



Working together  
www.rcis.ro

## **Revista de Cercetare si Interventie Sociala**

ISSN: 1583-3410 (print), ISSN: 1584-5397 (electronic)

---

### **UNDERSTANDING EFL LEARNERS' LEARNING MOTIVATIONAL REGULATION STRATEGIES: AN EXPLORATORY EVIDENCE FROM STUDENTS IN A CHINESE-FOREIGN COOPERATIVE PROJECT**

*Ling WANG*

---

Revista de cercetare și intervenție socială, 2019, vol. 66, pp. 41-58

<https://doi.org/10.33788/rcis.66.3>

Published by:  
Expert Projects Publishing House



On behalf of:  
„Alexandru Ioan Cuza” University,  
Department of Sociology and Social Work  
and  
HoltIS Association

REVISTA DE CERCETARE SI INTERVENTIE SOCIALA  
is indexed by Clarivate Analytics (Web of Science) -  
Social Sciences Citation Index  
(Sociology and Social Work Domains)

# Understanding EFL Learners' Learning Motivational Regulation Strategies: An Exploratory Evidence from Students in a Chinese-foreign Cooperative Project

Ling WANG<sup>1</sup>

## Abstract

Exploring the motivational regulation strategies is of significance in Second Language Acquisition. To better understand the strategies used by Chinese college students to regulate their motivation in learning English, this study sampled 256 college students of a Chinese-foreign Cooperative Project in one of the “Double First-rate” colleges in Henan, mainland China. Data were collected through a questionnaire on motivational regulation strategies. An exploratory factor analysis has yielded six types of motivational regulation strategies, which encompass academic achievement enhancement, interest enhancement, peer competitive stimulation, self-reward, volitional control and task value enhancement. The results of descriptive statistical analysis show that all the six strategies were used with medium to high frequency. The results of independent sample T test have shown that the only peer competitive stimulation strategy of female students is significantly better than that of male students among the six motivational regulation strategies. The results of one-way ANOVA indicate that high level students in English are better at using regulation strategies to sustain and promote motivation than low level students. Lastly, this study suggests students be trained in motivational regulation strategies, especially in those that can help promote the intrinsic and integrative motivation.

*Keywords:* college students, cooperative project, English learning, regulation strategies, social factors, institution, employment.

---

<sup>1</sup> School of College English Teaching and Research, Henan University, Kaifeng, 475001, CHINA. E-mail: wanglingcn@henu.edu.cn (Corresponding author)

## Introduction

In the field of Second Language Acquisition, motivation is an important affective factor that has an effect on foreign language learning. As the process of foreign language learning is complex, learners will inevitably be affected by external factors (such as test scores, teachers, teaching materials, etc.) and internal factors (such as self-efficacy, learning strategies, etc.), which result in anxiety, frustration, decline or lack of motivation (Dornyei, 1994), counteracting the efficiency and effectiveness of foreign language learning. Therefore, it is necessary to adopt motivational regulation strategies to improve the learning effect in a timely manner. Studies have evidenced that learners generally use a variety of motivational regulation strategies to improve their learning concentration (Wolters, 1999; Li, 2009 & 2013). As foreign language learning is a continuous and in-depth activity, learners, who consciously adopt motivational regulation strategies to restore or enhance their motivation level, have a great advantage in learning (Li, 2009). However, the studies of motivational regulation in the field of Second Language Acquisition are still in its infancy, and the theoretical framework and empirical studies are quite insufficient. Previous studies on motivational regulation mainly focused on non-English majors and English majors, but paid less attention to the students in Chinese-foreign cooperative projects. Chinese-foreign cooperatively-run schools usually refer to the educational institutions jointly run by foreign and Chinese educational institutions within the territory of China, whose enrollment targets are mainly Chinese citizens. In contrast, the duration and intensity of English learning in Chinese-foreign cooperative projects are far higher, and the use of motivational regulation strategies has distinctive features. This study is aimed to investigate the use of motivational regulation strategies in the process of English learning of college students in Chinese-foreign cooperative projects, as well as the differences in the use of motivational regulation strategies between students of different genders and different English proficiency levels, in order to provide empirical evidences for improving students' motivation level and enhancing English learning effect. Meanwhile, the study of college students in Chinese-foreign cooperative projects contributes to exploring the whole picture of motivational regulation of Chinese EFL learners, and promoting the further development of research on motivational regulation of second language learning in China.

## Literature Review

The study of L2 learning motivational regulation strategies is a new research topic, which is based on the study of learning motivation and tries to provide methodological support for L2 teaching practice (Yang, 2015; Yang & Li, 2010). In the 1980s, some researchers in educational psychology began to focus on the dynamic nature of motivation, which prompted researchers to pay more attention to the study of motivational regulation strategies (Gao, 2012). Wolters, a professor of educational psychology at American University, is the first to have conducted the empirical research in this field. He explored the motivational regulation strategies of American college students and middle school students, and found five motivational regulation strategies: self-reward, environmental control, mastery self-talk, performance self-talk and interest enhancement (Wolters, 1998; Wolters, 1999). Meanwhile, Dornyei (2003), a scholar in motivation, introduced the temporal perspective into the second language motivation study, and then Dornyei and Otto (1998) constructed a process model of learning motivation, which has made a breakthrough in the second language motivation research, attracting more and more scholars to engage in the study of motivational regulation. However, the study of motivational regulation is still in its infancy, and the scope of the study is unclear, which is the common concern of scholars who study motivation and learning strategies.

