An Empirical Study on the Relationship between the Motivations and Achievements of College Students' English Learning

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Keywords: English Learning Achievements, English Learning Motivations, College Students' English Learning.

Abstract. This paper explores the correlations between Chinese college students' English learning achievements (ELA) and their influencing factors, including intrinsic motivation (IM), External motivation (EM), External regulation (ER), and self - perception of competence (SCS)，in a bid to analyze further the differences made by the effects of respondents' individual variables (gender, age, expertise, parents' education and household income on students' ELA. Based on the literature review and questionnaire analysis, the following findings are obtained: 1. The percentage of respondents who passed CET-4 and CET-6 was merely at 59.6% and 29.1% respectively, and TEM-4, TEM-8, 11.7%, 9.2%. Moreover, only 10.8% of respondents take part in IELTS. 2. College students produced a noticeably positive correlation between their ELA and their IM and SCS. 3. The respondents' age and expertise cast a significant impact on their achievements. Therefore, this paper urges teachers, government agencies, and scholars to formulate pedagogy, policies, and research addressing the need for differentiated education based on students' ELA, ELM, and individual variables.

1. Introduction

With the development of economic globalization, English, as an international language, has gained prominence in the world. Therefore, the times also put forward new requirements for college students' English ability. The Department of Higher Education (2007) promulgated the "Requirements for College English Curriculum Teaching" which takes "training students' comprehensive English ability, promoting students' individualized English learning methods, obtaining guidance on learning strategies, and developing autonomous learning ability" as the training objectives of college English teaching. This paper analyzes the impact of college students' English learning motivation (ELM), which included its intrinsic motivation (IM), external motivation (EM), external regulation (ER), and self - perception of competence (SCS), on English learning achievement (ELA) through empirical research on college students' CET - 4 and CET - 6 results, so as to improve college students' English learning ability and meet the needs of the rapidly developing era. Also, the success ELA generates performance motivation, which is a virtuous circle. Atkinson and Birch (1970) believe that people with high ELM are more inclined to accept challenging jobs, which is the embodiment of intrinsic value.

According to the literature, ELM will affect ELA. However, few works of literature comprehensively discuss the influence of college students IM, ER, and SCS on ELA. Therefore, this paper sets the factors of IM and SCS according to the papers published by Pinrich and de Groot (1990) and Harter (1983) and further discusses the influence of IM and SCS on college students' ELA. This paper further revised the achievement motivation scale developed by Gjesme and Nygard (1973) and made it the achievement motivation scale of this study. Motivation to Learn a Second Language Noels et al. (2001) mentions that the ER is closely related to instrumental orientation. Identification regulation and IM are related to travel, friendship and knowledge orientation in second language learning. Noels (2003), Tanaka, et al. (2000) also mentions internal fulfillment regulation, and an autonomy EM is closely related to IM and ELA.

According to the above discussion, the purpose of this paper is to explore the relationship between college students' ELA and its influencing factors (ELM; IM, EM, ER, and SCS), and then to discuss the impact of individual variables (age, gender, major, parents' education level, and household income) on the above relationship. Andrman and Wolters (2006), Presley and Harris (2006) believe that ELM is one of the principal influencing factors of English independent learning and academic achievement. The remaining structure is as follows. Section 2 gives a brief review of both hypothesis and research methods regarding ELM (IM, EM, ER, and SCS). Section 3 describes and analyzes the statistical result of the questionnaire, with the validation of the hypothesis following. Section 4 concludes and makes future suggestions.

