy, social-affective strategy

I. INTRODUCTION

Since the 1970s, the research focus in the second language acquisition has shifted from teachers' teaching to students' learning in order to develop students' learning ability, which is vital for students' English study. The language learning strategy refers to a series of methods or behaviors used by learners to understand, learn, and memorize language information (O'Malley & Chamot, 1990). Since 1970s, with the emphasis shift to applied linguistics from "teaching" to "learning", the learning strategy has aroused widespread concern of linguistic experts (Flavel, 1971; Aek Phakiti, 2003; Wen, 2004; Pei, 2014; Gao, 2017; Huang, 2017). The domestic and foreign language researchers have carried out a lot of research in different aspects to study the language learning strategy from the classification, factors, the relationship between the learning strategy and learning achievement, learning strategy training, some language skill teaching such as reading, writing, listening, vocabulary, and come to agreement, namely, the language learning strategy is an important means for students to learn (Rubin, 1987; O'Malley & Chamot, 1990; Gong, 2008; Chang, 2012).

It is well known that grammar is one of the three elements that make up the language system, and it is also a difficult point in the English teaching. For a long time, English grammar has been a difficult and hot issue in English teaching and has been a headache for many teachers and learners of English. In the high school stage, English teaching with grammar as the key link takes up a great deal of time for teachers and students, but the effect is not obvious. The grammar studies in the past focused more on the teaching of teachers, but not much on the learners.

Domestic and foreign experts and scholars on the English grammar learning strategy also do some research, which mainly focuses on the grammar learning achievement, language background, educational background, teaching mode, gender, and factors (Glu, 2005; Pawlak, 2012; Zhang, 2006; Wang, 2013; Liu, 2017; Wang, 2017). Some empirical studies show that the overall awareness of high school students using of grammar learning strategy is not strong; The English grammar strategy and English learning achievement are positively related; The frequency that female students use grammar strategies is significantly higher than that of male students (Chen, 2006; Pei, 2014).

In short, the current study of English grammar learning strategy is relatively scarce, and the subjects are usually English majors or graduate students in key universities, while the study of high school students is particularly deficient. At present, the English teaching for high school students is very important and decides students' future career. This study intends to study the condition of high school students' grammar learning strategy using based on characteristics of high school students, to seek a deep knowledge of the English grammar learning strategy, and aims to explore a reliable path to improve the high school English teaching quality.

II. RESEARCH METHODS

A. Subjects

The subjects of this study are Grade One students in a high school in Hubei province of China. A total of 176 students, including 87 female students and 89 male students, are from three classes of similar English level.

B. Research Instrument

In the study, questionnaires, test papers and interviews are used to obtain data. The questionnaire employs "the questionnaire of English grammar learning strategy for high school students" (The questionnaire is adapted from Cheng's (2002) questionnaire of English grammar learning strategy). The questionnaire uses Likert five scoring system (Oxford, 1990) which argues that if the mean is higher than 3.5, it shows that the strategy is used more frequently; If the mean is between 2.5 and 3.4, students sometimes use this strategy; If the mean is less than 2.4, it means that the strategy is rarely used.). The questionnaire consists of 50 items, including three factors: cognitive strategies, meta-cognitive strategies, social/affective strategies (based on dimensions of learning strategies by O'Malley & Chamot (1990). The author tested the reliability and validity of the questionnaire and made the item analysis. The reliability of the questionnaire is 0.945. The questionnaire was issued and retrieved in the third week of class in the autumn semester of 2016, and the actual recovery of effective questionnaires were 170 copies. The grammar test is measured by 100 points, whose reliability is 0.837. The test paper was also distributed in class in the third week and collected in class. A total of 15 students (three from each class) who were randomly chosen from 3 classes, were interviewed. The interview time of each student was 5 minutes. The main purpose is to make a reasonable explanation for the questionnaire.

C. Data Processing

In this study, SPSS22.0 software is employed to make descriptive statistics analysis of 170 valid questionnaires and test scores.

III. RESEARCH RESULTS AND ANALYSIS

A. General Usage of English Grammar Learning Strategy

Through the descriptive statistics of students' grammar learning strategy, the results (Table 1) show that high school students have a lower level of using grammar learning strategy, and they only sometimes use these strategies. The results of the interview also show that high school students generally find English grammar difficult, dislike grammar learning, and do not know how to use effective learning strategies, either. The cognitive strategy is the most frequently used, followed by the meta-cognitive strategy, and social/affective strategy ranks last. The results of this study are inconsistent with those of Ma's research (2014) (the frequency order from high to low is: the affective strategy, the cognitive strategy, the meta-cognitive strategy). The differences in results may be due to the differences between subjects.

