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An Investigation on English Learning Engagement of Non-English Major Undergraduates

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Abstract: The degree of learning engagement is a criterion for measuring whether the learning process of college students is effective and an important indicator for evaluating the quality of higher education. Currently, there is a lack of survey research focusing on the current situation of English learning engagement among non-English major college students. This study aims to explore the English learning engagement of non-English major college students by using the method of questionnaire survey. A questionnaire survey was conducted among 157 non-English major undergraduates in a certain university, including 59 male students and 98 female students. The survey results are as follows: (1) The levels of behavioral engagement, emotional engagement, and cognitive engagement in English learning among non-English major undergraduates are at a medium level. (2) The levels of behavioral and emotional engagement of female students are significantly higher than those of male students. (3) The levels of emotional and cognitive engagement of sophomores are significantly higher than those of freshmen. (4) The levels of behavioral, emotional, and cognitive engagement of liberal arts students are significantly higher than those of science students. These findings provide valuable insights into the English learning engagement of non - English major college students. And some useful implications are provided for teachers, universities, and students themselves to improve the overall quality of English learning engagement among this group of students. Future research could further explore the underlying reasons for these differences and seek more effective ways to enhance the English learning engagement and outcomes of non - English major college students.

Keywords: Learning Engagement; English Leaning; Non-English Major Undergraduates.

1. Introduction

Learning engagement is one of the important observable indicators in the learning process of students and one of the predictive indicators of academic achievement. It reflects students' engaged states in terms of behavior, emotion and cognition during the learning process and has received extensive attention from researchers in recent years (Zhang, 2012). Previous studies have shown that learning engagement has a significant impact on students' learning performance. Loscalzo & Giannini (2019) examined the influence of learning engagement on the learning lives of college students, and the results indicated that learning engagement is not only a determining factor in academic performance but also plays a pivotal role in influencing the amount of time students dedicate to their studies. Their research utilized comprehensive data collection methods, including surveys and interviews, to track students' learning behaviors and engagement levels over an extended period. The results clearly showed that highly engaged students were more likely to achieve better grades and spent more time on self-directed learning activities outside of the classroom. Similarly, García-Martínez et al. (2021) explored the impact of learning engagement on college students' academic achievement and quality of life, and found that increasing students' learning engagement can promote their emotional intelligence and resilience, thereby improving academic performance. Wang Yashuang (2017) also confirmed the significance of active learning engagement in promoting students' academic growth and cognitive development. By conducting case studies and comparative analyses of different student groups, which provided valuable insights into the specific mechanisms through which learning engagement influenced learning outcomes.

However, in the context of college English learning, non-English major students often encounter plenty of challenges. A significant portion of these students exhibit a passive stance in their English learning endeavors. Their attitudes towards English learning are frequently downhearted, with motivations that are either unclear or overly utilitarian, primarily focused on simply passing exams rather than truly mastering the language. This results in a dearth of enthusiasm and a generally low level of engagement in English learning. For instance, in many classrooms, non-English major students may appear disinterested during English lessons, showing minimal participation in class discussions and activities. They may also be reluctant to engage in out-of-class English study, such as reading English books or watching English-language films. This study aims to investigate the English learning engagement of non-English major college students. By exploring various dimensions of their English learning engagement, such as behavioral, emotional, and cognitive aspects, we intend to identify the patterns and determinants that influence their English learning processes. Through this research, we hope to offer valuable insights and practical suggestions to enhance the English learning experience and outcomes of non-English major students, thereby contributing to the improvement of college English education quality.

2. Literature Review

This section describes different scholars' definitions of learning engagement as well as their various classifications of the dimensions of learning engagement, and also reviews the empirical studies related to learning engagement.

