English reading comprehension, autonomous learning ability, and academic resilience among Chinese college students

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Abstract

The objective of this study is to assess the English reading comprehension, autonomous learning ability, and academic resilience of non-college English majors at private and public campuses of a university in China. Additionally, the study aims to investigate the correlation between students' English reading level, autonomous learning ability, and academic resilience, and to propose a corresponding reform plan for English reading teaching based on these findings. This study employed the convenience of the online Questionstar survey, which was completed by 425 respondents from a range of grades and with a balanced proportion of non-English majors. In conclusion, 425 complete and valid questionnaires were collected. The findings indicate that non-English majors tend to demonstrate superior English reading comprehension abilities. They demonstrate a more nuanced comprehension of their own learning processes and are capable of proactively monitoring and modifying their reading strategies. Furthermore, these students demonstrated a robust capacity for autonomous learning, exhibiting the ability to complete learning tasks independently and identify suitable learning resources and methods. Moreover, they demonstrate academic resilience in the face of academic challenges and are able to adapt effectively to difficulties and changes in their studies. Overall, Chinese university students demonstrate medium-high levels of English reading comprehension, autonomous learning ability, and academic resilience. They exhibit a positive attitude toward English reading and are willing to invest time and energy to improve their reading level. They utilize a variety of self-directed learning strategies, such as previewing, questioning, summarizing, and so forth, with moderate frequency and notable efficacy. Significant discrepancies in English reading comprehension, autonomous learning capacity, and academic resilience were observed among non-English majors across diverse campuses and grade levels. Respondents who had English planning requirements for their future academic pursuits and expressed interest, the subject performed better in these areas, exhibiting higher English reading comprehension and stronger autonomous learning abilities. Furthermore, when the respondents were grouped according to grade level, those in higher grades demonstrated enhanced adaptability and flexibility with respect to academic resilience.

This study conducted a comprehensive analysis of the correlation between the three variables of English reading comprehension, autonomous learning ability, and academic resilience. The findings revealed a significant positive correlation between these variables. Based on these findings, this study proposes programs designed to enhance reading comprehension, learning awareness, and autonomous learning ability. The objective is to optimize students' learning strategy choices by improving these abilities, thereby enhancing their academic resilience. The programs include initiatives to enhance reading comprehension skills, promote self-directed learning strategies, and cultivate students' resilience in the face of academic challenges. It is hoped that this study will provide useful references and insights into the reform of English reading teaching in China, and assist educators in developing more effective instructional strategies to enhance students' reading comprehension, autonomous learning ability, and academic resilience. This will contribute to the cultivation of a more diverse and well-rounded cohort of English majors.

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1. Introduction

With the acceleration of globalization and the increasing frequency of international exchanges, English reading comprehension has become one of the necessary core skills for Chinese college students. Meanwhile, in higher education, the cultivation of college students' autonomous learning ability is especially critical, which not only affects their academic performance but also relates to their future career development and the construction of lifelong learning ability. In addition, academic resilience, as an important ability to cope with academic challenges and pressure, should not be neglected.

As the process of increasing the emphasis on English language programs in colleges and universities accelerates, English has become a common language for international communication and cooperation, and its importance is becoming more and more prominent. In China's higher education system, English education has always occupied a pivotal position. In particular, English reading comprehension is not only a key indicator of students' English proficiency, but also directly related to their academic development and career competitiveness. English reading comprehension is one of the core competencies in college students' English learning. Through reading, students can acquire rich knowledge and information, broaden their horizons and improve their comprehensive language use ability. In today's globalization, college students with good English reading comprehension can better adapt to the needs of international communication and lay a solid foundation for future career development. Therefore, it is of great significance to explore how to effectively improve college students' English reading comprehension (Cai, 2021). Reading is a complex cognitive encoding process, a process of deciphering symbols in order to extract or construct meaning. Reading is a complex cognitive encoding process, a process of deciphering symbols to extract or construct meaning. Although the wording is different, there are commonalities, including reading as an internal process and active thinking on the part of the reader. Chen (2016) defined reading as the process of collision of thoughts between readers and authors, and the process of meaning conversion and transmission. Reading is a psychological activity based on text recognition, which is the process of decoding the meaning of the reading text. English reading comprehension is an indispensable part of Chinese college students' English learning.

At present, Chinese college students still face some challenges in English reading comprehension. Due to the lack of cultural background knowledge, students may encounter obstacles in comprehending English texts. Regarding the aspect of the core content of English reading education, Zhang (2017) proposed to emphasize on the education of English cultural background, which she believed could enhance students' cultural knowledge and improve their academic literacy, thus promoting the improvement of English reading ability. With the development of science and technology, the educational method of English reading comprehension can be implemented in terms of online platforms. Fu (2015) Through the co-development of modern educational information technology and multimedia teaching platforms, learners can make full use of online English reading education platforms to fully mobilize the students' interest in learning, to enhance their learning ability, and to improve their ability to collect, process, and ultimately acquire relevant information.

In English learning, the improvement of reading comprehension and the cultivation of autonomous learning ability are complementary. On the one hand, by reading a large amount of English materials, students can come into contact with richer linguistic knowledge and cultural background, so as to improve their English proficiency; on the other hand, the cultivation of autonomous learning ability helps students to utilize the reading resources more efficiently and to improve the depth and breadth of reading comprehension. Therefore, teachers should pay attention to cultivating students' autonomous learning ability in the process of English teaching and guiding them to master effective reading strategies and methods, such as skimming, sweeping, predicting and summarizing, in

order to improve their reading efficiency and comprehension.

The autonomous learning ability of college students plays an important role. At present, the autonomous learning ability of Chinese college students is generally weak. This may be related to the traditional exam-oriented education, where students are used to passively accepting knowledge in secondary school and lack the awareness and ability of active learning. There are many problems in the current college English reading teaching, resulting in students' low interest in learning English, lack of English autonomous learning ability, weak learning initiative and motivation, and poor classroom teaching effect (Kong, 2024). On the basis of in-depth discussion of theories of autonomous learning at home and abroad, this study is committed to constructing a theoretical framework of autonomous learning that is both scientific and practically instructive, taking into account the specific learning environments and psychological characteristics of Chinese college students. First of all, the connotation of autonomous learning is clarified, that is, students are able to carry out learning activities actively and systematically according to their own learning needs and goals under the guidance of teachers, as well as self-monitoring and reflecting on the learning results. The characteristics of autonomous learning include initiative, independence, planning and monitoring of learning. Together, these characteristics form the core concept of autonomous learning and are an important basis for assessing students' autonomous learning ability. In terms of influencing factors, the framework analyzes two major categories of factors, internal and external, in detail. Internal factors mainly include students' motivation, learning strategies, self-efficacy, etc., which directly affect students' willingness and ability for autonomous learning.External factors, on the other hand, involve the learning environment, teacher support, and peer support, which provide the necessary conditions and safeguards for students' autonomous learning. The theoretical framework of autonomous learning also emphasizes the role of teachers in the process of students' autonomous learning. Teachers need to provide the necessary guidance and support to help students establish correct learning concepts and methodologies, including setting clear learning goals, developing personalized learning plans, choosing appropriate learning strategies, monitoring the learning process and adjusting the learning plan, as well as reflecting on and evaluating the learning results, etc. Through these implementation paths to stimulate their motivation to learn, students not only enhance their autonomous learning ability, but also better adapt to the complex and changing learning environment. Through these pathways, students can not only improve their independent learning ability, but also better adapt to the complex and changing learning environment. At the same time, teachers need to create a positive learning environment that encourages cooperation and communication among students and promotes their mutual growth.

