Factors Affecting College Students' Autonomous English Learning Ability and Strategies for Improvement

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Abstract:*Autonomous learning is one of the advocated learning methods in a learning-oriented society and is also a requirement for reform in college English teaching. A semester-long investigation was conducted on non-English major college students' autonomous English learning, involving a series of studies with a questionnaire survey of 120 second-year non-English major students at a certain university. The results indicate that the current level of autonomous English learning ability among college students is still relatively low. Moreover, individual English proficiency, the class environment, and the amount of time spent on English learning outside of class significantly affect this ability. Therefore, universities should strengthen the reform of college English teaching, promote a shift in teachers' teaching concepts, and focus on enhancing students' self-efficacy. Additionally, improving students' motivation levels and appropriately extending the time for completing assignments outside of class are necessary to enhance college students' autonomous learning ability.*

Keywords:*Autonomous Learning; College Students; Non-English Majors; Influencing Factors; Improvement Strategies*

1. Introduction to the Problem

In his report at the 20th National Congress, General Secretary Xi Jinping proposed the strategy of strengthening the country through science and education, emphasizing the need to reinforce the talent support for modernization. The construction of socialist modernization requires a large pool of talent. However, there are certain challenges in the current talent cultivation system in China, with talent autonomy and innovation struggling to meet the demands of international competition in the new era. A key issue in the educational reform of the new era is to transition learners from "learning to learn" to "learning how to learn," build a learning-oriented society, and cultivate a new generation of lifelong learners. With the advancement of educational information technology, the traditional university teaching model can no longer meet the high demands of modern society for talent. The emergence of mobile learning, online learning, ubiquitous learning, and intelligent education has led to various changes in students' learning methods. As an important compulsory course in higher education in China, college English directly impacts contemporary youth's English proficiency and literacy and may also influence the development of other disciplines. The college English curriculum explicitly requires the promotion of students' autonomous learning abilities. Therefore, under the current college English curriculum, how is the autonomous learning ability of students outside the classroom? What is their performance in college English classes? In the face of rapid economic and social development and cultural diversity, how can current college students enhance their autonomous learning ability to adapt to societal changes and improve personal competitiveness?

2. The Connotation of Autonomous Learning

Autonomous learning can be traced back to three major educational reform movements in the United States. Subsequently, research on autonomous learning began to emerge, with the behaviorist school focusing on self-reinforcement in autonomous learning, the Vygotskian school emphasizing self-guidance, the social cognitive school addressing self-observation, self-judgment, and self-reflection, and the information processing school focusing on the interaction between the learner and the environment. Among these, the most representative definition is the "process view" proposed by Zimmerman, who views autonomous learning as the active and proactive participation of learners in metacognition,

motivation, and behavior [1]. Domestic scholar Pang Guowei also holds this view and further divides autonomous learning into four participatory processes: psychological basis, learning motivation, learning strategies, and learning will [2]. In contrast, Holkek’ s "ability view" considers autonomous learning as an ability that helps learners set learning goals, content, methods, processes, and outcomes [3]. In summary, although there is no unified standard for defining autonomous learning, its definitions generally encompass the following aspects: subjective cognition of learning, performance in learning abilities, cognitive feedback after learning, and other extended elements. Therefore, this study, based on existing research, divides autonomous learning into two main parts: learning cognition and ability performance.

Due to the diversity in the definition of autonomous learning, there is currently no unified measurement scheme in the academic community. Scholars from both domestic and international contexts have designed various measurement indicators based on different research focuses. For example, Weinstein measures autonomous learning from ten aspects: attitude and interest, self-discipline, time management, performance anxiety, learning focus, information acquisition, information processing, learning materials, learning preparation, and exam strategies[4]. Xu Jinfeng and Peng Renzhong, considering the characteristics of English teaching in China, developed a measurement of college students' autonomous English learning ability that includes five dimensions: teaching objectives and requirements, setting learning goals and plans, learning strategies, monitoring the use of learning strategies, and assessing the English learning process [5]. This study utilizes existing research results to describe contemporary college students' autonomous learning cognition and uses self-management learning ability and autonomous learning behavior to describe their performance in autonomous learning.