2.1. Learning Engagement

Learning engagement is a widely studied concept in

education and psychology, and different scholars have defined it in different ways. It was first put forward by the educational psychologist Ralph Tyler in the 1930s. He also proposed the concept of "time on task", believing that the time spent on learning engagement is directly proportional to the knowledge acquired. Since then, the curtain has been raised on the research related to learning engagement (Chen, 2009). Schaufeli et al. (2002) believe that learning engagement is a positive, fulfilling, and learning-related state of mind, which includes three dimensions: vigor, dedication, and absorption. Vigor refers to the psychological resilience and energy that students show during the learning process. Dedication means that students are fully engaged in the learning process. Absorption indicates that students concentrate and are immersed in learning. Zhang Na (2012) also holds that learning engagement means that students actively participate in various learning activities, think deeply, and energetically deal with challenges and setbacks during the learning process.

There are also some other definitions recognized by the public. Kuh (2001) pointed out that students need to manage all resources to promote their learning engagement in learning activities. Engagement is the energy and time that learners invest in order to succeed in academic activities. It is also believed that learning engagement is the quantity (amount) and type (quality) of active participation and engagement of learners in language learning tasks or activities (Hiver et al, 2021). Wang Yashuang (2015) tends to think that learning engagement refers to how students arrange their time and the energy they spend on learning during their school years. Guo Jidong (2016), specific to foreign language learning, believes that foreign language learning engagement refers to the efforts and engagement of foreign language learners in the process of foreign language learning.

Scholars at home and abroad all believe that learning engagement should be studied and analyzed from different specific dimensions, and various dimension classification methods have been proposed. Finn (1989) proposed that learning engagement is a two-dimensional engagement model including behavioral engagement and emotional engagement. Schaufeli (2002) and others proposed that learning engagement is measured in three dimensions, namely vigor, dedication, and absorption. Fredricks (2004) believes that learning engagement contains three dimensions, namely cognitive engagement, behavioral engagement, and emotional engagement. Behavioral engagement mainly refers to the degree of students' participation in academic and social activities, emotional engagement refers to the positive emotions towards academic tasks and learning activities, and cognitive engagement is a certain degree of participation in using cognitive strategies and psychological resources in the learning process. This framework has been relatively unanimously recognized at home and abroad. Chinese scholar Zhu Hongcan (2014) followed Fredricks' three-dimensional engagement model and explored the relationship between the influencing factors of learning engagement and learning engagement. Guo Jidong and others (2016) also divided learning engagement into three dimensions of cognition, emotion, and behavior for foreign language students.

Other scholars also have some different dimension classification methods. Kuh (2009) divided learning engagement into two aspects: the time and experience that students invest in educational activities inside and outside the classroom, and the knowledge of the policy measures and resource environment adopted by the school to encourage students to actively participate in teaching and learning activities. Reeve (2012) believes that engagement is a multidimensional structure with four specific different dimensions, namely behavioral engagement, emotional engagement, cognitive engagement, and social engagement, which are highly interrelated.

To conclude, scholars have great differences in the classification of learning engagement. At present, the classification of learning engagement proposed by Fredicks, including behavioral engagement, emotional engagement, and cognitive engagement, is widely adopted by scholars at home and abroad. Questionnaires based on its dimension classification have also been developed. For example, Ren Qingmei (2022) compiled a multidimensional evaluation scale for college students' English classroom learning engagement suitable for the educational background of our country, which adopts the three dimensions of behavioral engagement, emotional engagement, and cognitive engagement.