In the latest version of College English Teaching Syllabus, it has been clearly stated that the teaching objectives of college English in general colleges and universities are to improve students' English application ability, cultivate students' college English autonomous learning ability, improve the comprehensive ability of language and culture, and enable students to use English effectively in their life, study, future self-improvement, and future work and social interactions (Xie et. al.,2023). In order to improve their autonomous learning ability, college students need to change their concept of learning from passive learning to active learning, and learn to make study plans, rationalize study time, effectively manage learning resources, and monitor and adjust their learning process. Through autonomous learning, college students can improve their English reading comprehension ability more efficiently, instead of relying on teachers' explanations and classroom learning. Meanwhile, the cultivation of autonomous learning ability also helps college students to develop independent thinking and problem solving ability, which lays a solid foundation for their future academic research and career development.

Academic resilience refers to the ability of students to be flexible in the face of academic challenges and changes. Daily academic resilience can have an impact on learners' academic performance, emotions, and mental health (Ding, 2023). In the current social context, college students face increasing academic pressure and uncertainty. However, due to the limitations of the traditional education system and the influence of family expectations, college students' academic resilience is often insufficient.

Liu (2016) found that psychological resilience significantly and positively predicts students' academic performance, and that the good development of psychological resilience is conducive to the overall improvement of students' academic performance. In addition, academic resilience affects factors related to learning. The improvement of academic resilience often requires the help and support of others. Therefore, college students should actively communicate and collaborate with peers, teachers or professionals to solve problems and share experiences. In order to improve academic resilience, students need to develop their adaptability, stress tolerance and problem-solving skills. At the same time, schools and families should provide more support and assistance to students and encourage them to face challenges and changes bravely.

According to Rudd et al. (2021) suggested that it is important to incorporate indicators that encompass all aspects of risk, positive adaptation, and protective factors when measuring academic resilience. College students should learn to remain calm and optimistic in the face of challenges and changes and develop their resilience and adaptability. When facing academic problems, students should actively seek solutions and learn the ability to analyze problems, formulate hypotheses and test them. Academic resilience, as a psychological quality, enables students to quickly adjust their mindset and respond positively when facing academic challenges. In English reading comprehension, students with high academic resilience tend to be able to understand complex texts better, grasp the main idea of the text, and remain calm even when encountering difficult words and sentences, inferring the meaning of words through the context so as to maintain the coherence of reading and the depth of understanding. This mental toughness enables them to continuously adjust their strategies and optimize their reading methods during the reading comprehension process, thus improving their reading performance. Students with high academic resilience also pay more attention to the development of autonomous learning ability. They clearly recognize that autonomous learning is a key way to improve their English. Therefore, these students will take the initiative to set clear learning goals, make reasonable learning plans according to their actual situation, and continuously adjust and optimize in the learning process. They are good at utilizing a variety of learning resources to improve their comprehensive English ability through autonomous learning, listening practice, oral communication and other ways. This process of autonomous learning not only exercises their willpower, but also further enhances their academic resilience.

Through the questionnaire survey and data analysis, it found a significant positive correlation between English reading comprehension, autonomous learning ability and academic resilience. Diversified teaching strategies such as task-oriented reading, critical thinking training and cultural background knowledge penetration effectively enhance college students' English reading comprehension ability. Meanwhile, constructing a theoretical framework for autonomous learning, stimulating learning motivation and creating a favorable autonomous learning environment play an important role in enhancing college students' autonomous learning ability. In addition, strategies for coping with study stress such as time management, relaxation training and emotion regulation, as well the implementation of mental health education courses, all contribute to the enhancement of college students' academic resilience. The results of this study suggest that by systematically improving English reading comprehension, autonomous learning ability and academic resilience, it can effectively promote the overall development of Chinese college students and improve their adaptive ability to face academic challenges and complex environments. The identified research gaps highlight the need for a targeted and culturally sensitive investigation of the correlation between English reading comprehension, autonomous learning ability and academic resilience among Chinese university students. It can conduct in-depth research and discussion on various aspects such as reading strategies and skills, cultural background and reading comprehension, diversity and adaptability of reading materials, motivation and attitudes towards autonomous learning, strategies and methods of autonomous learning, autonomous learning environments and resources, as well as definitions and measurements of academic resilience, in order to further promote the research progress and practical applications in the related fields. Addressing these gaps will help to improve the quality of education, optimize learning strategies, enhance academic resilience, promote cross-cultural communication, facilitate educational reform, improve social adaptability and promote educational equity in a number of ways. This is of great significance to the cultivation of talents with an international outlook and lifelong learning

ability.

Based on the current study, future research directions can be further expanded and deepened to provide a more comprehensive understanding of the development of Chinese college students in English reading comprehension, autonomous learning ability and academic resilience. Although this study involves a broad group of Chinese college students, future research can be further refined to explore the effects of different sex, age, major, and geographic location on students' English reading comprehension, autonomous learning, and academic resilience. Through a deeper understanding of these differences, more precise guidance and support can be provided for educational practice. Of course, in addition to the factors that have been explored in this study, there may be other potential factors, such as family background, educational experience, and personal character traits, which may have an important impact on students' English reading comprehension, autonomous learning and academic resilience. Future research can construct more complex models by introducing more variables in order to reveal the mechanism of these deep-rooted factors. Furthermore, the innovation of research methods and tools is also an important direction for future research.

This study discussed key factors in Chinese college students' English learning, including English reading comprehension, autonomous learning ability, and academic resilience, to explored their relationship and potential impact on academic achievement. The results of this study contribute to a better understanding of how these factors collectively shape the academic success path of college students. At the same time, it also helps to understand the role of academic resilience, autonomous learning ability, and reading comprehension in Chinese college students' English learning, this not only helps us to understand the current situation and problems of English learning among college students, but also provides strong theoretical support and practical guidance for improving the quality of English education and promoting the overall development of students. By cultivating students' English reading comprehension, autonomous learning ability and academic resilience, it can better help them cope with future academic challenges and career development, thus cultivating more high-quality talents with international vision and competitiveness for the society. With the continuous development of science and technology, advanced technological tools such as big data analysis and artificial intelligence offer more possibilities for educational research. Future research can try to use these technological tools to track and deeply analyze students' learning behaviors in real time, so as to more accurately assess students' levels of English reading comprehension, autonomous learning and academic resilience, and to provide strong support for personalized teaching.

