



A Survey of English Learning Motivation on Non-English-Major Postgraduates in North China Electric Power University

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Abstract

In recent years, scholars at home and abroad have done numerous researches on English learning motivation. This paper investigates English learning motivation of non-English-major postgraduates in North China Electric Power University (NCEPU) through a questionnaire survey. The study intends to answer the following two questions: (1) What types of English learning motivation are included from non-English-major graduate students in NCEPU? And what factors affect the types of English learning motivation? (2) How is the intensity of English learning motivation of non-English-major graduate students in NCEPU? Through SPSS 28.00 statistical software, factor analysis, multivariate analysis of variance and descriptive statistics analysis are carried out to explore the types of motivation, the influencing factors as well as the intensity of motivation. The results show that there are seven types of English learning motivation-social responsibility, intrinsic interest, information media, internationalization, academic performance, learning situation and personal development. Among them, origin of student distribution has a certain influence on intrinsic interest, and gender and current English level have a prominent interaction on intrinsic interest. In NCEPU, non-English-major postgraduates are generally less motivated and passive in English learning to some degrees. Based on the above results, some teaching suggestions are also put forward.

Key words: English learning motivation; Motivation intensity; Non-English-major; Postgraduates

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INTRODUCTION

In recent years, with the acceleration of globalization, the popularity of English that is the most widely used language, is also dramatically increasing. How to improve English level has become a hot issue for students, teachers and other groups. Scholars at home and abroad have already done a lot of research on the types and intensity of English learning motivation, which is directly related to English learning.

As for the types of English learning motivation, Canadian linguists Gardner & Lambert (1972) divide foreign language learning motivation into instrumental learning motivation and integrative learning motivation from the perspective of social psychology. That means whether learning a foreign language is as a tool to achieve a certain self-purpose or to help learners integrate into the target language culture. Another famous researcher, Dornyei (1994), proposes a three-tier framework motivation theory, namely, language level, learner level and learning situation level. Language level is the main factor affecting learning motivation. At the learner level, there are various factors related to learners themselves, such as learning initiative, self-confidence, etc. At the level of learning situation, there are three groups of specific motivation factors- curriculum, teacher and learning collective. In China, many scholars also discuss the classification of English learning motivation. Gao, Zhao, Cheng & Zhou investigate 2278 undergraduates from 30 universities across the country and find that foreign language as a tool, target language culture and learning situation coexist. Qiu (2008) concludes that English learning motivation can be divided into six types,

such as instrumental motivation, language anxiety and desire to learn English. Si, Wu and Li (2019) classify motivations into situational type, integration type and instrumental type. It can be seen that Chinese scholars have reached similar conclusions on English learning motivation.

Motivation intensity is also a topic worthy of discussion. More and more scholars at home and abroad change their research ideas and introduce demotivation on the basis of exploring positive learning intensity. According to Dornyei (1998), demotivation means that target language learners once had a strong motivation of language learning, but lost this interest and investment for some reasons, which had a negative impact on their language learning attitude and behavior. Using retrospective writing method, Trang & Baldauf (2007) empirically study the demotivation of students in a university in Vietnam and put forward the methods for strengthening learning motivation. Zhou & Wang (2012) argue the negative motivational behavior and performance of college students in the process of English acquisition, as well as the influencing factors of negative motivation. Yu & Wei (2019) study the negative motivation factors of non-English-major postgraduates in foreign language learning. The results show that “communication opportunity and willingness”, “conflict with major learning” and “self-efficacy” are the crucial factors leading to the decline of graduate students’ English learning motivation.

In addition, lots of scholars have investigated the types and intensity of English learning motivation of students from different majors, schools and levels, but there are few researches on non-English majors in science and engineering universities. Therefore, this paper makes a survey of non-English-major postgraduates in North China Electric Power University.