2.2. Factors Affecting Learning Engagement

According to the research findings of scholars at home and abroad, there are many factors that affect students' learning engagement. Kinderman's (1993) longitudinal study found that students are more inclined to associate with students whose learning engagement levels are similar to their own, and having a circle of friends with a higher level of behavioral engagement than themselves can predict that students' behavioral engagement levels will significantly improve. Fredicks (2004) also pointed out that peer support will have an impact on students' learning engagement. Most of the existing studies have explored the teacher factors that affect students' learning engagement. Regarding teacher support, Skinner and Belmont (1993) found that students' learning engagement is affected by teacher involvement and actual teacher behavior. When students perceive teacher support, they will show a higher level of learning interest and more positive emotional states. Students who have a clearer experience of teacher expectations and are provided with strategic help are more likely to show high effort and high persistence in learning. For teachers' educational concepts and behaviors, A study found that students taught by teachers who pay attention to students' social development and academic needs show better learning engagement and are more likely to seek help from others (Ryan et al, 1998). Helme and Clarke's research (2001) found that the characteristics of the tasks assigned by teachers in classroom activities (such as the novelty of the task, the connection between the task and students' personal experiences, etc.) will promote students' cognitive engagement. Regarding teachers' attitudes and expectations, Blumenfeld and Meece's (1988) research found that students whose teachers pay attention to communicating with them and expressing expectations of them have a higher level of cognitive engagement. Teshia and others pointed out that teachers' behaviors and attitudes also have a positive impact on students' learning engagement. The school and class levels are also important factors affecting students' learning engagement. Marks (2000) found that class support can predict the learning engagement level of middle school students. Zhang Na (2012) clearly pointed out that factors such as school size, sense of belonging, learning atmosphere, and academic burden will affect students' learning engagement.

Other researchers have also pointed out that factors such as student interest, self-efficacy, metacognition, and intrinsic learning motivation will also have an impact on students' learning engagement (Ainley et al, 2011; Ouweneel et al, 2013; Pellas, 2014; Lambert et al, 2017). It can be seen that the main influencing factors of students' learning engagement include congenital, educational, and learner personal factors (Xu & Fan, 2019).

Whether students are seriously engaged in class is likely to also affect learning outcomes. Numerous studies have shown that learning engagement has a significant impact on learning outcomes. Fredricks et al. (2004) believe that learning engagement can predict learning outcomes and academic achievements. Guo Jidong (2018) found in his research that emotional engagement is an important factor affecting academic performance. He divided emotional engagement into two major categories: intrinsic and extrinsic. Intrinsic emotional engagement can positively predict academic performance; extrinsic emotional engagement indirectly predicts academic performance through the mediating role of intrinsic emotional engagement. Li et al. (2019) surveyed non-English major undergraduates in four universities and found that increasing undergraduates' reading learning engagement can help them improve their English reading ability and promote their English professional development.

2.3. Research on the Learning Engagement Scale

In order to investigate the level of students' learning engagement, scholars at home and abroad have developed different learning engagement scales. One of the most influential measurement tools is the National Survey of Student Engagement (NSSE) scale for college students in the United States, which covers three aspects: student behavior, school behavior, and student satisfaction. Schaufeli et al. (2002) developed the Utrecht Work Engagement Scale-Student (UWES-S) based on the NSSE, which includes three aspects: vitality, dedication, and concentration, to measure and study the current status of college students' learning engagement. Coates and other researchers (2006) developed the Student Engagement Questionnaire (abbreviated as "SEQ") with the aid of modern information technology to measure the current status of students' online and offline learning engagement. Subsequently, some researchers developed the On-line Student Engagement Survey (abbreviated as "OSES") from the four dimensions of students' learning participation, emotional experience, skill mastery, and learning achievement to measure the current status of students' online learning engagement. Fang Laitan, Shi Kan, et al. (2008) translated the UWES-S scale from abroad to conduct a measurement study on the current status of college students' and graduate students' learning engagement. Sun Weiwen (2009), when developing the middle school student learning engagement scale, fully drew on several foreign scales with good reliability and validity and closely combined with the actual national conditions of our country. The scale covers three dimensions: behavior, emotion, and cognition, aiming to accurately measure and deeply study the current status of middle school students' learning engagement and provide an effective research tool for understanding the learning engagement situation of middle school students in our country.

Based on the UWESS scale, Li Xiying and others (2010) designed a learning engagement scale according to the learning characteristics of Chinese college students. Guo Jidong and Li Yu (2018) formulated a scale for college students' active engagement in foreign language learning according to the characteristics and needs of Chinese students' foreign language learning. This scale is constructed from four dimensions: autonomous learning, assisting teachers, cooperating with teachers, and helping classmates, comprehensively considering the positive behavior of college students in the process of foreign language learning. They also further developed a scale for the dynamic engagement of Chinese college students in foreign language learning, providing a basic example for the research on dynamic engagement in China. Ren Qingmei (2022) developed a multi-dimensional evaluation scale for college students' English classroom learning engagement suitable for the educational environment in our country. This scale systematically covers various aspects such as the conceptual definition, evaluation index system, and theoretical framework of college students' English classroom learning engagement, providing a scientific and comprehensive tool for accurately assessing the learning engagement status of college students in English classrooms in our country.