Objectives of the Study - This study aims to explore in depth the relationship between English reading comprehension, autonomous learning ability and academic resilience in order to gain a comprehensive understanding of the interactions among these three key variables. Specifically, it aims to determine respondents' English reading comprehension in terms of attitudes towards English reading comprehension, reading abilities and strategy use, use of English reading comprehension materials, teacher's methods in teaching English reading comprehension of procedure; assess respondents' academic resilience in terms of empathy, perceived happiness, persistence, self-regulation, and sociability; identify respondents' autonomous learning ability in terms of attitude towards self-directed learning, learning motivation, learning strategy, learning environment; test the relationships among English reading comprehension, autonomous learning ability and academic resilience; and propose a language learning program for Chinese college students.

2. Methods

Research Design - The purpose of this study was to investigate and explore the complex relationship between English reading comprehension, autonomous learning ability and academic resilience of non-English major college students. Descriptive correlation was used in this study to describe the basic information of the variables and to explain the relationship between them. By designing a questionnaire with reliability and validity as a data collection tool, the data obtained in this study can truly and objectively reflect the actual situation of college students. The design and implementation of this study was based on an in-depth analysis of the existing

literature and an in-depth understanding of the actual educational environment. The choice of data collection and analysis methods was based on academic best practices and took into account the unique cultural background and educational environment of Chinese college students. The research innovations were proposed through independent thinking and in-depth exploration, based on a comprehensive consideration of previous research findings and the current educational situation. Therefore, this study's in-depth reading of existing academic literature, fieldwork on educational environments, and innovative thinking on research methodological innovations not only contributed to improving the quality of English language teaching for college students, but also provided useful insights into students' all-round development and lifelong learning.

Participants of the Study - To explore the interplay of English reading comprehension, autonomous learning ability, and academic resilience of Chinese college students, the author conducted research on this topic at undergraduate programs in a private university (EFL students at both two campuses) in Zhejiang Province. All of the students in four grades in these university will be taken as samples. The total number of the population are 1866. The number of people the researcher calculated using the Raosoft online sample size calculator was 490 (confidence level 99%). Therefore, the total of 425 questionnaires were distributed to the target respondents. Through a large-scale questionnaire survey, it expect to be able to depict the overall situation of Chinese university college students in terms of English reading comprehension, autonomous learning ability, and academic resilience, and to provide a solid data base for further analysis and discussion.

Instruments of the Study - The research instrument consists of three questionnaires, each of which is designed to collect specific data related to the research objectives. Prior to the questionnaires, relevant background information about the participants will be collected, including sex, grade level, and school type.

The English Reading Comprehension Assessment Questionnaire (ERCAQ) adapted by Liu (2023) was used, which consisted of a total of 20 items, with the maximum score for each item being 4. The higher the score, the higher the degree of reading comprehension of English by the students. The questionnaire was categorized into four dimensions: attitudes toward English reading comprehension (5 questions), reading ability and strategy use (5 questions), use of English reading comprehension materials (5 questions), and methods of teaching the English reading comprehension process (5 questions)，where the scale of this questionnaire is 1,2,3,4, corresponding to strongly disagree, disagree, agree ,strongly agree.

The Autonomous Learning Ability Questionnaire (ALAQ) adapted by Zheng (2016) was used, containing 20 questions. The questionnaire was categorized into four dimensions: attitudes toward autonomous learning (5 questions), motivation for learning (5 questions), learning strategies (5 questions), and learning environment (5 questions), with higher scores indicating students' greater ability to learn English autonomously, where the scale of this questionnaire is 1,2,3,4, corresponding to strongly disagree, disagree, agree, strongly agree.

The English Academic Resilience Questionnaire (EAQ) was adapted from the Liu et al. (2022) questionnaire. The questionnaire consists of 25 items divided into five dimensions, including empathy, perceived well-being, persistence, social competence, and self-regulation, where the scale of this questionnaire is 1,2,3,4, corresponding to strongly disagree, disagree, agree, strongly agree.

To ensure the reliability of the questionnaire, a pilot study was conducted with 40 English language learners who were not English majors at Zhejiang Shuren College. Data from these participants were collected through "Questionnaire Star" (www.wjx.cn"), then coded and entered into SPSS 27.0 for analysis. Cronbach's alpha coefficients were calculated for each subscale and for the questionnaire as a whole. The reliability results for the three variables investigated are shown in Table A, indicating that the Cronbach's Alpha coefficients for all subscales ranged from 0.840 to 0.953. The internal consistency reliability coefficients of the subscales and the whole questionnaire are acceptable at more than 0.70.

Table A

Reliability Test Result

Variables	No. of Items	α value	Interpretation
English Reading Comprehension			
Attitudes towards English reading comprehension	5	0.913	Excellent
Reading abilities and strategy use	5	0.849	Good
Use of English reading comprehension materials	5	0.925	Excellent
Teacher's methods in teaching English reading comprehension of procedure	5	0.901	Excellent
Autonomous Learning Ability			
Attitude towards self-directed learning	5	0.949	Excellent
Learning motivation	5	0.857	Good
Learning strategy	5	0.840	Good
Learning environment	5	0.909	Excellent
Academic Resilience			
Empathy	5	0.859	Good
Perceived Happiness	5	0.932	Excellent
Persistence	5	0.914	Excellent
Self-regulation	5	0.953	Excellent
Sociability	4	0.882	Good

Legend: >0.9=Excellent; >0.8=Good:>0.7=Acceptable;>0.6=Questionable;>0.5=Poor;<0.5=Unacceptable

Data Gathering Procedures - In terms of data collection, the questionnaire was distributed to English learners from non-English majors in Zhejiang Shuren College through an online survey - "Questionnaire Star" (www.wjx.cn). The questionnaire was sent to them in the form of a QR code with a detailed explanation of the specific purpose of the questionnaire. Therefore, it was assumed that students who were able to answer the questions could seriously cooperate with the survey. Once the students received the QR code, those who were interested and willing to participate in the survey could scan the QR code directly on WeChat in order to get the link and answer the questions on their cell phones. The data is collected and finally statistically processed using SPSS 27.0 to interpret, analyze and compare participants' responses using frequency counts, percentages, rankings and weighted averages.