2. Hypothesis and methods

With the acceleration of the integration of global politics, economy, and culture, the status of English as an international language has been highlighted. English learning can improve learners' intercultural communication ability, and the study of English learning can provide a reference for English teachers and obtain the best learning effect. At present, there are a large number of works of literature on English learning, but there are few kinds of research on ELA, and none of them comprehensively discusses the impact of ELM (IM, EM, ER, and SCS) on ELA. Therefore, it is a necessity and uniqueness for this paper, and it will provide a new perspective for college English teaching. This paper has compiled comprehensive literature on college English learning (listed in title). The researches on college English learning began in 1985 and had been significant since 2004 (109 papers). By December 21, 2018, there were 7,495 papers on the themes of college English, college English teaching, autonomous learning, learners, etc. Up to now, there are 2,461 papers on college English learning (listed in title), 1,716 papers on college English teaching and 1,373 papers on autonomous learning in China. However, there is no literature to discuss the attribution of college students' ELA, nor is there any literature to comprehensively discuss the impact of ELM (IM, ER, EM, and SCS) on ELA.

This study intends to investigate the ELAs of English majors and non - English majors of college students. An empirical study on the attribution of college students' ELA is based on participants' evaluation of their English proficiency and learning situation. An empirical study on the attribution of college students' ELA is based on the results of the participants' CET-4 and CET-6, as well as TEM-4 and TEM-8 for English majors. CET- 4 and CET- 6 have different grades, unqualified, 425 - 500, 500 - 550, 550 - 600, and above 600; Different grades have also been set for the TEM - 4 and TEM - 8: unqualified, 60 - 70, 70 - 80, and above 80. To intuitively analyze the relationship between the participants with high and low ELA and the similar English learning attitudes and self-evaluation of English proficiency. CET - 4 and CET - 6 are the national English examinations administered by the Ministry of Education. Its purpose is to measure the actual English ability of college students objectively and accurately and to provide assessment services for college English teaching with high authority and popularity.

Attribution of college ELA can be measured from the following aspects: 1. IM: intrinsic motivation refers to someone taking the initiative to do something exciting or challenging, rather than being inspired by environmental factors. In other words, people decide to take actions or behaviors because of their intrinsic interest in activities, not because of external results. 2. EM: extrinsic motivation is the tendency to do something in order to obtain corresponding results. In the context of language learning, extrinsic motivation is closely related to language learning in order to obtain practical and meaningful gains, such as high scores, travel or career development. 3. ER: The external regulation refers to learners perform particular behaviors to meet external demands or to obtain external rewards. 4. SCS: The self - perception of competence in the theory of language learning motivation, self-perception ability is considered as an essential predictor of learners' performance (Oxford and Nyikos, 1989). Self-perception achievement is a term put forward by Harter (1982). It usually refers to how one views one's abilities in the academic field, and it also takes into account the usual performance of students. Self - ability can also refer to the perception ability of the whole discipline field.

3. The analysis of results

In this study, EXCEL and SPSS 24.0 software was applied to narrative statistics, independent sample T-test and variance analysis.

On September 22, 2018, this paper carried out the online questionnaire, and 426 questionnaires were collected. The descriptive statistical results of the individual variables of the respondents are as follows: 1. Age (%): under 22 years old (81.7 %) and over 22 years old (18.3 %); 2. Gender: female (62.2 %) and male (37.8 %); 3. Major (%): English major (23 %), non - English major (77 %); 4. The highest level of education among parents (%): high school or below (74.4 %), undergraduate or above (25.6 %); 5. Annual household income (RMB): the average (RMB 363.4 thousand), the standard deviation is 24.5; 6. Purpose of learning English (%): Examination (54.9 %), Studying abroad (32.6 %), Working (55.4 %), Traveling (32.2 %).

The descriptive statistics on the variables of ELA are as follows: 59.6 % of the respondents passed the CET - 4; 29.1 % passed CET - 6; 11.7 % passed the TEM - 4 and 9.2 % passed the TEM – 8; 10.8 % of the respondents took IELTS. The statistical results on the variables of ELM are: 64.8 % proved IM; 96.7 % proved EM. 74.2 % proved ER; 58.2 % proved SCS. 74.2 % of the respondents agree that learning English is interesting (IM); 96.7 % of the respondents most agree that English is an essential tool for international communication (EM); 80.3 % of the respondents agree that learning English can make their families happy (ER); 65.5 % of the respondents agreed that they did well in English class (SCS).