2.4. Current Study

This study focuses on investigating the overall situation of English learning behavior, emotion, and cognitive engagement of non-English major undergraduates, as well as the differences in these three types of learning engagement among students of different genders and in the freshman and sophomore years. The research questions are:

(1) What are the situations of English learning behavior, emotion, and cognitive engagement of non-English major undergraduates?

(2) What are the differences in the English learning engagement levels between male and female students?

(3) What are the differences in the English learning engagement levels between freshman and sophomore students?

3. Methodology

3.1. Participates

In this study, 157 non-English major undergraduates in the freshman and sophomore years from a university in Sichuan Province were selected as the survey objects, including both liberal arts students and science students. A total of 157 valid questionnaires were finally collected, among which 62 were from male students, accounting for 39%, and 95 were from female students, accounting for 61%.

3.2. Instrument

This study adopted the "Multidimensional Evaluation Scale of College Students' English Classroom Learning Engagement" compiled by Ren Qingmei (2022). This scale has good reliability and validity and was used as the questionnaire for investigating the English learning engagement of non-English major college students.

The questionnaire mainly consists of two parts. The first part is about the basic information of the respondents, including three items, namely gender, grade, and major type. The second part is the main content of the questionnaire, with a total of 30 questions, involving three dimensions: behavior, emotion, and cognition. Specifically, there are 9 questions for behavioral engagement, 10 questions for emotional

engagement, and 11 questions for cognitive engagement. It adopts the Likert five-point scoring system, and the scores for item options range from 1 point to 5 points, representing "completely inconsistent", "relatively inconsistent", "uncertain", "relatively consistent", and "completely consistent" in sequence.

Through reliability testing of this scale, the coefficient of the total scale is 0.98. The correlation coefficients of behavioral engagement, emotional engagement, and cognitive engagement are between 0.79 and 0.83, all reaching a significant level ($p < 0.01$). The reliability of both the total scale and the sub-scales is greater than 0.7, indicating good reliability. In the second-order measurement model, the fit between the three dimensions and their respective included elements and items is good. Moreover, the NFI (Normed Fit Index), RFI (Relative Fit Index), IFI (Incremental Fit Index), TLI (Tucker-Lewis Index), and CFI (Comparative Fit Index) are all greater than 0.9, demonstrating that the scale has good structural validity.

3.3. Data Collection and Analysis

This study adopted a combined method of stratified sampling and random sampling to distribute questionnaires to freshmen and sophomores majoring in non-English majors. After collecting the data on the Questionnaire Star platform, the data was exported as an Excel file and then imported into SPSS27 for data analysis. Firstly, descriptive statistical analysis was conducted to analyze the overall and multi-dimensional engagement status of non-English major college students. Then, an independent-samples T-test was used to conduct a difference analysis on the survey data regarding the current situation of English learning engagement of non-English major college students, aiming to explore whether there are differences in learning engagement among different genders, grades, and majors.

4. Results

This section describes the findings of this study regarding the four research questions and presents the corresponding graphs within the content of each section.

4.1. The Overall Situation of English Learning Engagement

In order to explore the overall situation and the current status of each dimension of English learning engagement among non-English major college students, descriptive statistical analysis was conducted on the survey data of the engagement status, and the results are shown in Table 1.

Table 1. Descriptive statistical results of the English learning engagement level of non-English major undergraduates (n=157)

	Minimum value	Maximum value	Mean	SD
Learning engagement (overall)	1	5	3.79	0.685
Behavioral engagement	1	5	3.76	0.639
Emotional engagement	1	5	3.77	0.808
Cognitive engagement	1	5	3.83	0.785

As can be seen from Table 1, the average value of the overall learning engagement status of 157 students is 3.79 (falling between 3 and 4), indicating that the overall status is at a medium level and there is still room for improvement.