Data Analysis - Data were collected from the questionnaire and tabulated first. Then, weighted means were used to test non-English majors' English reading comprehension, autonomous learning skills, and academic resilience. The Likert scale was interpreted with the following ranges of verbal interpretations: strong agreement ranging from 3.50-4.00; agreement ranging from 2.50-3.49; disagreement ranging from 1.50-2.49; and strong disagreement ranging from 1.00-1.49. Spearman's correlation analysis was used to assess the relationship between the students' English reading comprehension, autonomous learning ability, and academic resilience. After all the statistical processing, the data results were analyzed and interpreted. At the end of the analysis, conclusions and recommendations were made for future research. A variety of statistical methods, such as descriptive statistics, correlation analysis and regression analysis, were used in the data analysis session. Correlation analysis, on the other hand, is used to explore whether there is a statistical correlation between English reading comprehension, autonomous learning ability and academic resilience. By calculating the correlation coefficient, the direction and strength of the relationship between these variables can be initially determined. Regression analysis was used to delve into the causal relationship between the variables. By establishing a regression model, the researchers can quantify the degree of influence of each factor on English reading comprehension, autonomous learning ability and academic resilience, thus revealing the mechanism of action between them. Special attention was paid to the model's goodness-of-fit, significance, and the interpretability of the regression coefficients in the regression analysis to ensure the reliability and validity of the analysis results. The process of data processing and analysis fully embodies the organic combination of quantitative and qualitative research, aiming to provide scientific and comprehensive evidence support for revealing the relationship between Chinese college students' English reading comprehension, autonomous learning ability and academic flexibility.

Ethical Considerations - Ethical consideration is a crucial aspect in the process of writing a dissertation.

This includes ensuring that participants have the right to be informed of the purpose, methodology, possible risks and benefits of the research and to make the decision to participate on a completely voluntary basis, and that the confidentiality of participants' personal information and privacy should also be maintained to prevent disclosure or misuse. It relates to whether the research activities are in accordance with moral and ethical norms, whether the rights and interests of the participants have been respected, and whether there are safeguards for the fairness and accuracy of the results of the research. Research conducted in such a way as to ensure that the rights and interests of all participants are fully respected and protected. In addition, ethical permission comes from the Ethics Review Committee of the University of the Lyceum in the Philippines.

3. Results and discussion

Table 1
Summary Table on English Reading Comprehension

Indicators	WM	VI	Rank
Attitudes towards English reading comprehension	3.08	Agree	4
Reading abilities and strategy use	3.09	Agree	3
Use of English Reading Comprehension materials	3.17	Agree	1
Teacher's methods in teaching English reading comprehension of procedure	3.16	Agree	2
Composite Mean	3.13	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 1 illustrates the respondents' evaluation of the English reading comprehension summary scale. The composite mean of 3.13 indicates that respondents generally concur that they possess positive attitudes and abilities in all aspects of English reading comprehension. These include attitudes towards reading in English, the utilization of reading skills and strategies, the utilization of reading comprehension materials in English, and the methods employed by teachers in teaching reading comprehension in English. The comprehensive summary table provides insight into the respondents' performance in the various aspects of reading comprehension in English. This information is beneficial for educators and researchers alike, as it provides insight into the overall performance of students in the area of reading comprehension, as well as areas that may require further support and improvement. Items 3, 4, and 2 were the most highly ranked. Teachers need to read the reading material from multiple perspectives in depth and select the most valuable perspectives to focus on for effective instructional design (Zhang, 2021), the rating of 3.17 for item 3 indicates that the respondents strongly agreed that they were able to use English reading comprehension materials effectively, which suggests a high level of competence and confidence in this area. This may be attributed to the respondents' regular exposure to and use of these materials, which has afforded them the opportunity to gain more experience and skills. The utilization of reading materials in the English language has been demonstrated to markedly enhance students' reading comprehension and self-efficacy. When students are able to readily access and utilize reading materials, they tend to exhibit heightened motivation and more effective learning behaviors. (Astri et. al.,2018). The fourth item was rated 3.16, indicating that the respondents agreed that the teachers' instructional methods assisted them in reading comprehension. This finding suggests that the teachers' instructional strategies were, to some extent, effective.

The lowest score of 3.08 for the first item indicates that respondents exhibited positive attitudes toward reading in English. College students' attitudes towards English reading comprehension are complex and diverse, with both positive and negative aspects. Positive attitudes are mainly influenced by students' perceptions of the role of reading and their identification with strategies to improve reading comprehension. Negative attitudes, on the other hand, may stem from the difficulties and challenges in reading comprehension (Zhang, 2023). However, the relatively low weighted mean for this indicator suggests that there may be some areas of challenge or dissatisfaction. These challenges may be due to factors such as reading difficulty, vocabulary barriers, or other barriers to learning that result in a lack of confidence in reading in English. Peer tutoring and networked peer

support strategies have been demonstrated to enhance students' reading comprehension and interest (Lee et. al.,2017). Furthermore, these strategies can markedly improve students' attitudes toward reading in English by furnishing support and resources to assist them in surmounting reading obstacles. This is achieved by reducing the pressure of competition, increasing the willingness to interact, and fostering enjoyment of learning.

Table 2
Summary Table on Autonomous Learning Ability

Indicators	WM	VI	Rank
1.Attitude towards self-directed learning	3.16	Agree	1
2.Learning motivation	3.08	Agree	3
3.Learning Strategy	3.06	Agree	4
4.Learning Environment	3.08	Agree	2
Composite Mean	3.10	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 2 summarizes the ability to learn English independently in terms of the four indicators. The composite mean represents the average score across all indicators. In this case, the data suggest a composite mean of 3.10, which indicates that the respondents generally agreed that they have some positive attitudes and abilities in all aspects of autonomous learning ability, including attitudes toward self-directed learning, motivation to learn, learning strategies, and learning environment. This summary table provides a comprehensive view of the respondents' performance in different aspects of autonomous learning ability and helps educators and researchers to understand the overall situation of students in the area of self-directed learning as well as areas that may need further support and improvement. The highest rating of 3.16 for item 1 indicates that the respondents strongly agreed that they have a positive attitude towards self-directed learning, which suggests that they recognize the importance of self-directed learning and are willing to take responsibility for their learning, probably because they are aware that self-directed learning provides more flexible learning pathways and helps them to learn according to their own learning styles and needs. College students have better attitudes towards self-directed learning in a smart education environment, where perceived level, perceived usefulness, perceived ease of use, motivation to learn, and self-efficacy all have an impact on their attitudes towards self-directed learning (Zhang et al., 2019). The role of self-directed learning in promoting lifelong learning is emphasized, pointing out that this learning style can enhance learners' self-efficacy. Yu et al. (2018) argued that self-directed learning plays an important role in promoting lifelong learning, and this type of learning style can significantly enhance learners' self-efficacy. Self-directed learning emphasizes learners' autonomy in setting learning goals, selecting learning resources and strategies, and evaluating learning outcomes. Alwadaeen et al. (2022) argued that through this approach, learners not only improve their autonomy and creativity, but also develop a sense of responsibility and communication skills, thus becoming lifelong learners.

