



# The Impact of Self-Efficacy on English Academic Achievement among High School Students

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## Abstract

In contemporary education, English language learning among senior high school students has garnered significant attention, with academic performance serving as a key indicator of knowledge mastery and skill acquisition. Self-efficacy, a critical psychological factor, has been increasingly recognized for its role in shaping students' English academic achievement. This study investigates the impact of self-efficacy on high school students' English performance and explores its underlying mechanisms. Employing a mixed-methods approach, the research combines literature review, questionnaire surveys (N = 130), a controlled experiment (N = 112), and in-depth interviews (N = 4) with second-year students from a high school in Zhuji City, Zhejiang Province. Quantitative and qualitative analyses reveal that students' English learning self-efficacy is moderately developed and positively correlates with academic performance. Furthermore, targeted self-efficacy interventions significantly enhance learning outcomes. Based on these findings, the study proposes practical strategies to improve students' learning competence and behavioral self-efficacy, offering pedagogical implications for enhancing English teaching quality and student achievement.

## Subject Areas

Higher Education

## Keywords

High School Students, Self-efficacy, English Academic Performance, Impact Study

## 1. Introduction

English language learning in high school education has gained increasing atten-

tion, with academic achievement serving as a critical indicator of students' knowledge acquisition and skill mastery [1]. Among the various factors influencing English performance, self-efficacy—a key concept in educational psychology—has emerged as a significant focus. Rooted in Bandura's social cognitive theory, self-efficacy refers to an individual's belief in their ability to succeed in specific tasks, shaping their behavioral choices, effort persistence, and resilience to challenges [2]. In English learning, self-efficacy plays a pivotal role in motivating students and sustaining engagement.

Despite existing research on the correlation between self-efficacy and academic achievement, critical gaps remain. First, most studies focus on college or middle school students, leaving high school learners underrepresented [3]. Second, while prior work establishes a general link, the underlying mechanisms remain underexplored. A deeper investigation employing rigorous methods (e.g., surveys, experiments, and interviews) is needed to provide targeted theoretical and practical insights for enhancing English teaching and learning outcomes.

This study examines the impact of self-efficacy on high school students' English academic achievement, addressing both theoretical and practical gaps. Theoretically, it refines the application of self-efficacy theory in high school English education by clarifying its influence mechanisms, thereby enriching educational psychology frameworks. Methodologically, it combines quantitative and qualitative analyses to offer a comprehensive understanding of this relationship, providing a foundation for future research.

Practically, the findings can inform pedagogical strategies, enabling teachers to design personalized interventions that enhance students' self-efficacy and performance. Additionally, the study offers policymakers evidence-based insights to support student-centered educational reforms. By fostering self-efficacy, this research contributes to improving English learning outcomes and advancing holistic student development.

## 2. Literature Review

Self-efficacy, rooted in Bandura's social cognitive theory, refers to an individual's belief in their ability to execute tasks successfully. It influences learning motivation, effort persistence, and academic outcomes [4]. Studies highlight its role in metacognitive awareness [5] and multidimensional academic skills, such as writing self-efficacy [6]. Chinese scholars define self-efficacy as students' confidence in their learning capabilities, encompassing task-specific beliefs and behavioral regulation [7]. In English learning, it correlates with goal-setting and persistence [1] [8].

Academic achievement reflects students' mastery of knowledge and skills, often measured through subject-specific performance [9]. While traditional assessments focus on grades [4], broader definitions include competencies like L2 proficiency [10]. Studies link achievement to strategy use [11] and learning engagement [12]. For high school students, English performance is often measured via

standardized tests [13].

Empirical studies consistently demonstrate a positive correlation. High self-efficacy predicts better performance by fostering adaptive learning behaviors [14]. Reciprocal effects exist: achievement reinforces self-efficacy, creating a virtuous cycle [9] [15]. Self-efficacy directly predicts achievement and indirectly through mediators like emotion regulation [7]. High-efficacy students exhibit greater motivation and resilience [1] [16].

Despite consensus on the self-efficacy-achievement link, few studies target high school students, a critical cohort facing unique academic pressures. This study addresses this gap by examining mechanisms in English learning contexts.