Second language motivational regulation strategies are mainly divided into second language motivation teaching strategies and learning strategies (Gao, 2012). The former explores the motivational regulation strategies used by teachers in the teaching process, while the latter explores the motivational regulation strategies used by learners in the learning process. In contrast, motivational teaching strategies have developed more maturely. Researchers have gone through the process of exploring motivational teaching strategies from the initial teaching experience, to the model construction based on motivation theory, and then to the empirical research verification of motivation teaching strategies. The theoretical basis of L2 motivational teaching strategies mainly refers to Dornyei's (1994) three-level framework of motivational research from the perspective of language ontology, learners and learning situation, and Dornyei & Otto's (1998) L2 motivational process model. The theoretical foundation of motivational learning strategies stems from the five motivational regulation strategies proposed by American scholar Wolters (1998; 1999) on the basis of empirical research, and from Dornyei's (2003) self-motivation strategies. For the sake of simplicity, this study uniformly defines L2 motivational learning strategies as the positive measures consciously taken by individuals to restore or maintain a high level of attention, persistence, active participation and effort in the process of L2 learning based on the definitions of L2 motivational learning strategies in different periods, such as self-motivating strategies (Dornyei, 2003) and self-regulating strategies (Guilloteaux & Dornyei, 2008).

The research on second language motivational learning strategies in China is mainly empirical research based on the above-mentioned foreign theories, which is mainly divided into the following aspects: 1) Based on Wolters' five kinds of regulation strategies, the first is the confirmatory research in the field of educational psychology (Cheng, 2002; Li *et al.*, 2006), only to find that Chinese college students' motivational regulation is not ideal in general. 2) Modifying and expanding Wolters' five strategies of motivational regulation. The perspective Wolters and the above-mentioned researchers takes is educational psychology, and the conclusions may not be applicable to foreign language learning. Therefore, the researchers introduce motivational regulation research into the field of second language acquisition, for example, Li (2009) added consequence assumption strategy, task value enhancement strategy and volitional control strategy; Hui and Zhang (2016) put forward strategies of efficiency management, abandonment and empathy; Gao and Liu (2014) discovered the emotional control strategy; Li (2015) put forward the regulation strategy of cross-cultural communication. 3) Expanding the research subject. Researchers conducted a survey among college students (Li, 2009), middle school students (Li, 2013; Li, 2015) and adults (Hui & Zhang, 2016), indicating that the use of motivational regulation strategies is influenced by individual factors such as age, gender, major and English proficiency.

Previous studies have deepened our understanding of L2 learners' motivational regulation strategies. But overall, the research is still in its infancy, and there is still room for further discussion and exploration, especially the relationship between learners' individual factors and the use of motivational regulation strategies (Li, 2015). Individual learners play an important role in the process and effectiveness of foreign language learning (Oxford & Nyikos, 1989). The above-mentioned research on motivational regulation of college students only investigate non-English majors and English majors, and fail to focus on the students in Chinese-foreign cooperative projects, so the results may not be applicable to the latter. With the advancement of globalization of domestic education, the number of college students in Chinese-foreign cooperative projects is surging, which forms an important part of English learners. At the same time, English learning is of great significance for students in international education projects, as English serves as an essential skill to master professional courses and a necessary professional quality to go abroad for employment in the future. Compared with ordinary undergraduates, they have more English classes and higher goals to achieve, so their motivation level and motivational regulation should be different. Theoretically, this study contributes to revealing the whole picture of motivational regulation of English learners in Chinese higher education, and promoting the further development of motivational regulation research in China. In practice, it enables teachers to grasp the overall situation of students' motivational regulation, and on this basis, to stimulate and maintain students' learning motivation.

## Methodology

### *Research Questions*

This study investigates the use of motivational regulation strategies in the process of college students' English learning in Chinese-foreign cooperative projects, and answers the following three questions: (1) What types of motivation regulation strategies are used in the process of college students' English learning in Chinese-foreign cooperative projects? (2) How do they use these motivational regulation strategies? (3) Are there any differences in the use of motivational regulation strategies among students of different genders and English proficiency levels?

### *Research Participants' Demographic Information*

The participants of this study are 256 freshmen and sophomores majoring in business administration, finance, measurement and control technology and IT from a "Double First-rate" college in Henan Province, China. They are from the "Chinese-Australian 2+2" program in which students who spend the first two years in China to complete a certain number of credits with IELTS scores exceeding 6 points can be qualified to complete the remaining two years of study in Australian colleges and universities. A total of 256 questionnaires were distributed and 250 valid questionnaires were collected. The recovery rate was 97.6%. Of these, 96 (38.4%) were boys and 154 (61.6%) were girls.