The scores for both items 2 and 4 were 3.08, with item 2 indicating that although respondents generally agreed that they were positively motivated to learn, the weighted mean for this indicator was relatively low, suggesting that there may be some areas of challenge or dissatisfaction. This may be because some students found it difficult to maintain long-term motivation to learn, or because their learning goals were not sufficiently clear. Motivation is a key factor influencing success in language learning, but it is also a complex and variable construct. Seven (2020) argues that the importance of motivation in language learning cannot be overstated. Studies have shown that motivation not only affects learners' interest, engagement and persistence in language, but is also closely related to their learning outcomes. Item 4 shows that respondents agree that the learning environment provided by the school is helpful for their independent learning, indicating that they value a supportive learning environment.

Smart learning environments and ubiquitous learning environments provide college students with rich learning resources and convenient learning conditions, which are conducive to the cultivation of autonomous learning ability (Liu, 2021).The lowest rating of 3.06 for item 3 indicates that respondents agreed that they used certain learning strategies to facilitate independent learning, which shows that they think strategically during the learning process, which suggests that they need help and support from external strategies.

Table 3
Summary Table on Academic Resilience

Indicators	WM	VI	Rank
Empathy	3.17	Agree	4
Perceived Happiness	3.14	Agree	5
Persistence	3.20	Agree	3
Self-regulation	3.22	Agree	2
Sociability	3.28	Agree	1
Composite Mean	3.20	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree

Table 3 summarizes the respondents' English academic resilience with a composite mean of 3.20, which indicates that the respondents generally agreed that they had some positive performance in all aspects of academic resilience, especially in social skills, followed by self-regulation, and relatively low agreement in empathy and perceived well-being. This summary table provides a comprehensive view that helps educators and researchers understand the overall situation of students in the area of academic resilience and the areas that may need further support and improvement.

Social competence directly affects the degree of social adaptation of college students. The study shows that interpersonal skills are more important to develop in society, which indicates that social competence has a significant impact on the social adaptation of college students. In addition, college students' interpersonal relationships have a positive predictive effect on their social competence, and there is a significant positive relationship between interpersonal relationships, positive psychological capital and social competence (Xu et. al.,2021). The highest rating of 3.28 for item 5 indicates that respondents strongly agreed that their social skills play an important role in academic resilience, suggesting that they recognize the importance of building good relationships and communicating effectively with others, as social skills help students receive support when facing challenges and adapt better to teamwork and the academic environment. Social competence is positively associated with students' school adjustment and academic achievement. Niu et al. (2017) concluded that there is a significant positive relationship between social competence and students' school adjustment and academic achievement. This relationship is not only reflected in direct effects such as improved school adjustment through improved learning strategies and interpersonal skills. Therefore, educators and parents should emphasize the development of students' social competence to promote their success in the school environment, which is a key factor in building positive relationships and coping with challenges in the school environment.

Item 4 scored 3.22, indicating that respondents agreed that they were able to effectively regulate their emotions and behaviors to promote academic resilience. Item 3 received a rating of 3.20, indicating that respondents agreed that they are able to persevere in the face of academic challenges, which demonstrates the quality of not giving up in the face of difficulty.

The general lack of well-being felt by college students in the process of English learning is related to a variety of psychological factors and learning environments. Firstly, anxiety and self-efficacy are important factors affecting college students' English learning. Research shows that English learning anxiety and burnout are significantly negatively correlated with self-efficacy, i.e., the stronger the anxiety and burnout, the lower the self-efficacy (Wang et. al., 2021). The lowest rating of 3.14 for item 2 indicates that respondents agreed that perceived well-being is relatively low, which may indicate that they have some challenges in maintaining positive emotions in the face of academic stress, possibly because students have difficulty maintaining a sustained state of positive emotions in the face of academic stress and challenges. Perceived well-being is important for students' psychological well-being and academic performance, but it requires appropriate support and strategies to cultivate it. Moreover, Liu (2018) study also found that meeting students' basic psychological needs (e.g., autonomous learning needs, relational needs, and competence needs) is an effective way to improve their well-being in school. This implies that providing a supportive learning and living environment can help students to better realize their self-worth and thereby enhance their well-being. Positive emotions can expand and build an individual's thinking and behavioral resources, but maintaining this emotional state takes time and

practice.

Table 4

Relationship Between English Reading Comprehension and Autonomous Learning Ability

Attitudes towards English reading comprehension	r-value	p-value	Interpretation
Attitude towards self-directed learning	.262**	0.000	Highly Significant
Learning motivation	.359**	0.000	Highly Significant
Learning Strategy	.259**	0.000	Highly Significant
Learning Environment	.257**	0.000	Highly Significant
Reading abilities and strategy use			
Attitude towards self-directed learning	.321**	0.000	Highly Significant
Learning motivation	.311**	0.000	Highly Significant
Learning Strategy	.333**	0.000	Highly Significant
Learning Environment	.311**	0.000	Highly Significant
Use of English Reading Comprehension materials			
Attitude towards self-directed learning	.368**	0.000	Highly Significant
Learning motivation	.312**	0.000	Highly Significant
Learning Strategy	.337**	0.000	Highly Significant
Learning Environment	.326**	0.000	Highly Significant
Teacher's methods in teaching English reading comprehension of procedure			
Attitude towards self-directed learning	.515**	0.000	Highly Significant
Learning motivation	.320**	0.000	Highly Significant
Learning Strategy	.262**	0.000	Highly Significant
Learning Environment	.300**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 4 shows the correlation between English reading comprehension and self-learning ability based on students' grouping. The table shows the correlation analysis results between various aspects of English reading comprehension (attitude, skill and strategy use, material use, teaching methods) and various aspects of self-directed learning ability (self-directed learning attitude, learning motivation, learning strategies, learning environment). This table shows a strong correlation between English reading comprehension and self-learning ability, indicating that self-learning ability has a significant impact on students' English reading comprehension. This is of great significance for teachers to design courses and teaching activities to improve students' English reading comprehension. There is a highly significant positive correlation between teachers' teaching methods and self-directed learning attitudes, with an r-value of 0.515 and a p-value of 0.000. The correlation coefficient is 0.515, indicating that teachers' teaching methods have a significant effect on students' learning attitudes. This may be because effective teaching methods can stimulate students' learning motivation and participation, thereby promoting self-directed learning. Teachers' teaching strategies have a direct impact on students' learning methods and attitudes. Peng (2019) believes that teachers' teaching strategies not only affect students' learning methods, but also their learning attitudes. Research has shown that teachers' supportive and identity-based attitudes have different effects on students' behavioral, emotional, and cognitive engagement.