### 3. Research Design

#### 3.1. Research Subjects

This study involved 130 second-year high school students from parallelled classes in Z City, Z Province, China, comprising 62 male (47.7%) and 68 female students (52.3%). Four classes of comparable academic levels were selected, with two classes assigned to the experimental group and the other two to the control group, resulting in a total of 112 participants. Additionally, two students from each group were selected for in-depth interviews. Informed consent from the students has been obtained for this experiment.

Second-year high school students were chosen as the target population due to their established familiarity with the high school English curriculum and learning environment, as well as their relative adaptability to academic pressures. This selection criterion ensures a more accurate investigation into the relationship between self-efficacy and English learning performance.

#### 3.2. Research Instruments

##### 3.2.1. Self-Efficacy Scale for High School Students

The study employed the Academic Self-Efficacy Scale adapted from Yuan [14], originally developed by Liang Yusong. The scale consists of 22 items, measured on a five-point Likert scale (1 = completely inconsistent, 5 = completely consistent), assessing two key dimensions: learning ability self-efficacy (items 1 - 11) and learning behavior self-efficacy (items 12 - 22). Reverse scoring was applied to items 14, 16, 17, and 20, with higher scores indicating stronger self-efficacy. By analyzing self-efficacy across these dimensions, the study elucidates its impact on English academic performance, offering insights for targeted pedagogical approaches.

The intervention was delivered thrice weekly over six weeks, with fidelity monitored via instructor logs and random session audits. The control group received standard English instruction without supplementary self-efficacy training, ensuring comparability of curricular content and contact hours.

To ensure the reliability of the scale, this study conducted a survey on 130 randomly selected students, 130 valid questionnaires were recovered. After collecting

and sorting out the data, this study used Cronbach's Alpha coefficient to test the internal consistency of the self-efficacy questionnaire, and the test results reveal that the Alpha coefficient of the self-efficacy questionnaire for senior high school students is 0.837 (**Table 1**), which is greater than 0.70, meeting the reliability requirements of the questionnaire.

**Table 1.** Reliability test of the English self-efficacy questionnaire.

Cronbach's Alph	Item
0.837	22

### 3.2.2. Interview

To complement quantitative findings, a semi-structured interview protocol was designed to explore students' self-perceptions of their English learning efficacy. Two participants from each group were interviewed, focusing on four key aspects:

Confidence in English Learning—"How confident are you in your ability to learn English effectively?"

Emotional State and Performance—"Do you experience nervousness or confidence when speaking in English tests or class? How do these emotions influence your performance?"

Self-Efficacy Assessment—"How would you describe your self-efficacy in English learning?"

Impact of Past Experiences—"Has a particular test or assignment significantly boosted or undermined your confidence in learning English? How did this experience affect you?"

These questions yield qualitative insights into the psychological and experiential factors shaping self-efficacy, facilitating a deeper understanding of its role in academic achievement.

### 3.2.3. English Proficiency Tests

To ensure measurement reliability, the study utilized two standardized English tests: the first monthly exam and the mid-term exam from the 2024-2025 academic year in Z City. Both tests, designed by experienced instructors, assessed listening, reading comprehension, language use, and writing (total score: 150; duration: 120 minutes). The same grading team evaluated all responses to maintain consistency.

These tests provide objective performance metrics, enabling a rigorous analysis of the relationship between self-efficacy and English achievement. The use of standardized, teacher-validated instruments enhances the credibility and generalizability of the findings.

## 4. Results and Discussions

### 4.1. The Result and Analysis of the Questionnaire

First of all, it can be seen from **Table 2** that the average value of the overall self-efficacy is 3.783, indicating that the overall self-efficacy of the subjects is at an

above medium level. The median is 3.864, slightly above the mean, and the data distribution may be somewhat skewed to the left. The standard deviation is 0.374, which is less than 1, indicating that the degree of data dispersion is small, that is, the individual difference of the subjects in the overall level of self-efficacy is not large. The minimum value was 2.682, the maximum value was 4.409, and the range was 1.727, reflecting the difference range of subjects' overall self-efficacy scores.