### *Instrument*

The instrument of this study is the *College Students' English Motivation Regulation Strategy Scale*. Based on literature review, researchers refer to Wolters' (1998) and Li's (2009) motivational regulation strategy questionnaires, which collected first-hand information through student interviews. This questionnaire consists of two parts. The first part is the demographic information of the students, including their gender, grade and CET-4 scores. CET-4, College English Test Band 4, is a national teaching examination hosted by the Higher Education Department of the Ministry of Education of the People's Republic of China. The main targets of the examination are undergraduate or graduate students who have completed CET-4 courses according to the educational syllabus. The second part is the motivational regulation strategy questionnaire. Its first edition encompasses 60 items, scored by Likert Scale 5: 1 = this sentence is completely or almost completely inconsistent with my situation, 5 = this sentence is completely or almost completely consistent with my situation. According to the evaluation of eight experts and colleagues and the results of two trials, the reliability and validity of the questionnaire were tested, some items were modified or deleted, and 40 items were retained finally.

### *Data Analysis*

Questionnaire data of 250 students were collected and input into Excel, and the data were counted by using SPSS24.0, a social science statistics software package. First, the SPSS24.0 processed singular and missing values, and then it made exploratory factor analysis on the types of learning motivational regulation strategies, and descriptive statistical analysis was conducted on the use of motivational regulation strategies. This study tests an independent sample T on the differences of motivational regulation strategies used by students of different genders, and conducts a one-way ANOVA on the differences of motivational regulation strategies used by students of different English proficiency levels (divided into high, middle and low groupings according to the scores of CET-4).

### *Results and Discussions*

#### Exploratory Factor Analysis of Motivational Regulation Strategies

Firstly, the questionnaire data were analyzed by exploratory factor analysis, and the results showed that the KMO value was .908. Bartlett sphericity test was obvious (Sig.=. 000), which indicated that the data were suitable for factor analysis. Maximum Likelihood analysis was used to extract factors, the Promax with Kaiser Normalization was applied to explore data structure, and the threshold value of factor load was set to 0.40. Six factors with eigenvalues greater than one were extracted by three exploratory factor analyses, and their eigenvalues were 13.06, 2.83, 2.13, 1.64, 1.51 and 1.40 respectively. The six factors could explain 32.65%, 7.08%, 5.33%, 4.10%, 3.78% and 3.49% of the total variance respectively, and the cumulative variance could explain 56.42% of the total variance. The factor load of each item is shown in Table 1. The results of Cronbach's Alpha reliability test showed that the reliability of six factors were 0.91, 0.87, 0.77, 0.80, 0.64, 0.81 respectively, and the overall reliability of the questionnaire was 0.94, which indicated that the overall internal consistency of the questionnaire was high, and the reliability of each subscale was within the acceptable range.

Table 1: Exploratory Factor Analysis

Items	Factors					
	1	2	3	4	5	6
	Academic Achievement enhancement	Interest Enhancement	Peer Competitive stimulation	Self-reward	Volitional Control	Task value enhancement
q1 I push myself to study harder by getting good grades.	.806					
q18 I tell myself that I must not give up halfway.	.793					
q7 I hope I can master what I am learning better, so I will keep studying hard.	.745					
q16 I tell myself that I need to keep studying hard in order to improve ability.	.727					
q9 As everyone is the same, I tell myself that I can do the same things as others.	.679					
q2 I persuade myself to stick to my studies and see how much I can learn.	.656					
q28 I tell myself, in order to learn as much as possible, I will keep learning.	.616					
q8 I tell myself I couldn't fall behind, so I have to study hard.	.611					
q40 I remind myself that it is very important to finish my homework and do well in the exam.	.570					
q22 I want to know if I can do better than before, so I keep on studying hard.	.549					
q19 I tell myself in deep heart that I strongly believe myself. I will spend more time, try harder and achieve better	.508					
q3 I keep telling myself that there is no problem that can't be solved as long as I do it with my heart.	.498					
q21 I try to connect what I learn with something I like or interesting things.		.831				
q5 I try to relate what I am learning to my personal interests.		.826				

q39 I try to find out what I am learning which is relevant to my real life.		.671				
q27 I try to keep learning more interesting.		.630				
q17 I can find something interesting in learning task, which makes learning more attractive.		.611				
q12 I can change learning methods to make it more interesting.		.496				
q38 I take others' efforts as motivation to push myself to study hard.			.873			
q37 I regard the employment pressure as motivation to push myself to study hard.			.742			
q26 I compare myself with my classmates who are better than me to spur me on.			.608			
q33 I fear that my poor grades will affect my ranking, so I will study hard.			.507			
q4 I promise myself that I will give myself some rewards when I finish my homework.				.695		
q23 I reward myself every time I finish a part of my homework until I finish all the homework.				.622		
q10 I promise myself that if I do a certain amount of homework, I could do other interesting things.				.622		
q30 I set a goal for myself and reward myself when I achieve it.				.541		
q36 I promise myself that if I finish the assignment, I can do what I want to do.				.465		
q14 When I am in a bad mood, I will let myself go out to breathe and calm down, to adjust the mood suitable for learning.					.555	
q15 I try to choose to study when it's easier to concentrate.					.510	
q24 I do something else to regulate my mood before I study.					.464	
q13 I think about the importance of English to my future development.						.749
q32 I tell myself that English is an essential skill for future communication and learning, and I must learn it well.						.666
q6 I tell myself that English is more important and more useful, so I have to learn well.						.651

Extraction method: Maximum Likelihood method.