In addition, teachers' teaching behaviors directly affect the quality of teaching, which in turn affects the effectiveness of students' learning, including but not limited to teaching style, teaching behaviors, supportive and identity attitudes, and choice of teaching methods. Therefore, in order to improve the teaching effectiveness and promote the comprehensive development of students, teachers must continuously optimize their teaching strategies to meet the needs and preferences of different students. The positive correlation between the use of English reading comprehension materials and the learning environment reached a significant level with an r-value of 0.326 and a p-value of 0.000, indicating that a good learning environment may help students use reading materials more effectively. Freund et al. (2016) also found that different text environments affected information exchange and comprehension outcomes. The simplest text environment (presented purely in text with no interactivity) is associated with the highest comprehension scores, but the presence of interactivity mitigates the negative impact of the text presented in the following text. This means that by providing appropriate textual environments and interactive tools, students can more effectively comprehend and assimilate reading materials.

In terms of reading ability and strategy use and learning strategies, the r-value is 0.333 and the p-value is 0.000, which indicates that students who use effective learning strategies can help improve their reading ability and strategy use. In addition, research on English as a Foreign Language (EFL) learners has shown that students who actively use reading comprehension strategies can better understand and recall what they read and acquire higher levels of language proficiency. These strategies include not only direct reading skills such as predicting, summarizing, and questioning, but also broader study skills such as time management and self-monitoring. Teachers should use appropriate instructional strategies based on students' specific needs and backgrounds to support their reading comprehension and strategy use.

In attitude and self-directed learning attitude, the r-value is 0.262 and the p-value is 0.000. Although the correlation coefficient is relatively low, the positive correlation between the two is still significant, indicating that a positive attitude toward English reading is related to a self-directed learning attitude. This may be because attitude is influenced by multiple factors, including personal interests, values, and experiences, rather than just self-directed learning ability. Learning attitude is a complex psychological construct that can be influenced by various internal and external factors. Learning attitude is not only related to students' intrinsic motivation and self-regulation ability, but also influenced by external environment, family upbringing, teachers' teaching methods, and other factors. Ding (2016) suggest that these factors indirectly affect students' learning attitudes by influencing their academic emotions, achievement motivation, self-concept, and other aspects. For example, good family education methods can increase students' interest and enthusiasm for learning. In order to cultivate positive learning attitudes, it is necessary to first improve students' intrinsic motivation and self-regulation ability, and then improve the external environment, including optimizing family education, improving teachers' teaching quality, and creating a positive classroom atmosphere. Through these comprehensive measures, it is possible to effectively promote the development of students' learning attitudes in a positive direction.

In summary, table 4 shows the results of the significance test, which shows that the p-values of all correlation indicators are less than 0.01, indicating that these correlations are highly statistically significant. These results emphasize the importance of self-directed learning skills in improving English reading comprehension and provide valuable insights for educational practice.

Table 5 shows the correlation between English reading comprehension and academic resilience based on student grouping. The table presents the correlation analysis results between various aspects of English reading comprehension (attitude, ability and strategy use, material use, teaching methods) and various dimensions of academic resilience (empathy, perceived well-being, persistence, self-regulation, social skills), which shows a significant correlation between English reading comprehension and academic resilience, indicating that academic resilience can have a positive effect on improving students' English reading comprehension ability. This is of great significance for educators to integrate resilience development strategies into the classroom to promote students' comprehensive development.

Table 5
Relationship Between English Reading Comprehension and Academic Resilience

Attitudes towards English reading comprehension	r-value	p-value	Interpretation
Empathy	.252**	0.000	Highly Significant
Perceived Happiness	.235**	0.000	Highly Significant
Persistence	.277**	0.000	Highly Significant
Self-regulation	.316**	0.000	Highly Significant
Sociability	.156**	0.001	Significant
Reading abilities and strategy use			
Empathy	.289**	0.000	Highly Significant
Perceived Happiness	.203**	0.000	Highly Significant
Persistence	.218**	0.000	Highly Significant
Self-regulation	.294**	0.000	Highly Significant
Sociability	.111*	0.022	Significant

Use of English Reading Comprehension materials			
Empathy	.294**	0.000	Highly Significant
Perceived Happiness	.228**	0.000	Highly Significant
Persistence	.229**	0.000	Highly Significant
Self-regulation	.296**	0.000	Highly Significant
Sociability	.184**	0.000	Highly Significant
Teacher's methods in teaching English reading comprehension of procedure			
Empathy	.203**	0.000	Highly Significant
Perceived Happiness	.207**	0.000	Highly Significant
Persistence	.207**	0.000	Highly Significant
Self-regulation	.240**	0.000	Highly Significant
Sociability	.170**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

There is a highly significant positive correlation between self-regulation and teachers' teaching methods, with an r-value of 0.240 and a p-value of 0.000. This suggests that teachers' teaching methods can have a significant impact on students' self-regulation skills, possibly because effective teaching methods can provide the necessary support and guidance to help students develop self-monitoring and self-management skills. Alvi et al. (2024) argue that teachers also face challenges in promoting students' self-regulated learning. Some studies suggest that although teachers hold positive beliefs and emphasize the components of behavior, cognition, and motivation, they may lack attention to meta cognition and strategic action in practice. This suggests that teachers need to have a clearer understanding of the importance of meta cognition and strategic action and integrate them directly into practices that support students' self-regulated learning.

In empathy and the use of English reading materials, the r-value is 0.294 and the p-value is 0.000, indicating a significant positive correlation between the two. This indicates that empathy can help students to use English reading materials more effectively. Rabiatul et al. (2020) argue that empathy can help students make emotional connections with texts. When students are able to understand the text from the author's perspective, they are more likely to feel the emotional color and deep meaning of the text. For example, research has shown that sharing reading strategies can improve students' reading comprehension skills. This method not only improves students' language skills, but also enhances their understanding and resonance of textual emotions. By cultivating students' empathy, it can help them make deeper understandings and connections during the reading process, and thus use English reading materials more effectively.

In terms of persistence and reading ability and strategy use, the r-value is 0.218 and the p-value is 0.000, indicating that students' persistence may be related to their reading ability and strategy use, and persistence may promote the implementation of more effective reading strategies. Zhang (2021)'s research suggests that teaching reading strategies can not only improve students' reading comprehension skills, but also enhance their self-efficacy and interest. This suggests that by teaching and practicing specific reading strategies, students can feel their progress in a relatively short period of time, thereby stimulating their interest and motivation in reading. Persistence in using effective reading strategies, combined with other facilitating factors such as increasing self-efficacy and interest, is key to improving reading comprehension and strategy use. This requires that educators not only teach specific reading skills, but also pay attention to students' motivation, engagement, and other psychological factors to help them become more effective readers.