4.2. The Differences in Learning Engagement Between Male and Female Students

The results of the independent-sample T-test on the differences in English learning engagement between 59 male students and 98 female students in this study are shown in Table 2.

Table 2. Results of the independent-sample test on the differences between male and female students

Dependent Variable	Category	N	Mean	SD	t	p	95% Confidence Interval of the Difference	
							Lower Limit	Upper Limit
Behavioral engagement	Male	59	3.1092	.84861	-8.837	.000	-1.08275	-.68711
	Female	98	3.9941	.39944	-7.524	.000	-1.11930	-.65056
Emotional engagement	Male	59	3.1441	1.00641	-6.970	.000	-1.09983	-.61407
	Female	98	4.0010	.53293	-6.050	.000	-1.13896	-.57494
Cognitive engagement	Male	59	3.3390	1.01090	-4.921	.000	-.88472	-.37792
	Female	98	3.9703	.59778	-4.360	.000	-.91934	-.34331

The three levels of English learning engagement of female students are all higher than those of male students, especially in the level of behavioral engagement, a significant difference was reached ($t = -8.180$, $p < 0.001$).

4.3. The Differences in Learning Engagement Between Freshmen and Sophomores

The results of the independent-samples T-test for the differences in English learning engagement between 55 freshmen and 102 sophomores in this study are shown in Table 3.

Table 3. Results of the independent-sample test on the differences between freshman and sophomore students

Dependent Variable	Category	N	Mean	SD	t	p	95% Confidence Interval of the Difference	
							Lower Limit	Upper Limit
Behavioral Engagement	Freshman	55	3.4444	.92653	-2.746	.007	-.57476	-.09377
	Sophomore	102	3.7786	.59483	-2.420	.018	-.60921	-.05932
Emotional Engagement	Freshman	55	3.3036	1.00994	-4.270	.000	-.84504	-.31043
	Sophomore	102	3.8814	.67732	-3.806	.000	-.87978	-.27569
Cognitive Engagement	Freshman	55	3.4831	.96414	-2.817	.005	-.65456	-.11495
	Sophomore	102	3.8678	.72526	-2.591	.011	-.67992	-.08958

As can be seen from Table 3, the three levels of English learning engagement of sophomores are all higher than those of freshmen, especially in terms of emotional engagement ($t = -4.035$, $p < 0.001$).

4.4. The Differences in Learning Engagement Between Liberal Arts Students and Science Students

The results of the independent-samples T-test for the differences in English learning engagement between 113 liberal arts students and 44 science students in this study are shown in Table 4.

Table 4. Results of the independent-sample test on the differences between liberal arts students and science students

Dependent Variable	Category	N	Mean	SD	t	P	95% Confidence Interval of the Difference	
							Lower Limit	
Behavioral Engagement	Liberal Arts	113	3.7548	.63887	-2.565	.011	.07652	.58895
	Science	44	3.4220	.92592	-2.189	.032	.02870	.63677
Emotional Engagement	Liberal Arts	113	3.7699	.80765	-2.167	.032	.02874	.62018
	Science	44	3.4455	.92697	-2.04	.045	.00720	.64172
Cognitive Engagement	Liberal Arts	113	3.8295	.78446	-2.354	.020	.05529	.63274
	Science	44	3.4855	.91425	-2.2	.031	.03212	.65591

It can be seen from Table 4 that the three levels of English learning engagement of liberal arts students are all higher than those of science students, especially in terms of behavioral engagement ($t = -2.373$, $p < 0.001$).

5. Discussion

This section discusses the findings in relation to the four research questions. Each section from 5.1 to 5.4 separately explains each research question.