Rotation method: Promax with Kaiser Normalization.

Rotation converges after 7 iterations.

Factor 1 contains item 18, 7, 16, 2, 28, and 22. These items mainly show that learners keep studying hard in order to acquire knowledge (item 7), improve their ability (item 16), learn as much as possible (item 28), and do better than before (item 22). Factor 1 also contains item 1, 8, and 40 in the performance self-talk dimension of the theoretical design. These items mainly reveal that learners attach importance to homework and exams, and achieve high scores (item 1) to motivate themselves. In addition, Factor 1 also includes item 19, 3 and 9 in the “self-efficacy” dimension of the theoretical design. These three items describe how learners can bolster their confidence (item 19) and believe that they can learn well (item 3). Overall, for learners, whether to achieve high scores, acquire knowledge, or to strengthen their own ability, improving their academic performance is the ultimate goal. Therefore, Factor 1 is named “Academic Achievement Enhancement Strategy”. Factor 2 contains item 21, 5, 39, 27, 17, and 12. These items mainly show how learners try to connect what they are learning with their personal interests (item 5) or interesting things in life (item 21), or change their learning methods (item 12) to make learning more interesting in the process of learning English. Therefore, Factor 2 is named “Interest Enhancement Strategy”. Factor 3 contains item 38, 26, 33, and 37. These four items describe how learners worry about falling behind (item 33) and exert pressure on themselves by comparing them with their best classmates (items 26, 38). Whether they compare their efforts with their classmates, rankings, or they may compete for jobs together in the future, learners are using peer competition as a motivation to learn English well. Therefore, Factor 3 is named “Peer Competitive Stimulation Strategy”. Factor 4 contains item 4, 23, 10, 30, and 36, indicating that students generally reward themselves by doing what they want to do, etc. when they complete a goal or learning task. Factor 4 is named “Self-reward Strategy”. Factor 5 contains item 24, 15 and 14, which show that learners often adjust their emotions and moods in the process of learning English. Therefore, Factor 5 is named “Volitional Control Strategy”. It is worth noting that volitional control is basically equivalent to emotional control strategies in other studies (Dornyei, 2003; Gao & Liu, 2014), which refers to the measures taken by learners to eliminate the disturbance and motivational decline caused by bad emotions or external environment. Factor 6 contains item 13, 32, and 6, indicating that learners generally recognize that English is a necessary skill for future communication and is very important for future development. Therefore, Factor 6 is named “Task Value Enhancement Strategy”.

The similarities between the above findings and previous studies are mainly in the following aspects: (1) the universality of interest enhancement strategies.

Middle school students (Li, 2013), college students (Li, 2009; Gao & Liu, 2014) and adults (Hui & Zhang, 2016) maintain their motivation by increasing their interest in English learning, which indicates that this strategy is a stable motivational regulation strategy frequently used by learners; (2) the stability of self-reward strategy. Self-reward strategy is a separate factor in this study. The results show that, like other groups of English learners, students in Chinese-foreign cooperative projects use this strategy to adjust their learning motivation; (3) the stability of task value enhancement strategy. The frequent application reflects the unique importance of English in China, and is of great significance to students' further study, employment and future development.

The differences of this study lie in the following aspects:

- (1) Performance self-talk in theoretical design is deconstructed, which describes that learners' expectation for good scores (item 1) and attaching importance to homework (item 8 and 40) are closely related to mastery self-talk, indicating that learners' ultimate goal is to improve their academic performance whether to achieve good scores, or to master specific knowledge and enhance learning ability. This factor integrates three items of self-efficacy (item 9, 19, 3). The process of academic achievement is full of challenges and hardships, so learners should constantly self-motivate to achieve their goals. Academic achievement contains the most items in the six factors, which can explain 32.65% of the total variance, indicating that this factor is the main one in the scale. Academic achievement enhancement strategy highlights learners' instrumental motivation (Lambert & Gardner, 1959), emphasizing the practicability of language, for example, learning English aims to pass examinations and get good jobs. Most of the students in this survey belong to the Chinese-Australian 2+2 program, and their IELTS scores need to exceed 6 points in their sophomore year, so that they can be qualified to study in Australia for the next two years. However, as freshmen's foundation is a little weak and a large number of English specialized courses are arranged in the first year with high English learning intensity in pressing time, students' motivation level is inevitably fluctuated, and the characteristics of instrumental motivation is relatively clear;
- (2) The items (38, 26, 33) in the performance self-talk dimension and the item (37) in the consequence assumption dimension in the theoretical design are merged into the Factor 3 "peer competitive stimulation". Competitions are everywhere in Chinese students' learning, especially in the rankings among their fellow classmates, which not only exert great pressure and anxiety on students, but also serve as major driving forces for students' advancement. Therefore, students often use fierce peer competition to adjust their motivation level. However, other studies fail to pay enough attention to this phenomenon;
- (3) Most of the items in the self-efficacy enhancement dimension of the theoretical design are incorporated into the Factor 1 "Academic Achievement