The independent sample T-test results of college students' ELA on its influencing factors (ELM; IM, EM, ER, and SCS) are listed in Table 1. From Table 1, it can be seen that the positive influencing factors of college students' ELA are IM and SCS. It is generally believed that EM and ER have a certain influence on college students' ELA, but Table 1 shows that these two factors have no significant influence on college students' ELA.

Table 1. Independent sample T-test of college students' ELA on its influencing factors (ELM; IM, EM, ER, and SCS).

		ELA				
		CET-4	CET - 6	TEM-4	TEM- 8	IELTS
Its influencing factor	IM	0.7 (-0.03**)	1.7 (-5.1***)	0.3 (-3.7***)	0.3 (-3.5***)	0.2 (-3.8***)
	EM	4.4*(-0.3)	2.2 (-1.5)	0.02 (0.2)	0. 2(0.9)	0.03*(-1.5)
	ER	0.07(0.1)	0.6 (1.7)	1.1 (1.5)	1.5 (0.8)	1.3(-1.2)
	SCS	7.3**(-3.9***)	2.4(-5.1***)	1.7 (-2.7**)	1.4 (-2.6*)	0.2(-4.8***)

$*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

In order to further understand the results of the questionnaire, this paper discusses the influence of the respondent's age, gender, major, parents' education level and household income on college students' ELA and its influencing factors (ELM; IM, EM, ER, and SCS). The independent sample T-test and variance analysis results of the respondent's variables on college students' ELA and its influencing factors are summarized in Table 2. The age, gender and major of the respondents have a significant influence on the passing rate of CET - 4. The passing rate of CET - 4 is higher for older, female and English major students. The educational level of parents has a significant positive effect on it. The age and major of the respondents have a significant influence on the passing rate of CET - 6. The older students with English major have a higher passing rate of CET - 6. The major of the respondents have a significant influence on the passing rate of the TEM – 4, TEM - 8. The IELTS test participation rate of male and high-income respondents is significantly higher. The significant influencing factors of respondents' IM are their gender, major, parents' education level and income. The EM is their gender, parents' education level, and income. The ER is gender and major. SCS is their parents' education level and household income. Female respondents have higher IM, EM, and ER than male respondents. English major respondents have higher IM for English learning than non - English major respondents, while the ER is the opposite. The respondents with high parents' education level and high household income have significantly higher IM, EM, and SCS.

Table 2. Independent sample T-test and variance analysis of individual variables on college students' ELA and its influencing factors.

		Individual variables				
		Age	Gender	Major	Educational level of parents	Household income
ELA	CET-4	236.4***(5.8***)	18. 9***(3.7***)	376.9***(8.0***)	7.6**(-2.2*)	0.9
	CET - 6	25.3***(3.7***)	4.8*(1.1)	44.1***(6.4***)	3.7(-0.9)	0.9
	TEM - 4	18.4***(1.9)	14.4***(1.9)	471.0***(6.9***)	1.6(-0.6)	0.7
	TEM -8	10.4***(1.4)	7.0 **(1.4)	291.8***(5.4***)	0(0.01)	1.5
	IELTS	1.6(0.6)	24.2***(-2.3*)	0.2(-0.2)	13.3***(1.7)	7.04***
IM		1.8(-1.2)	3.2(2.2*)	0.7(3.1**)	1.8(2.8**)	2. 8*
EM		0.07(-0.8)	15.8***(3.3***)	0.3(-1.1)	0.01(2.1*)	2.8*
ER		0.003(-1.7)	1.4(2.1*)	3.9*(-3.8***)	4.8(0.5)	1.8
SCS		0.2(-1.0)	6.5*(-0.5)	10.8***(-1.6)	0.02(4.0***)	7.2***