TABLE 1.
DESCRIPTIVE STATISTICS OF GRAMMAR LEARNING STRATEGY AND ACHIEVEMENT (N=170)

	mean	SD
total strategy	2.812	.482
cognitive strategy	3.398	.737
meta-cognitive strategy	3.013	.718
social /affective strategy	2.865	.726
grammar score	65	13.243

Relatively speaking, high school students' knowledge memorizing and cognitive ability of grammar learning is the highest, but the social/affective strategy is rarely used, students are not used to communicating with others to learn grammar, and they are not accustomed to regulating their learning emotion through self dialogue ("self-talk").

B. The Differences between Female and Male Students in the Usage of English Grammar Learning Strategy

The descriptive statistics of grammar learning strategy using shows that the mean of the strategies used by female students are higher than those of male students, which indicates that female students' using frequency of grammar learning strategy is much higher. The further independent sample T test shows (Table 2) that the difference between female and male students is significant, and the differences in the three strategies of cognitive strategy, meta-cognitive strategy and social/affective strategy is significant at the 0.001 level. There is also significant difference between female and male students in the score of English grammar, and average speaking, male students score higher than female students.

TABLE 2.
INDEPENDENT T-TEST OF FEMALE AND MALE STUDENTS IN GRAMMAR LEARNING STRATEGY AND ACHIEVEMENT (N=170)

	gender	mean	SD	T	sig.
cognitive strategy	M	3.216	.748	-3.261	.02
	F	3.407	.679		
meta-cognitive strategy	M	2.873	.683	3.817	.00
	F	3.158	.592		
social /affective strategy	M	2.791	.783	3.169	.017
	F	2.993	.697		
grammar score	M	63	1.217	2.82	.03
	F	67	.849		

The interviews also confirm the findings to some extent. Because the grammar learning is boring and sometimes

difficult, students generally do not have a very positive attitude towards it. However, compared with male students, female students are more likely to regulate their grammar learning mood, and they can consciously cultivate their interest in grammar learning, and gradually enjoy grammar when they are challenging grammatical problems. Although female students are sometimes very passive in learning, but they can also be very conscientious in learning. As a result, female students are better at using affective strategy than male students in grammar learning. In the grammar learning process, female students can actively seek teacher's help, exchange experience with other students, and they use more social strategies than male students. Because in social language practice, female students can actively participate in communication, they can cooperate with teachers and students and turn to them for grammar learning guidance and help. The female students' goal and plan of learning grammar is much clearer, and their desire to achieve grammar learning goals is far stronger, and their meta-cognitive awareness is stronger than that of male students. In the use of cognitive strategy, female students are better at using effective learning methods to improve learning efficiency than boys. Female students learn very carefully, and they are good at collecting mistakes and errors in the grammar exercises, and they often use colored pens to mark the correct answer. However male students rarely do so and they merely look at the mistakes on the test paper, marking directly on the paper.

C. Ten Most Used Grammatical Learning Strategies

The descriptive statistics of grammar learning strategy questionnaire shows that (Table 2): the ten most frequently used grammar learning strategies are as follows: Q33 ("First review the grammar points, and then do grammar exercises.") Q6, ("When I'm learning grammar, I pay attention to understanding and caring for other people's feelings.") Q24 ("I pay attention to my progress and weak points in learning grammar.") Q41 ("When I learn new grammar, I use existing grammatical knowledge to help me understand.") Q13 ("In English communication, I concentrate on the expression of meaning.") Q7 ("I pay attention to adjusting my emotions in grammar learning.") Q25 ("I'm actively exploring ways of learning English grammar.") Q2 ("I have a positive attitude toward learning grammar.") "Q43 (Before grammar class, key points and difficulties are singled out and given special attention to in class.) And Q3 ("I gradually develop confidence in learning grammar.").