In terms of social ability, reading ability and strategy use, the r-value is 0.111 and the p-value is 0.022. Although the correlation is low, the positive correlation between social ability, reading ability, and strategy use is still significant, indicating that social ability may affect reading ability and strategy use to some extent. This may be because reading comprehension and strategy use are more dependent on individual cognitive and language skills, while social skills may help to create a learning environment but may not be a direct influencing factor. The indirect impact of social skills on learning outcomes is mainly through influencing learning motivation and engagement. Tang (2024) found that social interaction not only directly affects learning engagement in MOOC courses, but also indirectly affects learning engagement by satisfying skill and relationship needs and enhancing immersion. This further confirms that social skills indirectly affect learning outcomes by influencing learning

motivation and engagement. Social skills indirectly affect learning outcomes through several pathways, primarily by influencing learning motivation and engagement. These influences are reflected in social behavior in online learning environments.

The results of the significance test shows that the p-values of all correlation indicators are less than 0.01 or 0.05, indicating that these correlations are statistically significant. These findings highlight the potential role of academic resilience in improving English reading comprehension and provide valuable insights for educational practice. In conclusion, table 5 shows the relationship between English Reading Comprehension and Academic Resilience. The calculated r-values indicate a moderate direct correlation and the resulting p-values were less than the alpha level. This means that there was a significant relationship between the two variables. The result implies that the better the reading comprehension, the better the academic resilience.

Table 6 shows the correlation between English self-regulated learning ability and academic resilience after grouping based on students' situations. The table presents the correlation analysis results between various aspects of self-regulated learning ability (self-regulated learning attitude, learning motivation, learning strategies, learning environment) and various dimensions of academic resilience (empathy, perceived happiness, persistence, self-regulation, social skills). This table shows a significant correlation between self-regulated learning skills and academic resilience, indicating that self-regulated learning skills can have a positive impact on improving students' academic resilience. This is of great significance for educators to integrate self-directed learning strategies into the classroom to promote students' academic resilience and overall development. There is a significant positive correlation between learning environment and empathy, with an r-value of 0.482 and a p-value of 0.000, indicating that a supportive learning environment can greatly promote the development of empathy in students. This may be because a positive and supportive learning environment promotes cooperation and communication among students, thereby contributing to the cultivation of empathy. The outdoor environment of university campuses, as an important place for students' daily leisure and communication, is crucial for activating positive psychological capital through its health support. These studies suggest that supportive environments are not limited to families and schools, but also include the broader community and campus environments. This research underscores the importance of valuing and supporting the creation of supportive environments in educational practice.

Table 6

Relationship Between Autonomous Learning Ability and Academic Resilience

Attitude towards self-directed learning	r-value	p-value	Interpretation
Empathy	.211**	0.000	Highly Significant
Perceived Happiness	.236**	0.000	Highly Significant
Persistence	.204**	0.000	Highly Significant
Self-regulation	.231**	0.000	Highly Significant
Sociability	.113*	0.020	Significant
Learning motivation			
Empathy	.227**	0.000	Highly Significant
Perceived Happiness	.201**	0.000	Highly Significant
Persistence	.239**	0.000	Highly Significant
Self-regulation	.245**	0.000	Highly Significant
Sociability	.210**	0.000	Highly Significant
Learning Strategy			
Empathy	.316**	0.000	Highly Significant
Perceived Happiness	.182**	0.000	Highly Significant
Persistence	.179**	0.000	Highly Significant
Self-regulation	.239**	0.000	Highly Significant
Sociability	.158**	0.001	Significant
Learning Environment			
Empathy	.482**	0.000	Highly Significant
Perceived Happiness	.236**	0.000	Highly Significant
Persistence	.224**	0.000	Highly Significant
Self-regulation	.290**	0.000	Highly Significant
Sociability	.165**	0.001	Significant

Legend: Significant at p-value < 0.01

In the relationship between learning motivation and self-regulation, the r-value is 0.245 and the p-value is 0.000. The positive correlation between the two has also reached a significant level, indicating that learning motivation can help students develop self-regulation skills. Callan et al. (2022) mentioned in their study that self-regulated learning involves processes such as goal setting, strategy use, self-monitoring, and attribution. These processes can enhance motivational beliefs including self-efficacy, interest, and task value. This suggests that by developing self-regulated learning skills, students' intrinsic motivation can be enhanced, thereby promoting the development of their learning motivation. Learning motivation not only directly affects students' learning behavior and grades, but also indirectly affects learning outcomes by influencing students' self-regulation skills. Therefore, it can be concluded that learning motivation does indeed help students develop self-regulation skills.

The r-value of learning strategies and empathy is 0.316, and the p-value is 0.000, indicating that students' adoption of effective learning strategies may be related to their development of empathy. The study by de la Fuente et al. (2020) suggests that personality factors such as sense of responsibility are associated with deep learning methods and predict positive achievement emotions. This suggests that students who use deeper learning strategies may be more emotionally mature and able to better understand and feel the emotions of others, which is an important aspect of empathy. Students' use of effective learning strategies, particularly those involving self-regulation, cooperative learning, deep learning methods, and broadening perspectives through reading and interaction, may be closely related to their development of empathy. These strategies not only help improve students' academic performance, but can also promote the development of their emotional intelligence and social skills, including empathy.

In the relationship between self-directed learning attitude and social competence, the r value is 0.113 and the p value is 0.020. Although the correlation is relatively low, the positive correlation between self-directed learning attitude and social competence is still significant, indicating that self-directed learning attitude can promote the development of social competence to some extent, possibly because social competence involves a set of complex social interaction skills, while self-directed learning attitude mainly focuses on individual learning processes and strategies. Although autonomy is the core of self-determination theory, feelings of competence and relatedness are also important factors that affect learning motivation and effectiveness. Liu et al. (2021) found that sense of ability is related to an individual's confidence in his or her ability to complete tasks. When individuals feel that they can effectively deal with challenges, their motivation to learn and their performance tend to be better. Research has found that self-efficacy has a significant positive impact on college students' ability to learn English independently, indicating that a sense of ability is crucial to improving learning outcomes.

In summary, table 6 presents the results of significance tests, showing that the p-values of all correlation indicators are less than 0.01 or 0.05, indicating that these correlations are statistically significant. These findings highlight the potential role of self-directed learning skills in promoting academic resilience and provide valuable insights for educational practice. Yang (2019) found that self-directed learning requires students to be able to manage their own time and resources, which helps them maintain flexibility and adaptability in the face of constantly changing learning environments and academic demands. This ability is crucial for coping with academic pressures and challenges. Self-directed learning skills have an important potential role in promoting academic resilience. Not only does it directly improve students' academic performance and willingness to stay in school, but it also indirectly promotes the improvement of academic resilience by enhancing problem-solving skills, improving learning efficiency and motivation, increasing adaptability and flexibility, and providing a foundation for lifelong learning. It shows the relationship between Autonomous Learning Ability and Academic Resilience. The calculated r-values indicate a moderate direct correlation and the resulting p-values were less than the alpha level. This means that there was a significant relationship between the two variables. The result implies that the better the autonomous learning ability is, the better the academic resilience is.