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

The independent sample T-test of the respondent's English learning purpose on college students' ELA and its influencing factors is also compiled in Table 3. The respondent's English learning purpose has a significant negative impact on CET - 6, TEM - 4, TEM - 8 and IELTS, and the passing rate of the English test is relatively low. The respondent's English learning for studying abroad has a significant impact on CET - 4 and IELTS, and the respondent's passing rate of CET - 4 for this purpose is relatively low. The respondent's job-oriented English learning has a significant positive impact on the passing rate of CET - 4. English learning purposes such as studying abroad, working and traveling will significantly affect the respondent's IM, EM, SCS, and other English learning motives. English learning purposes such as studying abroad and working will significantly affect the respondent's ELM in the ER. The respondents who studied English to study abroad and working had higher ELM than other respondents. The respondents who study English for traveling have higher IM, EM, and SCS than other respondents.

Table 3. Independent sample T-test and variance analysis of respondents' English learning purposes on college students' ELA and its influencing factors.

		Purpose of English learning			
		Examination	Study abroad	Work	Tourism
ELA	CET - 4	0.043(0.103)	13.5***(3.3***)	22.9***(-3.2***)	8.3**(-1.3)
	CET - 6	34.3***(3.0**)	0. 5(0.3)	13.21***(-1.8)	3.3(-0.9)
	TEM - 4	27.4***(2.5*)	12.6***(1.9)	2.0(-0.7)	0.003(0.02)
	TEM - 8	26.3***(2.4*)	7.5**(1.4)	0.1(-0.1)	0.2(0.2)
	IELTS	80.9***(4.0***)	253.7***(-5.5***)	4.0*(1.1)	2.1(-0.7)
IM		0.7(1.01)	2.3(-5.8***)	9.2**(-2. 6*)	5.6*(-3.7***)
EM		2.1(-0. 5)	0.3 (-4.4***)	5.3*(-3.7***)	0.4(-2.7**)
ER		5.4*(-1.5)	1. 4(-4.1***)	0.1(-2.6**)	0.1(-0.8)
SCS		2. 9(1.1)	0.02(-7.5***)	14.2***(-2.0*)	3.6(-3.6**)

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

According to the results discussed above, 1. The passing rate of the CET - 4, CET - 6, TEM - 4 and TEM - 8 are not high, while the development of the new situation at home and abroad puts forward higher requirements for college students' English ability. In order to meet the needs of the national economy and the Belt and Road Strategy for high-quality technical personnel with high English skills, university teachers should attach importance to the cultivation of students' English proficiency,

cultivate more talents with strong English communicative competence for the country, play a greater role in international exchanges and cooperation, and better serve the local and national economic and cultural development. The participation rate of IELTS among the respondents is only about 30 %, while IELTS is an international English proficiency test and an internationally recognized English language test system, focusing on the cultivation of students' full abilities to listen, speaking, reading and writing. Therefore, in the reform of college English teaching, schools can learn from its testing system to provide reference and inspiration for college English teaching, thus improving the overall quality of college English teaching.

2. As discussed above, the positive influencing factors of college students' ELA are IM and SCS. Teachers can make use of the influence of IM and SCS on students' learning English, pay attention to encouraging students, cultivate students' self - confidence, and increase their physical examination of achievement. The reform of college English teaching in our country is facing a change from "how to teach" to "how to motivate"to give full play to the classroom motivation strategies of specific English teaching situations. However, the vast majority of motivation strategies have significant differences in motivating students of high and low levels. Teachers can adopt graded teaching according to students' English level, and when necessary, formulate and implement personalized strategies to stimulate, maintain and enhance students' ELM. Some strategies can be used to stimulate students' intrinsic learning motivation, such as adjusting teaching style, paying attention to situational teaching, strengthening goal orientation and keen personal interest. Teachers should keep pace with the times, strengthen the application of modern information technology, implement a mixed teaching model based on classroom and online courses, such as flip class and split class, to cultivate students' awareness of autonomous learning; Designing teaching tasks that are consistent with students' abilities, meeting students' ability needs and enhancing students' experience of achievement, integrating culture teaching, cultivating students' sense of language and culture value, and promoting the formation of integration motivation.