Secondly, the mean value of self-efficacy in learning ability was 4.179, indicating that the subjects' self-efficacy in learning ability was at a high level. At the same time, the median is 4.273, which is close to the mean, indicating that the data presented a relatively concentrated distribution trend. From the perspective of standard deviation and extreme value, the standard deviation is 0.512, which is less than 1, indicating that the degree of dispersion of the data is small, that is, the individual difference of the subjects in the self-efficacy of learning ability is relatively small. The minimum value is 2.636, the maximum is 5.000, and the range is 2.364, which reflects the difference range of subjects' scores in this dimension to a certain extent.

In addition, the mean value of self-efficacy of learning behavior was 3.386, indicating that the subjects' self-efficacy in learning behavior was at the medium level. The median is 3.364, close to the mean, and the data distribution is more symmetrical. The standard deviation is 0.335, far less than 1, and the degree of data dispersion is small, indicating that the individual differences in the subjects' self-efficacy in learning behavior are small. The minimum value was 2.545, the maximum was 4.182, and the range was 1.637. The difference of individual scores was relatively small.

**Table 2.** Descriptive statistics of the level of self-efficacy.

Name	Sample size	Minimum value	Maximum value	Mean value	Standard deviation	Median
Learning ability self-efficacy	130	2.636	5.000	4.179	0.512	4.273
Learning behavioral self-efficacy	130	2.545	4.182	3.386	0.335	3.364
Self-efficacy overall	130	2.682	4.409	3.783	0.374	3.864

## 4.2. The Result and Analysis of the Test

In order to make the data as true as possible, the average score of the first monthly English test and the mid-term English test of the subjects was divided into English scores, and the collected data was analyzed.

The figure presents descriptive statistical data of English scores of the control group (**Table 3**) and the experimental group (**Table 4**), with a sample size of 56 for both groups. From the point of view of the minimum score, the control group is 101.000, the experimental group is 107.500, the experimental group minimum score is higher; Regarding the maximum score, the control group recorded a value

of 129.500, while the experimental group achieved a slightly higher score of 132.500. In terms of the mean score, the control group's average stood at 114.375, whereas the experimental group demonstrated a superior performance with an average score of 120.089. This indicates that the experimental group outperformed the control group in both the highest and average score categories. The standard deviation reflecting the degree of dispersion of grades was 7.672 in the control group and 7.161 in the experimental group. The scores of the two groups were more concentrated, and the experimental group was more concentrated, and the difference between students' scores was smaller. The median was 113.250 in the control group and 119.000 in the experimental group. Based on all the data, it can be seen that the English scores of the experimental group were better than those of the control group in terms of the lowest score, the highest score, the average score and the median score, and the score distribution was more concentrated.

**Table 3.** Descriptive statistics of English scores in control group.

Name	Sample size	Minimum value	Maximum value	Mean value	Standard deviation	Median
English score	56	101.000	129.500	114.375	7.672	113.250

**Table 4.** Descriptive statistics of English scores in experimental group.

Name	Sample size	Minimum value	Maximum value	Mean value	Standard deviation	Median
English score	56	107.500	132.500	120.089	7.161	119.000

**Table 5.** Results of independent samples t-test for english scores between experimental and control groups.

Variable	EC (n = 56)	CC (n = 56)	t	df	p	Cohen's d
English Performance	120.09 ± 7.16	114.38 ± 7.67	4.08	110	<0.001	0.77

The statistical analysis in **Table 5** confirmed that after the 6-week self-efficacy intervention, the experimental group demonstrated statistically significant improvement in English scores ( $t(110) = 4.08, p < 0.001$ ), with an effect size reaching educationally meaningful levels ( $d > 0.5$ ). These results indicates that targeted self-efficacy interventions can effectively enhance English academic performance among high school students.

### 4.3. The Results and Analysis of the Interview

This interview focuses on self-efficacy in English learning, involving four questions: the level of self-efficacy, emotions and influences before exams or speeches, the role of specific learning experiences on confidence, and the relationship be-

tween self-efficacy and grades.