Enhancement Strategy”, while most of the items in the consequence assumption dimension (item 29, 35, 20, showing learners’ consideration of parents, friends and other social factors) are not included in the factor matrix. This is not consistent with Li Kun’s study. The reason may be that Li Kun’s research objects are ordinary Chinese college students, the distribution of students in urban and rural areas is relatively balanced, and the influence of social factors such as parents on their learning motivational regulation is more prominent. However, most of the students in this study come from Chinese cities with good financial conditions, so they can afford the high tuition fees for studying abroad. Previous studies have shown that compared with rural students, urban students’ anxiety and excessive competition are significantly lower, and their anxiety level caused by social factors such as expectation of parents and family is also relatively low (Qi, 2005). The students in Chinese-foreign cooperative projects generally have better family financial status and less consideration of their parents’ financial investment, so they seldom use “consequence assumption strategy” to enhance their learning motivation. Of course, with regard to the anxiety and stress brought about by the expectation of families, the response of this group may be different from that of ordinary college students, which is also worth further exploring in the future.

*Analysis on the Use of Motivational Regulation Strategies*

Table 2: Descriptive Statistics of Motivational Regulation Strategy Use (mean and standard deviation)

Types of Motivational Regulation Strategies	Mean Value	Standard Value	Types of Motivational Regulation Strategies	Mean Value	Standard Value
Task value enhancement	3.94	.80	Peer competitive stimulation	3.40	.87
Volitional control	3.74	.79	Interest enhancement	3.36	.81
Academic achievement enhancement	3.58	.71	Self-reward	3.18	.85

In order to explore the overall use of the six motivational regulation strategies, we conducted a descriptive statistical analysis of the data of the above 250 students. See the results shown in Table 2. As can be seen from Table 2, the average scores of the six strategies from high to low are task value enhancement (M=3.94), volitional control (M=3.74), academic achievement enhancement (M=3.58), peer competitive stimulation (M=3.40), interest enhancement (M=3.36) and self-reward(M=3.18).

According to the classification criteria of the Likert five-subscale, those with an average value equal to or greater than 3.5 are used at high levels, those with an average value between 2.5 and 3.4 are used at moderate levels, and those with an average value equal to or less than 2.4 are used at low levels (Oxford & Burry-Stock, 1995). The average scores of the six strategies ranged from 3.18 to 3.94, indicating that the frequency of the use of these strategies was moderately high. Among them, the use frequency of task value enhancement, volitional control and academic achievement enhancement reached a higher level, and the use frequency of the other three strategies reached a medium level. This is consistent with previous results, showing that students often use motivational regulation strategies in the process of English learning (Li, 2013; Gao & Liu, 2014; Li, 2015).

On the whole, however, the frequency of using motivational regulation strategies in the process of English learning in Chinese-foreign cooperative projects is higher than that in non-English majors (Li, 2009; Gao & Liu, 2014), middle school students (Li, 2013; Li, 2015) and adults (Hui & Zhang, 2016). This may be due to the fact that, in addition to such optional courses as listening, speaking, reading and writing, students in Chinese-foreign cooperative projects also have to take a large number of specialized courses taught in English. The difficulty, depth and breadth of English learning are greater than those of ordinary students, so motivation decline is more prone to occur, and motivational regulation strategies need to be used more frequently to maintain and enhance learning motivation. Among the six regulation strategies, task value enhancement strategy (extrinsic motivation) ranks first, and interest enhancement strategy (intrinsic motivation) ranks second to last, which once again shows the unique importance of English learning to Chinese students, acting as an important factor related to their further study, employment and development. At the same time, it shows that in most cases, students come to realize the value of English to their own development, or aim to improve their academic performance, but they seldom take the initiative to learn English autonomously and lack the zeal for building “language self”. Chinese students’ extrinsic motivation and instrumental motivation are not conducive to the effectiveness and sustainability of their English learning, which may explain why Chinese students spend a lot of time and effort learning English, but the results are not ideal. Because intrinsic motivational regulation strategies (such as mastery self-talk and interest enhancement) can induce learners to actively use cognitive and metacognitive strategies, while extrinsic motivational regulation strategies fail to (Wolters, 1998; Zhang, & Zhang, 2013). Intrinsic motivational regulation strategies can more effectively promote learning performance than extrinsic motivational regulation strategies (Li, 2013). Among the six strategies, self-reward strategy ranks last, which coincides with the results of other researchers (Li, 2009; Gao & Liu, 2014; Li, 2015). As students grow older, those in high school, especially those in colleges as adult learners, rely less and less on external reward to improve their motivation level.