Table 1
Gender and Origin of Student Distribution

	Gender		Origin of Student Distribution						
	Male	Female	East China	North China	Central China	North China	Northwest	Southwest	Northeast
Number of People	53	55	23	3	23	35	10	11	3
Proportion (%)	49.07	50.93	21.30	2.77	21.30	32.41	9.26	10.19	2.77

Table 2
Work (Internship) Experience and Current English Level

	Work (Internship) Experience			Current English Level			
	Yes	NO	Below CET4	Equal to CET4	Equal to CET6/TEM4	Equal to/Above TEM8	
Number of People	47	61	1	31	75	1	
Proportion (%)	43.52	56.48	0.93	28.70	69.44	0.93	

Table 3
Department

	School of Electrical and Electronic Engineering	School of Energy Power and Mechanical Engineering	School of Control and Computer Engineering	School of Economics and Management	School of Renewable Energy	School of Nuclear Science and Engineering	School of Humanities and Social Sciences	School of Mathematics and Physics	School of Environmental Science and Engineering	School of Marxism
Number of People	15	31	11	26	5	4	6	4	4	2
Proportion (%)	13.89%	28.70%	10.19%	24.07%	4.63%	3.70%	5.56%	3.70%	3.70%	1.85%

2. METHODOLOGY

This part is centered on the methodology of the study, involving research questions, research objects, research method and data processing. The method of research covers a questionnaire survey so as to resolve the two research questions.

2.1 Research Questions

Although a large number of scholars have done specific investigations on learning motivation, few people survey how non-English-major graduate students in universities of science and engineering react to English learning motivation. In this research, there are two main problems to be probed into:

(1) What types of English learning motivation are included from non-English-major postgraduates in North China Electric Power University? And what factors affect the types of English learning motivation?

(2) How is the intensity of English learning motivation of non-English-major graduate students in North China Electric Power University?

2.2 Research Objects

The research objects are selected from the non-English-major postgraduates in NCEPU. Through the preliminary questionnaire, 120 seconds at least are required to ensure the study’s reliability. The researcher collects a total of 120 questionnaires, of which 12 invalid questionnaires are excluded, and 108 valid questionnaires are reserved, with a validity of 90%. Eventually, there are 53 boys and 55 girls from 10 different departments participating in this research.

2.3 Research Method

This study adopts the form of online questionnaire, which divided into three parts with 37 questions in total: (1) basic information (questions 1-6) (2) motivation to English learning (questions 7-28) (3) intensity of English learning motivation (questions 29-37). Likert 5-level scale from “strongly disagree” to “strongly agree” is adopted, which is convenient for the interviewees to fill in the questionnaire. Part of question settings are adapted from Gao Yihong (2013).

2.4 Data Processing

SPSS statistical software is applied for data processing, in which factor analysis, multivariate analysis of variance, variance analysis and descriptive statistics analysis are three ways that have been adopted in this research.

To solve the first problem, factor analysis method is used to extract factors from various variables of English learning motivation in order to summarize the types of motivation. Then, multivariate analysis of variance method is employed to explore whether the current English level, gender, work (internship) experience and students’ origin distribution and other factors will affect the types of English learning motivation. Finally, it is necessary to take variance analysis method between the significant factors ($p < 0.05$) and the types of motivation, which can make the results more intuitive.

To solve the second problem, factor analysis is used to extract factors from various variables of English learning motivation intensity to summarize the types of intensity. Then, the intensity of English learning motivation should be judged by descriptive statistics.