3. Research Design and Methods

3.1 Research Questions

Current research on the status of college students' autonomous learning shows considerable variability in conclusions. Some studies indicate that students exhibit weak subjective initiative, lack habits of previewing and gathering materials before class, are unable to question teachers during class, and often pursue instrumental learning. Based on these observations, this study primarily addresses the following questions: (1) How is the current level of autonomous learning ability among college students? (2) What factors influence college students' ability to engage in autonomous learning? (3) How can the autonomous learning ability of college students be improved?

3.2 Questionnaire Development

Integrating Zimmerman’s theoretical model of autonomous learning and the exploration of autonomous learning dimensions by Pang Guowei, Xu Jinfeng, and others, this study utilized Lin Lilan's research results to determine the dimensions of the questionnaire. Adjustments were made to the indicators of each dimension, resulting in the final framework for describing autonomous learning ability, as shown in Table 1. The questionnaire uses a 4-point Likert scale, with options including “Strongly Disagree,” “Disagree,” “Agree,” and “Strongly Agree.”

Table 1. Framework for Describing Autonomous Learning Ability

First-Level Dimension	Second-Level Dimension”	Specific Indicators
Autonomous Learning	Learning Cognition	Self-awareness, self-efficacy, learning motivation
	Capability	Goal setting, planning, strategy application, process
	Performance	monitoring, outcome assessment

3.3 Data Sources

The research subjects primarily consisted of three second-year non-English major classes from a university in Changchun. All three classes were taught by the same instructor, and the textbook used was "College Advanced English Comprehensive Course 2." Before the start and at the end of the second semester of the 2022-2023 academic year, anonymous questionnaires were distributed to these three classes. A total of 132 questionnaires were collected in the pre-test, with 120 valid responses, resulting

in an effective response rate of 90.9%. The participants included students from the School of Education and the School of International Business, with specific majors such as E-Commerce, Early Childhood Education, Accounting, Human Resource Management, and International Chinese Education. Among them were 45 male and 75 female students. The total number of distributed questionnaires was 132, with an effective response rate of 90.9%. The details of the research subjects are shown in Table 2.

Table 2 Composition of Research Subjects

Category	Level	Number of people/Person	Percentage/ %
Gender	Male	45	37.50%
	Female	75	62.50%
English Proficiency	Passed CET-4 (College English Test Band 4)	59	49.17%
	Failed CET-4 (College English Test Band 4)	61	50.83%
Class	College English Class 1	44	36.67%
	College English Class 2	33	27.50%
	College English Class 3	43	35.83%

3.4 Reliability and Validity Analysis

This study used SPSS 26.0 statistical analysis software to conduct reliability and validity testing of the data, with results presented in Table 3. The Cronbach's α for both dimensions of learning cognition and ability performance was greater than 0.8, indicating high reliability. The overall Cronbach's α for autonomous learning was 0.947, reflecting good reliability. The KMO value for the validity of the study was 0.925, exceeding 0.9, and the Bartlett's test of sphericity was statistically significant ($p < 0.001$), indicating that the data are suitable for factor analysis. Principal component analysis was used to extract factors, and the maximum variance method was employed for rotation. Ultimately, 2 factors were extracted, explaining a cumulative variance of 53.30%, with factor loadings greater than 0.5, demonstrating good validity.