*The Differences of Motivational Regulation Strategies in Gender and English Proficiency Variables*

Table 3: Differences of Motivational Regulation Strategies between boys and girls

Strategy	Gender	Mean value	Standard deviation	t	p	Strategy	Gender	Mean value	Standard deviation	t	p
1	Male	3.45	.80	-1.97	.05	4	Male	3.11	.96	-.97	.33
	Female	3.65	.67				Female	3.22	.78		
2	Male	3.48	.90	1.83	.07	5	Male	3.63	.91	-1.48	.14
	Female	3.27	.75				Female	3.80	.70		
3	Male	3.19	.94	-2.87	.00	6	Male	3.86	.90	-1.10	.28
	Female	3.52	.81				Female	3.98	.74		

1= Academic achievement enhancement 2=Interest enhancement 3=Peer competitive stimulation 4=Self-reward 5=Volitional control 6=Task value enhancement

In order to further analyze the effect of gender variables on motivational regulation strategy use, the differences in motivational regulation strategy use between boys (N=96) and girls (N=154) were analyzed by independent sample T test, and the results are detailed in Table 3. As can be seen from Table 3, except for the interest enhancement, the mean scores of the other five regulation strategies of female students are higher than those of male students. The results of T-test show that there are tremendous differences between boys and girls in the use of peer competitive stimulation strategy, namely, girls use it more frequently than boys, but there are no significant differences between girls and boys in the other five strategies. This is consistent with previous research results. Gender is an important factor in determining students' response to competition, so female students have higher self-esteem than male students, and they are more likely to bear and make timely response to pressure in fierce competitions (Lei, & Jianwei, 2007). Most of the previous studies found that the frequency of motivational regulation strategies used by female students was significantly higher than that of male students (Li, 2009; Li, 2013; Gao & Liu, 2014; Li, 2015), and concluded that girls were better at using strategies to maintain and enhance motivation than boys, so girls had an advantage over boys in language learning (Oxford & Nikos, 1989). However, generally, there is no dramatic difference in the use of motivational regulation strategies between boys and girls. There may be two reasons. One is the difference in the role of English subjects. Previous studies took English as a language subject, but for this study, English is not only a language subject, but also a tool to acquire professional knowledge and enhance professional ability. The dual attributes of

English learning make this group of students different from the ordinary college students in the use of motivational regulation strategies, and the obvious gender differences among the ordinary college students are no longer prominent. Second, the influence of arts and science disciplines. The students who participated in the questionnaire are majoring in science, and the discipline attributes may affect the students' motivational regulation strategies, which needs further study.

In order to explore whether there are differences in the use of motivational regulation strategies among students with different English proficiency levels, students were divided into three groups according to their CET-4 pass scores (425) and oral English entry qualification scores (550): high score group (above 550), middle score group (between 425 and 549), low score group (below 424). Then the use of motivational regulation strategies of the above three groups of students was analyzed by one-way ANOVA.

Table 4: One-way ANOVA Results of Motivational Regulation Strategies for high, middle and low-score students

Strategy	Excellent (n=27)		Middle (n=179)		Disqualified (n=21)		F [2,224]	Post-hoc LSD	MD
	M	SD	M	SD	M	SD			
1	4.08	.49	3.54	.71	3.38	.64	5.44	high>middle	.54***
								high>low	.69**
								middle>low	.16
2	3.58	.90	3.35	.80	3.14	.75	1.40	high>middle	.23
								high>low	.44
								middle>low	.20**
3	4.01	.76	3.36	.87	3.21	.84	5.05	high>middle	.65**
								high>low	.80**
								middle>low	.14
4	3.35	.70	3.17	.84	3.02	.99	.72	high>middle	.18
								high>low	.33
								middle>low	.15
5	4.11	.59	3.68	.77	3.57	.97	2.78	high>middle	.43*
								high>low	.55*
								middle>low	.11
6	4.35	.58	3.91	.80	3.90	.88	2.52	high>middle	.45*
								high>low	.45
								middle>low	.00