3. RESULTS AND DISCUSSION

This part is involved with types of English learning

Table 4
Motivational Factors and Nomenclature in English Learning

No.	Defined name	Corresponding questions and factor loadings	Eigenvalue	Explained variance
1	S o c i a l responsibility	Q17:I learn English so that I can do my best for the prosperity of China.(0.818) Q18:I learn English so that the world can understand China.(0.791) Q19:Learning English well can contribute to the understanding between two countries.(0.776)	5.299	24.097
2	Intrinsic interest	Q7:My love for English songs/movies has made me very interested in learning English.(0.758) Q8:My love for English literature has made me very interested in English.(0.770) Q9:I learn English because I am interested in English-speaking people and their culture.(0.767)	3.070	13.953
3	Information media	Q23:Learn English well can help me read and understand international literature in my major.(0.832) Q24:Learn English well can help me have academic exchanges with international scholars in my major.(0.782) Q25:Learn English well can help me write professional papers that can be read and understood by international colleagues.(0.771)	1.999	9.085
4	Internationalization	Q13:I study English in order to go abroad to find better job opportunities.(0.869) Q14:I study English to go abroad to find better educational opportunities.(0.892) Q15:I learn English for the direct purpose of publishing papers in foreign journals/ attending international academic conferences.(0.402) Q16:I am learning English in order to eventually emigrate abroad.(0.634)	1.659	7.541

To be continued

motivation, their influencing factors and intensity of English learning motivation for non-English-major postgraduates in NCEPU. The data analysis and results will be fully demonstrated.

3.1 Types of English Learning Motivation

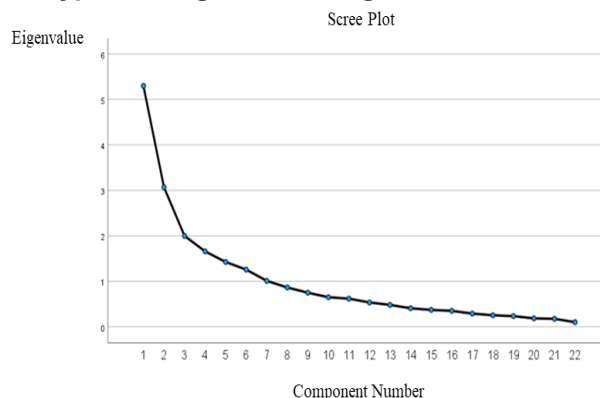


Figure 1
Screen Plot of Factor Analysis

By observing the correlation coefficient matrix of the original variables and combining with Bartlett sphericity test (Observation Value=1066.751, KMO=0.743, Probability p Value<0.001), it can be concluded that the original variables are suitable for factor analysis. Seven factors with eigenvalues greater than 1 are obtained by skew rotation and they explain 71.462% of the total variance of the original variables. In general, the information loss of original variables is less, and the effect of factor analysis is ideal.

Combined with the rotated factor load matrix, the types of English learning motivation can be classified into seven categories, as shown in the Table 4.

Continued

No.	Defined name	Corresponding questions and factor loadings	Eigenvalue	Explained variance
5	Academic performance	Q26:An important purpose of my English studies is to obtain a university degree and diploma.(0.691) Q27:My direct aim in learning English is to get good grades in examinations.(0.901) Q28:My main aim in studying English at present is to pass the English Language Proficiency Test.(0.865)	1.426	6.482
6	Learning situation	Q10:I am willing to learn English because the English textbooks are good.(0.555) Q11:My motivation to learn English depends a lot on whether I like my English class.(0.717) Q12:I like learning when the teacher who teaches English is good.(0.808)	1.258	5.718
7	Personal development	Q20:Speaking fluent English is a symbol of education and cultivation.(0.683) Q21:English is an important brick in the doorway of life.(0.818) Q22:Learning English well will enable me to find a good job in the future.(0.608)	1.011	4.596

The results show that:

(1) Type one can be obtained from the analysis on question 17, 18 and 19. The three questions are closely related to the development of our country or the world, which is also consistent with the idea that all postgraduates of science and engineering colleges are eager to devote themselves into serving the country, and actively fulfill their social responsibility, so this type is named social responsibility.

(2) Type two can be obtained from the analysis on question 7, 8 and 9 which is relevant to personal interest. In this information age, language and culture become quite popular among people and they have a crazy fancy on learning a foreign language. It is widely known that interest is the best teacher. Hence, it is named intrinsic interest.