Table 3: Reliability and Validity of Autonomous Learning Measurement

Dimension	Cronbach's α	KMO Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
			Approximate Chi-Square	Degrees of Freedom	p
Learning Cognition	0.867	0.820	492.980	36	0.000
Ability Performance	0.934	0.931	1053.134	105	0.000
Autonomous Learning	0.947	0.925	1751.818	276	0.000

4. Survey Results and Analysis

4.1 Differences in Autonomous Learning Among University Students with Different English Proficiency Levels

This study considers English proficiency levels as influencing factors and autonomous learning dimensions as dependent variables, using independent samples t-tests. The results are shown in Table 4. The study finds significant differences in self-cognition, self-efficacy, learning motivation, and planning abilities among university students with different English proficiency levels, with no significant differences observed in other dimensions. Students who have passed the CET-4 exam score higher in all dimensions compared to those who have not passed. This indicates that students who have passed the CET-4 exhibit stronger learning cognition, motivation, and self-efficacy in autonomous learning and are more proficient in planning their studies compared to those who have not passed. These differences may be reasons why some students did not pass the CET-4. On one hand, the level of self-efficacy affects learning motivation; students with high self-efficacy tend to set higher goals and work hard to achieve them, while those with low self-efficacy may experience reduced motivation, leading to insufficient drive to pass the English exam. On the other hand, during the preparation process for CET-4, students who did not pass may have failed to effectively plan their studies, blindly following others' study content without adapting it to their own English proficiency, ultimately resulting in their failure to pass the CET-4.

Table 4 Differences in Autonomous Learning Dimensions Among Students with Different English Proficiency Levels

Dimension	Category	Mean	Standard Deviation	p
Self-Cognition	Passed	2.99	0.586	0.006
	Not Passed	2.68	0.642	
Self-Efficacy	Passed	3.05	0.585	0.002
	Not Passed	2.69	0.666	
Learning Motivation	Passed	2.94	0.613	0.002
	Not Passed	2.57	0.644	
Goal Setting	Passed	2.97	0.583	0.054
	Not Passed	2.75	0.637	
Planning	Passed	2.92	0.568	0.032
	Not Passed	2.68	0.655	
Strategy Use	Passed	2.88	0.597	0.166
	Not Passed	2.72	0.615	
Process Monitoring	Passed	2.86	0.629	0.066
	Not Passed	2.65	0.634	
Outcome Evaluation	Passed	2.75	0.608	0.142
	Not Passed	2.57	0.664	

4.2 Differences in Autonomous Learning Among Students in Different Classes

Class was used as the influencing factor, and the dimensions of autonomous learning were used as dependent variables. One-way ANOVA was performed, revealing significant differences in process monitoring ($p = 0.026$) and outcome evaluation ($p = 0.035$) among students in different classes, with no significant differences in other dimensions ($p > 0.05$). LSD post hoc multiple comparisons showed significant differences between students in College English Class 1 and College English Class 3 in both outcome evaluation and process monitoring. In both dimensions, the mean scores for College English Class 1 were higher than those for College English Class 3. This indicates that students in College English Class 1, consisting of majors such as E-commerce and Early Childhood Education, generally engage more in monitoring learning processes and evaluating learning outcomes during autonomous learning.

They pay more attention to the process and results of autonomous learning and show higher learning motivation compared to students in Chinese International Education, exhibiting a result-oriented approach to English learning. Interviews with the course instructor revealed that College English Class 1 has a more active classroom atmosphere and more frequent teacher-student interactions than College English Class 3. The presence of male students creates a more relaxed learning environment, encouraging students to answer questions and ask the teacher questions even when uncertain. In contrast, College English Class 3 has very few male students, and the class committee is entirely composed of females. The class committee rarely takes the initiative to interact with the teacher, resulting in a lack of proactive learning atmosphere in the entire class.