3. Different learning objectives will affect the level of ELA. In teaching, we should accurately grasp the practical orientation of CET - 4 and CET - 6 and TEM - 4 and TEM - 8 to avoid the dissimilation of examination functions. It is necessary to give full play to the correct guiding role of the national education policy, social environment, and public opinion, so that universities and employers will no longer blindly pursue college graduates' CET - 4 and CET - 6 results, and the relationship between examination evaluation and English teaching will be adjusted, so that the ultimate goal will be to improve students' English application ability and to give full play to the correct guiding role of examinations in college English teaching. As mentioned above, finding a job is one of the important aims of students' English learning. According to the Teaching Guide, the main contents of college English teaching can be divided into three parts: general English, special English and cross-cultural communication. Each school should form a reasonable college English curriculum system with its characteristics and starting school according to the type, level, and source of students. In particular, the establishment of ESP courses should be based on needs analysis and embodies instrumental features. At the same time, professional English should be integrated into the general English curriculum, and the design of classroom activities should be flexible and diverse, creating an important role for students to experience English ability in the future workplace.

4. This paper finds that personnel changes have a significant impact on ELA and motivation. Therefore, this paper suggests that classroom design should arrange a teaching mode that teaches students by their aptitude instead of a unified teaching mode. Different teaching objectives should be formulated in combination with specific actual situations, and step-by-step teaching methods should be adopted to guide students to study further. At the same time, in the classroom mode, teaching students by their aptitude is the purpose, and students' activities in the classroom should be placed in a key leading position to meet the diverse needs of students.

4. Conclusion

Driven by the trend of economic globalization and with the increasing internationalization of our country, college English learning has become an essential part of higher education. Therefore, the

research in this field has attracted more and more attention from governments, enterprises, and scholars. The purpose of this paper is to explore college students' ELA and its influencing factors (ELM: IM, EM, ER, and SCS), and to analyze the influence of individual variables (age, gender, major, parents' education level and household income).

According to the statistical results of the questionnaire, it is found that: 1. The empirical results of college students' ELA show that about 50 % of college students pass CET - 4 or CET - 6, and about 30 % of college students pass TEM - 4 or TEM - 8, and the passing rate is not high; About 30 % of the respondents went abroad. 2. The significant positive factors of college students' ELA are IM and SCS. Therefore, teachers, government and scholars should consider the relationship between ELA and its influencing factors (IM and SCS) in their educational methods, policies and research topics. 3. The age and major of the respondents have a significant influence on the passing rate of CET - 4 and CET - 6. Gender and household income have significant effects on IELTS participation rate. 4. Different learning objectives will also affect ELA. The respondents take examinations as their learning objectives, and the passing rate of CET - 6, TEM - 4, TEM - 8 and IELTS are low. The passing rate of CET - 4 to study abroad is relatively low. If the respondents study English for work, the passing rate of CET4 is higher. 5. The significant influencing factors of IM are gender, major, parents' education level and household income. The EM is their gender, parents' education level, and household income. The ER is gender and major. SCS is their parents' education level and household income; English learning purposes such as studying abroad, working and traveling will significantly affect the respondent's IM, EM, SCS, and other English learning motives. English learning purposes such as studying abroad and working will significantly affect the respondent's ELM in the external environment.

Due to the limited conditions, there are still some deficiencies in this research, such as document collation, data collection, induction, and analysis, etc. I hope the next research can improve and perfect these aspects, thus making the theory more specific and the results more operational, providing strong support for cultivating college students' positive achievement goals and establishing true learning views. This paper focuses on college students' ELA and its influencing factors (ELM; IM, EM, ER, and SCS). According to the literature review, many papers have been found to explore the strategies of college's ELM. Future research directions suggest that the relationship between college's ELM strategies, autonomous learning and ELA can be studied, to successfully stimulate students' learning motivation in teaching and provide guidance for improving college English teaching effect. For example, Li (2018) did a study on college ELM and the effectiveness of its strategies.

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