(3) Type 3 can be concluded from question 23, 24 and 25. They are about international academic exchange as well as reading and writing in English literature. It not only meets the requirement for graduate students in today's education but also becomes a medium to broaden their horizons and conduct in-depth exchanges with overseas scholars. Therefore, it is named information media.

(4) Type 4 includes questions 13, 14, 15 and 16. Some students hope to study, work or live abroad in the future, so as to make their vision break through national boundaries and become more diversified and open, so type 4 is named internationalization.

(5) Type 5 contains questions 26, 27, and 28. They reveal that quite a few students study English so as to achieve their learning goals such as obtaining graduation certificates, degree certificates, English level certificates and passing examinations, so this type is named academic performance.

(6) Type 6 consists of question 10, 11 and 12: “the quality of the learning materials”, “the teaching level of the English teacher” and “the attractiveness of the English class”, all of which relate to specific English learning situations. That is the reason why it is named learning situation.

(7) Type 7 contains questions 20, 21, and 22. In daily life, English is universally used by people, and it is an essential skill for undergraduates' life development, hence the name is personal development.

With the rapid development of globalization, social responsibility and intrinsic interest have become the main motivations for non-English-major undergraduates in universities of science and engineering to learn English. This result also confirms that the current educational idea emphasizes quality education and interest education, not the “pressure-filling” exam-oriented education. Many graduate students pay more attention to combing their personal development with the social contribution, and actively fulfill their social responsibilities and realize their ambitious goals.

3.2 Influencing Factors of Types of English Learning Motivation

On the basis of practical significance and the results of several statistical attempts, gender, origin of student distribution, work (internship) experience and current English level are taken as the independent variables, and the factor value of motivation types as the dependent variable. Through multivariate analysis of variance, it is obvious to see that origin of student distribution has a significant ($p=0.034$) main effect on intrinsic interest; origin of student distribution and work (internship) experience have a certain ($p=0.028$) interaction effect on learning situation; and gender and current English level also have a significant ($p=0.019$) interaction on intrinsic interest.

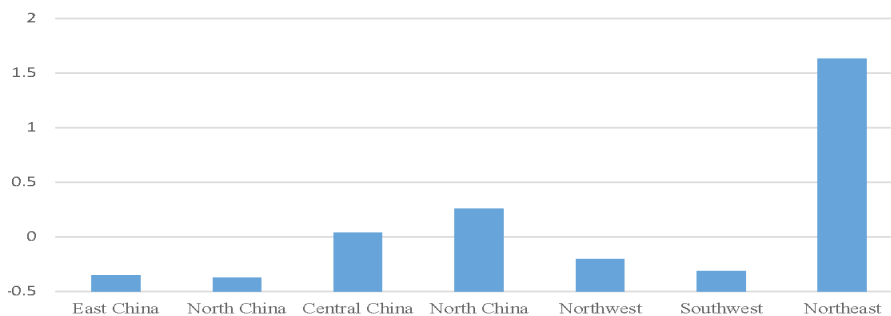


Figure 2
Origin of Student Distribution to Intrinsic Interest

In all types of motivation, origin of student distribution only has a vital effect on intrinsic interest motivation ($p=0.034$). As the number of valid questionnaires (3 samples) collected from Northeast China is small, accounting for 2.78% of the total number, there is no statistical significance in the analysis of the influence of this region on English learning motivation. As North China mainly radiates from the Beijing-Tianjin-Hebei metropolitan area, which includes Beijing, the capital of China, and Tianjin, one of the four municipalities directly under the central government, the English language learning environment in this region is relatively strong, and English teaching resources are relatively abundant.