As can be seen from *Table 4*: (1) there are significant differences in the use of academic achievement enhancement strategy among students with different English proficiency levels. The results of LSD post-test suggest that the use frequency of students with high scores is significantly higher than that of students with middle and low scores, but there is no dramatic difference between students with middle and low scores; (2) There are dramatic differences in the use of peer competitive stimulation strategy. The results of LSD post-test show that the use frequency of high-score students is markedly higher than that of middle-score and low-score students, but there is no dramatic difference between middle-score students and low-score students; (3) There are tremendous differences in the use of volitional control strategy. LSD post-test results show that the use frequency of high-score students is strikingly higher than that of middle-score and low-score students, but there is no significant difference among middle-score and low-score students; (4) The use frequency of task value enhancement strategy in high-score group is significantly higher than that in middle-score group, and there is no dramatic difference between middle-score and low-score group. There is no obvious difference in the use of the other two motivational regulation strategies among the three groups. The above results indicate that, on the whole, high-score students are better than middle-score and low-score students in the use of the six motivational regulation strategies, and high-score students are better at applying various strategies to enhance motivation than low-score students, which is consistent with the research results of Gao and Liu (2014). Specifically, extrinsic motivational regulation strategies are found to be used more frequently in high-score group while intrinsic motivational regulation strategies are not among the three groups, which directly demonstrates the prominent features of Chinese students' extrinsic and instrumental motivation, and indirectly verifies the findings of Wolters (1998) who held that extrinsic motivation had significant predictive power to academic achievement while intrinsic motivation failed to. At the same time, it reveals that Chinese students lack the intrinsic motivation in English learning, which can profoundly affect the effectiveness and sustainability of English learning. When students are encouraged by intrinsic motivation, they'll spend more time studying hard to analyze and process information in greater depth (Lepper, 1998), and they are more likely to adopt some in-depth, proactive learning methods and achieve higher scores (Li, 2013).

### *Research Implications for Future Teaching*

The study finds that students generally adopt motivational regulation strategies to stimulate and maintain their motivation level in the process of English learning, while the use of strategies varies at different levels. The use frequency is found to be significantly higher in high-score students. In teaching practice, we should strengthen the training of motivational regulation strategies in middle-score and low-score groups so as to enable students to overcome the problem of motivation

decline, and promote and maintain a higher level of motivation. Meanwhile, attention should be paid to stimulating students' intrinsic motivation and arousing their desire to construct "original self" and "ideal self" in language learning to produce lasting and powerful intrinsic motivation. As a whole, with regard to the complexity and continuity of foreign language learning, the results of this study suggest that motivation, as an emotional factor affecting learning outcomes, is increasingly attracting worldwide attention (Teng & Zhang, 2018; Pintrich, 2004; Zimmerman, 2008; Kanat, & Kozikoglu, 2018). Motivational regulation is as important as cognitive and social behavioral regulation, which contributes to cultivating students' active and effective autonomous learning.

## Conclusion

This study investigates the motivational regulation strategies used by college students in the process of English learning in Chinese-foreign cooperative projects. The results show that students adopt six motivational regulation strategies: academic achievement enhancement, interest enhancement, peer competitive stimulation, self-reward, volitional control and task value enhancement. The overall level of use is above average, and better than that of ordinary college students, which shows that due to the pressing time and arduous task of English learning, students in Chinese-foreign cooperative projects frequently use motivational regulation strategies to stimulate and maintain learning motivation. Independent sample T test results show that girls use more frequently than boys, but there is no significant difference in general. This result is different from the findings of other researchers, which may be due to the major difference of the students in this survey, or due to the dual attributes of English for them in language courses and professional courses. The obvious gender differences in general English learning are no longer prominent. The results of one-way ANOVA indicate that extrinsic motivational regulation strategies are applied more frequently in high-score group while intrinsic motivational regulation strategies are not among the three groups, which once again confirms that students who are good at using motivational regulation strategies have more advantages in learning. Motivation, an important emotional factor, has a great bearing on the learning effect. However, as prominent Chinese students' extrinsic and instrumental motivation in English learning is, their intrinsic motivation is insufficient. In order to fundamentally improve students' English learning effect, we should strengthen the training of strategies in practical teaching, especially to stimulate and maintain students' intrinsic motivation.

Based on the findings of Wolters' five motivational regulation strategies (1998) and other researchers (Li, 2009; Gao & Liu, 2014), this study explores the use of motivational regulation strategies from a static view. The effectiveness and the significant predictive power of these strategies on English learning performance need to be further verified by future studies. Moreover, this study only explores

the relationship between individual differences (gender, major, English proficiency, etc.) and the use of motivational regulation strategies, which is far from enough for a comprehensive understanding of the relationship. Future studies may further study the motivational regulation of L2 learning in the light of learners' cognitive styles, learning strategies, linguistic aptitude and other emotional factors (anxiety, attribution, willingness to communicate, etc.).

### *Acknowledgements*

The research findings are the part of Teaching Reform Project of Henan Province in 2017 supported by The Department of Education of Henan Province P.R.C.—“Research on a Chinese-foreign Cooperation Program EFL Students' Demotivational Factors of Learning English and Their Self-regulated Strategies” (No. 2017SJGLX214).