4.3 Differences in Autonomous Learning Among Students with Different Study Times

The time spent on English study after class was used as the influencing factor, and the dimensions of autonomous learning were used as dependent variables. One-way ANOVA was conducted, revealing significant differences in all dimensions of autonomous learning based on the time spent on English study after class ($p < 0.05$). LSD post hoc comparisons indicated that students who spent “less than 1 hour” on English study after class showed significant differences from students who spent “1-2 hours,” “2-4 hours,” and “more than 4 hours” on each dimension of autonomous learning. This suggests that appropriately extending the time spent on English study after class can enhance university students' autonomous learning cognition and performance. Further analysis of the data showed that students with different amounts of time spent on English study after class had higher mean scores in self-efficacy compared to other dimensions. This indicates that they are confident in their ability to learn English and believe that effort will lead to improvement in their English learning. In contrast, the overall average level of learning motivation was lower than self-efficacy, and the mean scores for learning motivation were lower than self-efficacy across all time groups, suggesting that students' motivation for autonomous English learning needs improvement. In terms of specific learning behaviors, the planning dimension was significantly higher than other learning behaviors, indicating that students, regardless of how much time they spend on learning after class, tend to develop specific learning plans. This supports the important role of planning in passing English exams, as discussed in the exploration of autonomous learning dimensions among students with different English proficiency levels.

5. Strategies for Improvement

5.1 Maximize Self-Efficacy to Enhance Motivation Levels

Research has found that learners with strong autonomous learning abilities exhibit higher levels of self-awareness, learning motivation, and self-efficacy, which is consistent with other scholarly conclusions [6]. The motivation and self-efficacy of university students are significantly correlated with autonomous English learning. Motivation and self-efficacy have long been important areas of psychological research. Motivation serves as the internal psychological force that stimulates and sustains human activity, driving individual behavior and decision-making. Self-efficacy levels can also enhance or undermine motivation. Additionally, studies have shown that students with high self-efficacy are better at setting learning goals, employing learning strategies, and monitoring and evaluating their learning processes[7], a finding supported by this study. Therefore, enhancing university students' self-efficacy plays a crucial role in developing their autonomous learning abilities. In teaching practice, educators should aim to enhance students' self-efficacy as a key educational objective. This includes helping students establish a positive self-concept, boosting their learning motivation, and providing personalized guidance to help them set learning goals. By fostering a high sense of competence, students will proactively address difficulties in learning, experience positive emotional outcomes, and promote the continuous development of autonomous learning.

5.2 Increase Task Difficulty and Extend Autonomous Learning Time

Research has found that learners who spend more than one hour per day on post-class study generally exhibit better autonomous learning abilities compared to those who study less than one hour per day. This conclusion is also supported by research on graduate students' autonomous learning , indicating that the amount of time invested in extracurricular study is a significant factor influencing autonomous learning. Language learning typically encompasses listening, speaking, reading, and writing. However, the time allotted for two public English classes per week is insufficient to cover all four aspects of English

learning. In this study, only 10 students, approximately 8.3% of the total, spent more than four hours per day on post-class English study. This limited investment in extracurricular English learning contributes to the current low levels of autonomous learning ability among university students. Therefore, to address this issue, university English teachers should actively organize extracurricular teaching activities, appropriately assign challenging exploratory assignments, and encourage students to engage in research and reflection on English learning outside of class, experiencing the endless charm of the language. Additionally, teachers should encourage students to participate in English competitions, provide competition resources, and increase students' exposure to English contests. This can enhance after-school English learning time and promote a sense of achievement in English learning.

Conclusion

This study explored university students' levels of autonomous English learning and classroom autonomous learning performance through university English courses. It examined the impact of various factors on students' autonomous English learning levels and discussed how to leverage the advantages of university English courses to cultivate autonomous learning. The study found that university students' levels of autonomous learning are relatively low, typically at a superficial level of autonomy. Different levels of English proficiency, class styles, and learning time significantly affect various aspects of autonomous learning. In practice, university English teachers should fully utilize students' self-efficacy in the classroom, adjust the difficulty of post-class assignments, and appropriately extend students' autonomous learning time. Innovative teaching activities should create a free and open classroom atmosphere, and information technology should be used to connect courses, resources, teachers, and students, achieving autonomy and diversity in students' English learning.

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