5.1. The Overall Situation of English Learning Engagement of Non-English Major Undergraduates

This study shows that the average value of the overall engagement status of 157 students is 3.79 (falling between 3 and 4), indicating a medium level of the overall status and suggesting that there is room for improvement. The average values of behavioral engagement, emotional engagement, and cognitive engagement are 3.76, 3.77, and 3.83 respectively. Obviously, the engagements in the behavioral, emotional, and cognitive dimensions are not balanced, with the behavioral engagement being the lowest. Meanwhile, the standard deviations of behavioral, emotional, and cognitive engagements are 0.639, 0.808, and 0.785 in sequence. It can be seen that the emotional engagement has the greatest difference and is the most prominent. This is similar to the research findings of Ren Qingmei et al. (2024), where the level of cognitive engagement is relatively high, followed by the levels of behavioral and emotional engagement.

Behavioral engagement in English learning reflects the actual level of students' participation in learning activities and their interaction with learning tasks in and out of class. The research subjects of this study are non-English major undergraduates in the first and second grades. The major courses of non-English majors take up a large amount of their study time and energy, making it difficult for them to allocate enough time for English learning activities. They seldom have time for English reading, writing exercises, etc., thus resulting in a relatively low level of behavioral engagement in English learning.

Emotional engagement in English learning includes not only interest in English learning but also the recognition of the value of English learning, self-confidence in English learning, and the teacher-student relationship formed during learning. Many non-English majors learn English mainly for utilitarian purposes such as meeting the graduation requirements of the school or passing CET-4 and CET-6. Once they achieve these basic goals, they lack the internal motivation to further study English in depth and it is difficult for them to generate strong interest and enthusiasm for English learning in terms of emotion. Therefore, the emotional engagement in English learning of non-English major undergraduates in this study is at a medium level.

Cognitive engagement in English learning mainly reflects the efforts, attention, and learning strategies that students invest in mastering the learned content (Ren, 2021). This includes not only the metacognitive strategies used by learners in the process of English learning, such as setting goals, making plans, self-monitoring, and self-evaluation, but

also the cognitive strategies such as using reference materials, taking notes, and organizing and summarizing learning materials (Guo & Liu, 2016). Non-English majors have developed certain learning abilities in their major studies, such as logical thinking ability and analytical and inductive ability, which can be transferred to English learning, making the cognitive engagement relatively high.

5.2. The Differences in Learning Engagement Between Male and Female Students

This study shows that the three levels of English learning engagement of female students are all higher than those of male students. The T-test P values of the overall engagement as well as the behavioral, emotional, and cognitive engagement of male and female students are all less than 0.05, indicating that there are significant differences in the overall engagement as well as the behavioral, emotional, and cognitive engagement between male and female students. Specifically, the average values of the overall engagement of 59 male students and 98 female students are 3.217 and 3.988 respectively. It can be seen that the average value of the overall engagement of male students is significantly lower than that of female students. In terms of the engagement in each dimension of behavior, emotion, and cognition, the average values of male students are 3.109, 3.144, and 3.339 in turn, while the average values of female students are 3.994, 4.001, and 3.970 in turn. Obviously, male students are lower than female students in terms of behavioral, emotional, and cognitive engagement.

The level of female students is significantly higher than that of male students, which may be related to learners' English learning self-efficacy. The overall English learning self-efficacy of female students, as well as their specific self-efficacy in English learning ability and English learning behavior, are all significantly higher than those of male students (Wang & Huang, 2014). Female students display self - efficacy in time management, method exploration, and plan execution. They skillfully allocate their daily study time, ensuring sufficient hours for English learning. In contrast, male students generally show lower self-efficacy in these aspects, which impacts their English learning outcomes.

5.3. The Differences in Learning Engagement Between Freshmen and Sophomores

This study indicates that the three English learning engagement levels of the sophomore students are all higher than those of the freshmen. The independent sample T-test P values of the first-year and second-year students' engagement in each dimension of behavior, emotion, and cognition are all less than 0.05, suggesting that there are significant differences in the behavioral, emotional, and cognitive engagement between the first-year and second-year students. Specifically, the average values of the overall engagement of 55 and 102 first-year and second-year students are 3.411 and 3.843 respectively, from which the significant differences between the two can be seen. Meanwhile, the average values of behavioral engagement of the first-year and second-year students are 3.445 and 3.779 respectively, in terms of emotional engagement, the mean values of the first-year and second-year students are 3.304 and 3.881 respectively, and the average values of cognitive engagement of the first-year and second-year students are 3.483 and 3.868 respectively. It can be seen that the behavioral, emotional, and cognitive engagement of the sophomore students is significantly higher than that of the freshmen. From the above, there are significant grade differences in the overall English learning engagement of non-English major college students as well as in the behavioral and emotional dimensions.