TABLE 3.
DESCRIPTIVE STATISTICS OF MOST FREQUENTLY USED GRAMMAR LEARNING STRATEGIES (N=170)

item	min	max	mean	SD	rank	item	min	max	mean	SD	rank
Q33	2.00	5.00	3.73	.97	1	Q7	2.00	5.00	3.32	.89	6
Q6	1.00	5.00	3.61	.98	2	Q25	1.00	5.00	3.30	.96	7
Q24	1.00	5.00	3.52	1.03	3	Q2	1.00	5.00	3.30	1.12	8
Q41	1.00	5.00	3.47	1.01	4	Q43	1.00	5.00	3.28	1.14	9
Q13	1.00	5.00	3.46	.87	5	Q3	2.00	5.00	3.27	.83	10

Of these ten grammar learning strategies, only Q33 and Q6 have a mean higher than 3.5, indicating that students often use these two strategies. Students often review and practice again. This strategy is an effective learning strategy. In the English classroom teaching, teachers also attach great importance to this strategy, and review can make grammar learning more systematic and rational. When students learn English grammar, although they feel bored, yet sometimes understand other people's learning feelings, and students have a certain empathy. The mean of the other eight strategies is between 2.5 and 3.4, indicating that students only sometimes use these strategies. The standard deviation of Q2 and Q43 is larger, which indicates that students have great differences in understanding their own situation and dealing with key and difficult points pre-class and in class. The minimum mean of Q3 shows that most students use this strategy occasionally or sometimes, which shows that students' grammar motivation and self-confidence are generally weak.

D. Ten Least Frequently Used Grammar Learning Strategies

The ten least frequently used grammar learning strategies are as follows (Table 3): Q20 ("I often communicate with my e-pals via Internet chat."). Q19 ("I often improve my knowledge of grammar with other students in correcting written or grammatical exercises.") Q18 ("I'm explaining my grammar knowledge to my classmates, so as to strengthen my grammar.") Q16 ("I often ask teachers for help in class or after class when I have problems or confusion with grammar.") Q50 ("In learning grammar, I am good at using charts, drawings, etc. to understand grammatical rules.") Q10 ("I'll ask the teacher and my classmate to explain some grammatical knowledge and give an example.). Q11 ("I often talk with my classmates about the grammar I've learned.") Q17 ("I often share my experience in grammar learning with my classmates, especially those who speak English well.") Q26 ("I actively participate in grammar learning activities both inside and outside the class, such as lectures on grammar.") And Q45 ("When you practice grammar rules, think of a picture or situation that can be used in that grammatical case.").

TABLE 4.
DESCRIPTIVE STATISTICS OF LEAST FREQUENTLY USED GRAMMAR LEARNING STRATEGY (N=170)

item	min	max	mean	SD	rank	item	min	max	mean	SD	rank
Q20	1.00	5.00	2.04	1.07	50	Q10	1.00	5.00	2.53	.99	45
Q19	1.00	5.00	2.35	1.19	49	Q11	1.00	5.00	2.58	.96	44
Q18	1.00	5.00	2.41	1.12	48	Q17	1.00	5.00	2.60	1.18	43
Q16	1.00	4.00	2.44	.93	47	Q26	1.00	5.00	2.63	1.06	42
Q50	1.00	5.00	2.44	1.15	46	Q45	1.00	4.00	2.68	1.03	41

Q20, Q19, Q18, Q16, Q10, Q11 and Q17 all belong to social/affective strategies, students rarely use social / affective strategies. It means that students seldom communicate with teachers, classmates or friends to learn grammar, not good at using social learning resources. The mean of Q20 and Q19 are less than 2.4, indicating that students rarely use these two strategies. The deviation of Q19 is as high as 1.25, indicating a large difference between students. The using frequency of Q50 and Q45 is very low, and generally students are not good at simplifying and visualizing grammar knowledge. An important objective reason for the low using frequency of strategy Q26 is that schools rarely carry out grammar learning activities both within and outside the classroom.

E.   Relationship between Grammar Learning Strategy and English Achievement

Through the Pearson correlation analysis of English grammar learning strategy, all the sub strategies and English score (Table 4), the results show that there is no significant correlation between them.

TABLE 5.
PEARSON CORRELATION ANALYSIS OF GRAMMAR LEARNING STRATEGY AND GRAMMAR SCORE (DOUBLE TAIL)

	meta-cognitive strategy	social /affective strategy	cognitive strategy	total strategy
grammar	-.039	.152	.058	.081
score	.717	.331	.669	.543

** Correlation is significant at the 0.01 level (double-tailed).

The English grammar learning strategy has some influence on English learning achievement, but they are not related. This is very different from the research result of Pei's (2014). Pei's research shows that there is a significant positive correlation between English grammar scores and grammar learning strategies, and the language learning nature, concept and achievement are positively related. The reasons may be that the subjects of study are different, and the learning experience and learning level of the subjects are different. Moreover, the grammar learning strategy may be only the intermediate variables that affect English learning achievement.