### *References*

- Cheng B. (2002). The Relationship Between Learning, Work, Motivation and Self-regulated Learning Strategies in college students. *Journal of Educational Psychology*, 2, 79-102.
- Dornyei, Z. & Otto, I. (1998). Motivation in action: A process model of L2 motivation. *Working Papers in Applied Linguistics*, 4, 43-69.
- Dornyei, Z. (1994). Motivation and motivating in the foreign language classroom. *Modern Language Journal*, 78(3), 273-284. doi: 10.2307/330107
- Dornyei, Z. (2003). Attitudes, orientations and motivations in language learning: Advances in theory, research and applications. *Language Learning*, 53(51), 3-32. doi: 0.1111/1467-9922.53222
- Gao, Y. & Liu, H. (2014). An Empirical Study of Motivational Regulation Strategies for non-English majors. *Journal of the Chinese People's Liberation Army College of Foreign Languages*, 2, 33-42.
- Gao, Y. (2012). A Review of Second Language Motivational Strategies: Retrospect and Prospect. *Shandong Foreign Language Teaching*, 2, 62-67.
- Gardner, R. C. & Lambert, W. E. (1959). Motivational variables in second-language acquisition. *Canadian Journal of Psychology*, 13(4), 266-272. doi: 10.1037/h0083787
- Guilloteaux, M. J. & Dornyei, Z. (2008). Motivating language learners: A classroom-oriented investigation of the effects of motivational strategies on student motivation. *TESOL Quarterly*, 42(1), 55-77. doi: 10.1002/j.1545-7249.2008.tb00207.x
- Hui, L. & Zhang, Y. (2016). A study on the Effect of Motivational regulation on Adult English learners. *Adult Education*, 12, 55-58.
- Kanat, F., & Kozikoglu, I. (2018). The relationship between 8th grade secondary school students' motivational strategies, attitudes and academic achievements concerning English learning. *Journal of Language and Linguistic Studies*, 14(3), 253-268.
- Lei, S. & Jianwei, L. (2007). The Influence of Competitive Situation and Cognitive Style on Students' Transfer of Operational Procedural Knowledge. *Psychological Science*, 2, 438-440.

- Li, K. (2009). A Study of Motivational Regulation Strategies for Chinese College Students in English Learning. *Modern Foreign Languages*, 3, 305-313.
- Li, K. (2013). A Study of Middle School Students' English Learning Motivational Regulation Strategies. *Foreign Language Teaching Theory and Practice*, 1, 86-90.
- Li, X. (2015). An Empirical Study on English Learning Motivational Regulation Strategies of Middle School Students and College Students. *Journal of the Chinese People's Liberation Army College of Foreign Languages*, 1, 67-74.
- Li, X., Xue, L. & Han, Q. (2006). A Study on College Students' Motivational Regulation Strategies. *Journal of Jiangsu University*, 1, 17-21.
- Oxford, R. L. & Burry-Stock, J. A. (1995). Assessing the Use of Language Learning Strategies Worldwide with the ESL/EFL Version of the Strategy Inventory for Language Learning. *System*, 23(1), 1-23. doi: 10.1016/0346-251X(94)00047-A
- Oxford, R. L. & M. Nyikos. (2001). Variables affecting choice of language learning strategies by university students. *The Modern Language Journal*, 73(3), 291-300. doi: 10.1111/j.1540-4781.1989.tb06367.x
- Oxford, R. L., Rubin, J., Chamot, A. U., Schramm, K., Lavine, R., Gunning, P. & Nel, C. (2014). The learning strategy prism: Perspectives of learning strategy experts. *System*, 4(43), 30-49. doi:10.1016/j.system.2014.02.004
- Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational Psychology Review*, 16(4), 385-407. doi: 10.1007/s10648?004?0006-x
- Qi, Y. (2005). Comparative Analysis of Mental Health Status between Urban and Rural Students. *Chinese Journal of Public Health Management*, 4, 333-334.
- Teng, L. S. & Zhang, L. J. (2018). Effects of motivational regulation strategies on writing performance: a mediation model of self-regulated learning of writing in English as a second / foreign language. *Metacognition and Learning*, 13(2), 213-240. doi: 10.1007/s11409-017-9171-4
- Wolters, C. A. (1998). Self-regulated learning and college students' regulation of motivation. *Journal of Educational Psychology*, 90(2), 224-235. doi: 10.1037/0022-0663.90.2.224
- Wolters, C. A. (1999). The relation between high school students' motivational regulation and their use of learning strategies, effort, and classroom performance. *Learning and Individual Differences*, 11 (3), 281-299. doi: 10.1016/S1041-6080(99)80004-1
- Yang, T. & Li, L. (2010). Motivational Process Perspective, Self-system and Second Language Motivational Strategies. *Foreign Language and Foreign Language Teaching*, 5, 62-67.
- Yang, T. (2015). *A Study on the Relationship between Foreign Language Learning Burnout and Motivation*. Beijing: Science Press.
- Zhang, L. J. & Zhang, D. (2013). Thinking metacognitively about metacognition in second and foreign language learning, teaching, and research: Toward a dynamic metacognitive systems perspective. *Contemporary Foreign Language Studies*, 396(12), 111-121. doi: 10.3969/j.issn.1674-8921-2013-12-010
- Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments and future prospects. *American Educational Research Journal*, 45(1), 166-183. doi: 10.3102/0002831207312909