Therefore, the graduate students in North China have formed the habit of learning English since childhood, and keen language interest is gradually cultivated. Whereas, the motivation of intrinsic interest of graduate students from East China, Northwest China and southwest China is significantly lower than that of other regions. The interviewees in East China are mainly concentrated in Shandong Province, who faces a fierce competition in college entrance examination, so they mainly study English for test-taking. In Northwest and southwest China, English learning environment there is relatively weak. Therefore, the motivation of intrinsic interest in three regions is not strong enough.

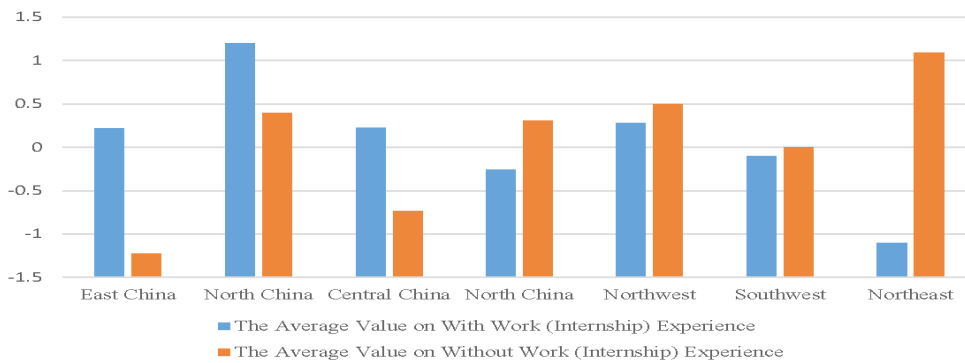


Figure 3
Origin of Student Distribution and Work (Internship) Experience to Learning Situation

There was a significant interaction ($p=0.028$) between origin of student distribution and work (internship) experience. From the results, it is found that only the graduate students who come from Northeast China and have no work (internship) experience, and the graduate students who come from South China and have work (internship) experience show the significant differences

in learning situation motivation. However, the number of valid questionnaires in the two areas is small (both are three samples), accounting for 2.78% and 2.78% of the total number respectively, so it is not enough to make a summarize here. To sum up, it can be concluded that the interaction between origin of student distribution and work (Internship) experience on learning situation is not evident.

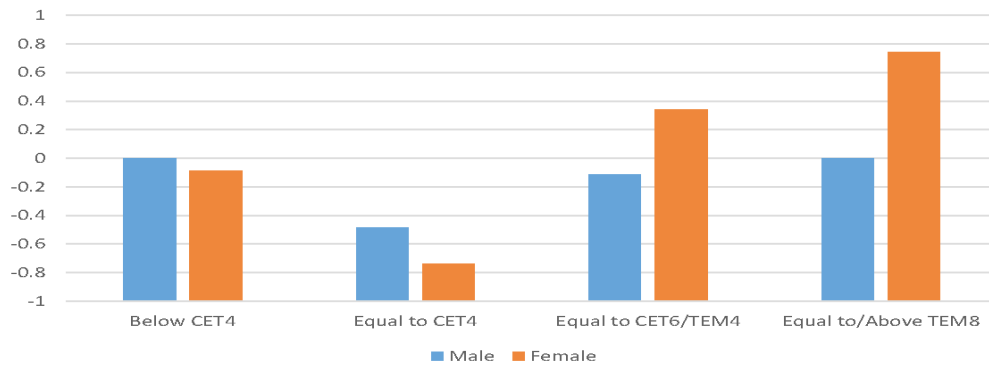


Figure 4
Gender and Current English Level to Intrinsic Interest

There is a significant interaction ($p=0.019$) between gender and current English level in intrinsic interest motivation. As the number of people whose English level is below CET-4 and above CET-8 is small, each accounting for 0.93% of the total number, so the samples of the two types of English level are not analyzed. From the analysis results, in the samples of CET-4, male's

intrinsic interest motivation is stronger than female's, while in the samples of CET-6, women's intrinsic interest motivation is stronger than men's. For female, the higher their current English level is, the stronger their intrinsic interest will be, which may be related to women's stronger perception of language learning. At the same time, it also forms a virtuous circle, that is, intrinsic interest is

conducive to the improvement of English level, which in turn stimulates intrinsic interest. For male, even if their English level is improved, their interest is not enhanced to a certain extent.