IV.   DISCUSSION

The survey results show that the level that high school students use English grammar learning strategy is very low, and the using frequency of three elements of grammar learning strategy ranks from high to low: cognitive strategy, meta-cognitive strategy, social / affective strategy. Besides, the research result demonstrates that there is significant difference between female and male students in English grammar strategy using and grammar score. The grammar learning strategy and English grammar scores are not related. This result has some implications for high school English grammar teaching.

A.   To Conduct Grammar Strategy Training

The survey results show that high school students' awareness of using English grammar learning strategy is generally weak, and the using level is low. Students have many misconceptions about grammar learning. Many students are tired or afraid of grammar learning. To change the negative attitude of students' English grammar learning, and to improve students' grammar learning strategy using level, strategy training should become an important part of English teaching for high school students. Teachers must learn and grow continuously, and grasp the latest and most comprehensive grammar teaching strategies. In order to strengthen students' strategy using awareness, necessary grammar learning strategy guidance and training should be carried out, for example, delivering lectures on grammar knowledge, guiding students to use a variety of suitable grammar learning strategies, and guiding them to form their own strategy.

B.   To Enhance Students' Awareness and Level of Social / Affective Learning Strategy Using

The social/affective strategy refers to the fact that learners promote grammar learning by communicating with others, and how learners develop and regulate their emotions during learning. The survey results show that high school students' social/affective strategies is least frequently used, high school students rarely use social/affective strategies, and their emotional management ability is low, which should arouse the attention of educators. The teachers should pay attention to the training of social/affective strategy, and help students build up confidence in learning grammar. Students should also learn to cooperate with others to study, and enhance their own emotional regulation ability. Besides, teachers should create free, harmonious and pleasant communicating environment and atmosphere to help students overcome the negative emotions. Teachers should not only pay attention to teaching the rules of grammar, but should also pay more attention to the practical application of grammar, and guide the students communicate with each other and learn grammar more efficiently.

C.   To Explore Appropriate Teaching Methods

To improve the high school students' grammar score and using level of grammar learning strategy, the teacher should actively explore effective methods of grammar teaching, and should adopt appropriate teaching methods, such as, communicative language teaching method and task-based language teaching method, guiding exploration method, cooperative teaching method and etc. To arouse students' interest in learning grammar, the teacher should let students

focus on practical using ability, and pay attention to grammar competence. In addition, teachers should also recognize that high school English grammar teaching is not only in-class task, grammar teaching should expand to after-class work, for example, the teachers should give students more opportunities to engage in oral communication, improve the students' oral English and improve their English grammar competence as well.

D. To Pay More Attention to Male Students' English Grammar Learning

The research result indicates that there is great difference between female students and male students in English grammar strategy using and grammar score. Thus, in grammar teaching, teachers should pay attention to the differences between male and female students in grammar learning strategies, and make the best use of them. Teachers should pay special attention to male students in the process of training students to use grammar learning strategies and they should supply more help, encouragement and guidance to male students, and urge them to memorize, sum up, organize grammar knowledge, and constantly improve their learning methods. And the teacher can guide male students to communicate more with female students and learn from female students. Moreover, the teacher can ask male students more questions in the class, give them more opportunity to practice the use of grammar learning strategies, to strengthen their awareness and concept of actively practicing grammar learning strategy and give timely praise and encouragement for the progress they have made in the use of grammar learning strategies.

V. CONCLUSION

The research result shows that the students' grammar learning strategy using level is very low. And the grammar learning strategy is not correlated with English grammar achievement. Besides, there is significant difference between female and male students in English grammar strategy using and grammar score. The result is helpful for us to know better about high school students' condition of grammar learning strategy using, and offer some reference for enhancing the high school English teaching efficiency. In order to enhance the level of grammar learning strategy using level, English teachers should conduct grammar strategy training on students, try to enhance students' awareness and level of social /affective learning strategy using in particular, explore appropriate grammar teaching methods, and pay more attention to male students' English grammar learning. In this study, only English grammar score is taken into consideration and all the students investigated come from the same grade of the same school. So the research result may have some limitations. Thus, the follow-up study could be carried out on the basis of this study and the subjects can be students of different grades in the high school and also from different stages of study, and it will focus on analyzing the related factors that influence students' use of strategies as well in order to have a comparison of the dynamic choice and application of grammar learning strategies.

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