Academically, sophomores have had more exposure to the college curriculum and have a better understanding of the requirements and importance of English learning. They may have realized that a good command of English is crucial for their future academic pursuits, such as accessing professional literature or participating in international exchange programs. This awareness leads to higher cognitive engagement.

5.4. The Differences in Learning Engagement Between Liberal Arts Students and Science Students

This study indicates that the three English learning engagement levels of the liberal arts students are all higher than those of the science students. The independent sample T-test P values of the students in the liberal arts and science in each dimension of behavior, emotion, and cognition are all less than 0.05, which indicates that there are significant differences in the behavioral, emotional, and cognitive engagement between the liberal arts and science students. Specifically, the average values of the overall engagement of 113 and 44 liberal arts and science students are 3.785 and 3.451 respectively, from which the significant differences between the two can be seen. Meanwhile, the average values of behavioral engagement of the liberal arts and science students are 3.756 and 3.422 respectively, in terms of the mean values of emotional engagement, they are 3.770 and 3.446 respectively, and in the aspect of average values of cognitive engagement, they are 3.830 and 3.486 respectively. It can be seen that the behavioral, emotional, and cognitive engagement of the liberal arts students is significantly higher than that of the science students. From the above, there exist significant professional differences in the overall English learning engagement of non-English major college students as well as in the behavioral and emotional dimensions.

The higher English learning engagement among liberal arts students can be related to the nature of their disciplines. Liberal arts majors often involve more reading, writing, and critical thinking tasks in English, such as analyzing English literary works or writing research papers in English. This frequent use of English in their academic work naturally leads to higher behavioral, emotional, and cognitive engagement.

6. Conclusion and Implications

This study investigated the English learning engagement of 157 non-English major undergraduates. The research findings are as follows: (1) The levels of behavioral engagement, emotional engagement, and cognitive engagement in English learning among non-English major undergraduates are at a medium level. (2) The levels of behavioral and emotional engagement of female students are significantly higher than those of male students. (3) The levels of emotional and cognitive engagement of sophomores are significantly higher than those of freshmen. (4) The levels of behavioral, emotional, and cognitive engagement of liberal arts students are significantly higher than those of science students.

The implications of this study are as follows. For non-English major undergraduates, since learning input has a significant impact on learning outcomes, teachers should fully understand the specific situation of students' learning input.

Attention should be paid to improving students' behavioral input, emotional input and cognitive input in English learning, because these three types of learning input are all significantly positively correlated with academic performance. Teachers should increase activities such as group discussions, project-based learning and role-playing, encourage students to actively participate, apply the learned English knowledge to practical communication scenarios, improve language application ability and enhance the fun and sense of achievement in learning.

For colleges and universities, a hierarchical, classified and diversified English curriculum system, such as Business English, Scientific English, Appreciation of British and American Literature, etc., should be constructed according to students' different learning stages and English proficiency levels to meet students' individualized learning needs and stimulate them to actively engage in English learning related to their future careers or interests.

For students themselves, they should realize that English learning is not only for passing exams, but also an important way to improve comprehensive qualities, broaden international horizons and enhance future employment competitiveness. They should abandon utilitarian short-term learning goals and establish long-term learning visions, integrate English learning into daily life and cultivate the habit of autonomous learning. For example, a fixed time can be arranged every day to read English news, watch English movies or listen to English broadcasts, so as to improve English proficiency imperceptibly and increase the continuity of learning input. Understanding and mastering suitable English learning strategies will have a significant effect on improving the effect of learning input.

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