Proposed Program

Table 7

Proposed Language Learning Program to Enhance English Reading Comprehension, Autonomous Learning Ability, and Academic Resilience of Chinese College Students

Key Result Areas	Program Objectives	Enhancement Activities	Success indicators	Persons involved
English Reading Comprehension on Attitudes	1.To improve English reading comprehension ability, enabling participating college students to gradually enhance their English reading comprehension ability, ensuring that they can understand and analyze complex academic and professional documents. To enhance professional English communication skills, cultivate college students' ability to effectively communicate in English, and enable them to confidently express their views and ideas in a multicultural work environment.	Regularly organize students to read English literature related to their major and conduct group discussions. Design English conversation exercises that simulate workplace scenarios, such as business meetings, customer service. Provide online English courses covering reading comprehension, vocabulary construction, and grammar reinforcement. Organize an English writing workshop focused on academic writing and business report writing skills. Establish an English speaking club to encourage students to practice English speaking in an informal environment	Students' average score in reading comprehension tests has increased by at least 20%.At least 80% of students actively participate in all enhancement activities.Through surveys, at least 90% of students express satisfaction with the project. The average grades of students participating in the project have improved in relevant English courses.Track graduates who participate in projects, with at least 60% of students finding English related jobs or further academic opportunities within one year after graduation.	English faculty; Student and volunteers; Program coordinators; Instructors;Native English speakers;
Autonomous Learning Ability on Learning Strategy	To improve problem-solving skills and cultivate learners' ability to think independently and solve problems when encountering unfamiliar ones. To enhance information search skills, and enhance learners' ability to use libraries, the Internet and other resources for effective information search. To promote teacher-student interaction, encourage students to actively communicate with teachers, establish a good teacher-student interaction relationship, and promote learning. 4.To cultivate the spirit of peer assistance, improve communication and cooperation among learners through peer assistance, and jointly solve problems encountered in learning.	Regularly hold workshops to teach students how to analyze problems and find solutions. Provide training courses to teach students how to efficiently use search engines, databases, and other online resources. Establish an online platform that allows students to easily ask questions and receive feedback from teachers. Organize learning groups, encourage students to discuss and help each other, and solve problems together. Hold regular meetings to allow students to share their experiences and gains in problem-solving.	Evaluate whether students' problem-solving abilities have improved through regular problem-solving tests. Evaluate students' information search skills by recording their time and accuracy in completing information search tasks. Evaluate the frequency and quality of interaction between students and teachers through data analysis on online platforms. Evaluate the level of student participation in peer support through the participation and activity records of peer learning groups. Conduct a questionnaire survey to understand students' satisfaction with project activities and their perceived gains.	English faculty; Student and volunteers; Program coordinators; Instructors;Native English speakers;
Academic Resilience on Perceived Happiness	To enhance academic resilience, the goal of this project is to improve students' resilience in the face of challenges in English learning, enabling them to continue working hard and recover from failures. To enhance students' confidence in their English learning ability through positive feedback and successful experiences. 3.To cultivate a positive mindset, encourage students to maintain a positive attitude, and believe that their efforts will be rewarded. 4.To improve learning efficiency by implementing effective learning strategies and methods to enhance students' efficiency in learning English.	Organize regular feedback meetings to allow students to share their learning progress and challenges encountered, and provide targeted guidance. Organize workshops to teach students effective learning strategies, such as time management, memory skills, etc. Implement a peer tutoring plan to allow senior students to tutor junior students, share learning experiences and strategies. Invite mental health experts to give lectures, teaching students how to manage stress and maintain a positive attitude. Regularly hold learning achievement exhibitions for students to showcase their learning achievements and enhance their sense of achievement.	Quantify students' progress in English learning through regular English proficiency tests. Evaluate students' learning outcomes and progress through their submitted assignments, projects, and exam performance. Evaluate students' satisfaction with project activities and learning environment through a questionnaire survey. Monitor students' mental health status and resilience level through psychological health assessment tools. Record the frequency and quality of students' participation in enhanced activities as an indicator of their active engagement.	English faculty; Student and volunteers; Program coordinators; Instructors;Native English speakers;

With the acceleration of globalization, the importance of English as an international lingua franca is becoming more and more obvious. In China, as the main force of the future society, college students' English reading comprehension, self-learning ability and academic flexibility are not only related to their personal academic achievements, but also to the long-term development of the country. This study aims to thoroughly explore the current situation, problems, and influencing factors of Chinese college students in these three aspects, and to provide theoretical basis and practical guidance for improving teaching methods and enhancing learning outcomes. Through the implementation of relevant plans, students and teachers hope to gain a deeper understanding of the current situation and problems of Chinese university students in English reading comprehension, autonomous learning ability and academic flexibility, and provide strong theoretical support and practical guidance for improving teaching methods and improving learning outcomes.

4. Conclusions and recommendations

The respondents have strong reading comprehension in learning English. They have a high ability to use English reading comprehension materials, and the implementation effect of teachers' methods in teaching English reading comprehension procedures is good. However, in comparison, their reading ability and strategy use, learning attitude towards English reading comprehension have lower numerical values. The respondents generally make good use of various autonomous learning ability. They use attitude towards self-directed learning, learning environment and learning motivation more than learning strategy. Respondents generally have moderate to high levels of academic resilience in learning English. They exhibit good sociability, self-regulation, persistence, and empathy, but have a lower perceived happiness level for academic resilience. A strong correlation exists between students' English reading comprehension, autonomous learning, and academic resilience. Higher reading comprehension leads to better autonomous learning skills and greater resilience in academics. Enhanced autonomous learning boosts academic resilience. A language learning program was proposed to improve the English reading comprehension, autonomous learning ability and academic resilience of Chinese college students.

To strengthen support for academic resilience, schools may offer a range of diverse learning pathways and adaptable assessment methods, including elective courses, personalized learning plans, and online learning resources. This approach meets students' diverse learning needs, reduces academic stress, and ultimately improves learning outcomes. Teachers may use cooperative learning, group projects, and discussions on English materials to foster ideological exchanges and improve language and teamwork skills. Encourage extensive reading of English originals, journals, and news, combining intensive and extensive reading for better vocabulary, speed, critical thinking, and cross-cultural understanding. Implement feedback and incentive mechanisms to adjust strategies and recognize outstanding students, motivating their learning. Students may be equipped with essential self-directed learning skills, including setting learning goals, effective time management, and resource retrieval. By using online platforms, applications, and other tools to facilitate learning, enhancing students' learning initiative and self-assessment skills. Further researchers may concentrate on a comprehensive examination of the interactions and influence mechanisms among Chinese college students' English reading comprehension, autonomous learning ability and academic resilience. The proposed language program may be presented and reviewed for implementation.

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