The interview results show that the students in the experimental group and the control group show different performance in many aspects. In terms of self-efficacy, the two students in the experimental group mastered effective methods and had higher self-efficacy by participating in learning activities to improve self-efficacy. Gradually finding a learning pace that suits oneself, they are very confident in learning English well. However, the two students in the control group adopted the conventional learning style, which was more difficult to learn and the level of self-efficacy was relatively low. They have many difficulties in learning English, make slow progress and are not very confident in learning English well. In terms of emotion and influence before the exam or speech, most of the two students in the experimental group were more confident, could think calmly during the exam, and spoke fluently and boldly in class, which was conducive to superior performance. They can quickly get into the swing of things in the exam, perform steadily and have the motivation to improve. The two students in the control group often felt nervous, easy to make careless mistakes in the exam, dare not speak in class, which seriously affected the level of play. They have blank minds during exams and speak very unfluently in class, which seriously affects their performance in English and leads to a growing lack of confidence. The influence of specific experience is also different. The students in the experimental group achieved good results and won praise in the English writing and listening tests by improving their self-efficacy, thus enhancing their learning confidence and being more willing to challenge. The students in the control group did not perform well in reading comprehension and oral tests, their learning confidence was frustrated. They are nervous, have non-standard pronunciation and perform poorly, feeling extremely frustrated. Later, when encountering difficult problems, they will flinch and their enthusiasm will decrease. As for the relationship between the improvement of self-efficacy and grades, the students in the experimental group believed that the improvement of self-efficacy had a great impact, which would make people more active in learning, actively exploring knowledge, and not easily giving up, so their grades would naturally improve. The students in the control group also recognized its positive influence and felt that confidence would make them more active and their grades would improve accordingly.

According to the results, after participating in the learning activities to improve self-efficacy, the students in the experimental group mastered effective learning methods, and were more confident before exams and class speeches, which enhanced their confidence in the successful learning experience, and were more willing to challenge. They deeply realize that improving their self-efficacy has a significant effect on improving their grades and will prompt them to be more proactive in learning. The students in the control group adopt the conventional learning style, and their self-efficacy level is average or low.

To sum up, learning activities related to the improvement of self-efficacy have a positive impact on the improvement of students' self-cognition, emotional state,

learning confidence and performance in English learning, while students have shortcomings in these aspects under traditional learning methods. Therefore, it is necessary to deeply understand the formation factors of high school students' self-efficacy in order to develop targeted support measures to help high school students understand and develop their academic ability more comprehensively.

## 5. Conclusions

This study employed a mixed-methods approach, integrating questionnaire surveys, controlled experiments, and semi-structured interviews to examine the role of self-efficacy in high school students' English learning. The findings revealed that participants exhibited an overall self-efficacy level above the median, with learning ability self-efficacy being notably high, while learning behavior self-efficacy remained moderate, showing minimal individual variation.

Experimental results demonstrated that the intervention group significantly outperformed the control group across multiple dimensions, confirming the efficacy of the implemented self-efficacy enhancement strategies. Qualitative data from interviews further elucidated these outcomes: students in the experimental group, having engaged in structured self-efficacy-boosting activities, reported greater confidence, more effective learning strategies, and higher overall self-perception of competence. In contrast, the control group, following conventional learning methods, displayed lower self-efficacy and heightened anxiety in learning scenarios.

In summary, the study underscores the positive impact of targeted self-efficacy interventions on English learning outcomes. These findings highlight the need for educators to systematically integrate self-efficacy development into pedagogical practices, while further research should explore the underlying mechanisms shaping self-efficacy to optimize instructional support for students.

This study has several limitations: its single-school design restricts generalizability, self-reported data may introduce bias, and the 6-week intervention period precludes assessment of long-term effects. Additionally, unmeasured variables like prior learning experiences could influence outcomes. Future multi-site studies incorporating long-term experiment with diverse student populations and longitudinal tracking would strengthen these findings.