3.3 Intensity of English Learning Motivation

Through the analysis on the third part of the questionnaire, it is shown that the data is suitable for factor analysis

(Observation Value=249.469, KMO=0.755, Probability p Value<0.001). Two factors with eigenvalues greater than 1 are obtained by skew rotation and they explain 53.404% of the total variance. Combined with the rotated factor load matrix, the types of English learning intensity can be divided into two categories, as shown in the following table.

Table 5
Motivational Strength Factor and Nomenclature in English learning

No.	Defined name	Corresponding questions and factor loadings	Eigenvalue	Explained variance
1	Positive motivation	Q30:I make a conscious effort to build up my English vocabulary.(0.714) Q32:I make a conscious effort to watch more English films or videos.(0.707) Q35:I usually spend more than 15 hours a week studying English outside of class.(0.728) Q37:In general, I work very hard to learn English well.(0.744)	3.271	36.342
2	Negative motivation	Q29:I rarely seek and create opportunities to converse in English.(0.734) Q31:I rarely look for opportunities to participate in extra-curricular activities in English, such as phonics and intonation competitions, drama performances and speech contests.(0.723) Q33:I rarely listen to (watch) radio (TV) programmes on English channels.(0.712) Q34:I seldom make a special effort to understand English questions that I do not understand.(0.627)	1.536	17.062

In Gardner's theory (1985), he defines motivation as a central psychology engine or energy center that includes emotion, desire and task enjoyment. The first four questions describe the positive behavior of English

learning, which is defined as positive motivation. The last four questions describe the negative behavior of English learning, which is accordingly defined as negative motivation.

Table 6
The Descriptive Statistics on Motivation Intensity of English Learning

Direction	Number of people	Minimum value	Maximum value	Average value	Standard deviation
Positive Motivation	108	1.5	5	3.1782	0.6847
Negative Motivation	108	1.25	5	3.5741	0.6560
Total Number	108	1.25	4.75	2.8021	0.5497

As what can be seen from the above chart, the positive motivation intensity (the average value is 3.1782) is less than the negative motivation intensity (3.5741) and the overall English learning intensity (2.8021) is not high. It indicates that the current English learning of postgraduates is more passive, probably because instrumental motivation occupies a dominant position in English learning. For example, some graduate students study English mainly for further study or job hunting, and after the goal is achieved, their motivation of learning English will be weakened.

4. IMPLICATIONS FOR TEACHING

4.1 Adapting Teaching Forms and Creating a Strong Language Learning Atmosphere

At first, universities can set courses for all students such as "English Literature", "Business Negotiation", "British and American Cultural Appreciation", so that they can better understand foreign culture and thoughts, rather than learning English for examination. Besides, English class can be in the form of flipped classroom or network teaching. Learning content and learning materials should be close to life and capture hot spots, so as to create

an autonomous and dynamic learning environment for students, and finally play a role in establishing an English learning environment and atmosphere. What's more, boys are less gifted than girls in language learning, and they are more subjective and unwilling to be dominated by the outside world. In view of this characteristic, teachers can take an implicit way to point out their shortcomings. Watching English channel sports programs, playing English games or other ways are good methods to study English indirectly, which can arouse their interest in language learning.

4.2 Injecting Students' New Learning Ideas and Taping Their Learning Potential

First of all, universities can take the initiative in organizing English speech competitions, English exchange seminars and other activities to stimulate students' enthusiasm for English learning and cultivate their autonomous learning ability. Secondly, it is imperative for teachers to guide students adjusting their motivation appropriately, and integrate the cultivation of ideological awareness and social responsibility into the daily English teaching process, so that students can sublimate their thoughts and maintain high motivation intensity.

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