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Liu, M.Y. (2023) A Study on the Effects of Senior High School Students' Self-Efficacy and Learning Engagement on English Academic Performance. Minnan Normal University, 1-5.
- [2] Bandura, A. (1977) Self-Efficacy: Toward a Unifying Theory of Behavioral Change. *Psychological Review*, **84**, 191-215. <https://doi.org/10.1037//0033-295x.84.2.191>

- [3] Zhang, L.C. (2016) An Investigation on Self-Efficacy of High School Students. *Education Science Forum*, No. 11, 29-32.
- [4] Affuso, G., Zannone, A., Esposito, C., De Angelis, G., Dragone, M., Pannone, M., *et al.* (2025) The Reciprocal Effects of Learning Motivation, Perceived Academic Self-Efficacy and Academic Performance in Adolescence: A Four-Wave Longitudinal Study. *European Journal of Psychology of Education*, **40**, Article No. 6. <https://doi.org/10.1007/s10212-024-00900-y>
- [5] Ismail, M., Rahim, M.R.A. and Azmi, S.S. (2019) The Impact of Self-Efficacy (Online Measure) on Students Grade Point Scores. *International Journal of Asian Social Science*, **9**, 271-275. <https://doi.org/10.18488/journal.1.2019.93.271.275>
- [6] Prihandoko, L.A., Morganna, R. and Nugrah Amalia, S. (2024) Self-Efficacy and Metacognition as the Mediated Effects of Growth Mindset on Academic Writing Performance. *Journal of Language and Education*, **10**, 108-122. <https://doi.org/10.17323/jle.2024.13979>
- [7] Yuan, Y. (2024) A Study on the Effect of Senior High School Students' Self-Efficacy on English Academic Performance—Based on the Mediating Effect of Emotion Regulation Strategies. Minnan Normal University, 2-20.
- [8] Saks, K. (2024) The Effect of Self-Efficacy and Self-Set Grade Goals on Academic Outcomes. *Frontiers in Psychology*, **15**, Article 1324007. <https://doi.org/10.3389/fpsyg.2024.1324007>
- [9] Kim, S.H. and Shin, H.W. (2021) Second Language Learners' Self-Efficacy and English Achievement: The Mediating Role of Integrative Motivation. *English Teaching & Learning*, **45**, 325-338. <https://doi.org/10.1007/s42321-021-00083-5>
- [10] Payaprom, S. (2022) Investigating the Relationship among Metacognitive Awareness, Self-Efficacy, and EFL Learners' Listening Comprehension Performance. *Theory and Practice in Language Studies*, **13**, 27-34. <https://doi.org/10.17507/tpls.1301.04>
- [11] Chen, L.Q. (2020) The Influence of Academic Self-Efficacy on Academic Achievement in Middle School Students: The Mediating Role of Learning Strategies. *Journal of Campus Life & Mental Health*, **18**, 341-343.
- [12] Liu, F. and Hou, J.B. (2015) The Influence of Academic Self-Efficacy on College Students' Academic Performance. *Journal of Yangtze University (Social Sciences Edition)*, **38**, 77-80.
- [13] Zhao, H.Z. (2024) A Correlation Study Between Self-Efficacy and College Students' English Learning Motivation Strategies. *Overseas English*, No. 17, 177-179.
- [14] Alogiliy, M.A. (2024) The Impact of Self-Efficacy on Academic Achievement Mediated by Learning Motivation and Moderated by Socioeconomic Status among Jordanian EFL Students. *Theory and Practice in Language Studies*, **14**, 3871-3879. <https://doi.org/10.17507/tpls.1412.22>
- [15] Honicke, T., Broadbent, J. and Fuller-Tyszkiewicz, M. (2023) The Self-Efficacy and Academic Performance Reciprocal Relationship: The Influence of Task Difficulty and Baseline Achievement on Learner Trajectory. *Higher Education Research & Development*, **42**, 1936-1953. <https://doi.org/10.1080/07294360.2023.2197194>
- [16] Chen, W.S. (2016) A Study on the Relationship Among Learning Motivation, Academic Self-Efficacy, and English Academic Performance in Senior High School Students. *Teaching Administration and Educational Research*, **1**, 50-52.