Language learning approaches, behavioral engagement and learning competencies among Chinese EFL students

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Abstract

This research aimed to investigate the relationship among EFL students' language learning approaches, behavioral engagement, and learning competencies in China, and to propose an enhanced program for English learning. A descriptive research method was employed, with questionnaires as the primary data collection instrument. The researcher collected data on English learning from freshmen and sophomores at four Chinese colleges. The study analyzed the distribution of respondents' profiles as well as their language learning approaches, behavioral engagement, and learning competencies. In addition, the correlation between these variables and difference of responses on them were also explored. The results revealed that most of the respondents were male, majoring in business, in Sophomore, and studying in a private college. Chinese EFL students agreed on both surface and deep approaches to language learning. The majority of the respondents agreed that participation, interaction, persistence, and concentration were among the highest ranked behavioral engagements. Most respondents agreed that communicating effectively and learning how to learn were the highest ranked learning competencies. The responses on language learning approaches, behavioral engagement, and learning competencies varied when grouped according to sex, major, grade, and type of college. There was a very strong correlation showing highly significant relationship among language learning approaches, behavioral engagement, and learning competencies. These findings may assist educators in establishing a student-centered program conducive to enhancing Chinese EFL students' language learning approaches, behavioral engagement, and learning competencies.

Keywords: language learning approaches, behavioral engagement, learning competencies, Chinese EFL students

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1. Introduction

With the deepening of globalization, exchanges between countries around the world have become increasingly frequent, and cross-border cooperation and communication have become increasingly close in various fields such as politics, economy, technology, and culture. In this context, language plays a crucial role as a bridge of communication and a vehicle of culture. English, as the most widely used international language, has rapidly gained global influence and has become an indispensable part of the globalization process. Whether in international business negotiations, technological innovation cooperation, or cross-cultural communication and global governance, English plays an important role as a communication medium with significant advantages over other languages. More and more countries are choosing English as their first choice for foreign language learning to cope with the various challenges and opportunities brought by globalization. Especially in non-English speaking countries such as China, with the rise of the economy and the enhancement of international influence, the demand for learning English has shown explosive growth. The process of China's internationalization, the deepening of its opening-up policy, and the promotion of the "the Belt and Road" initiative have further promoted the popularization of English education.

In China, whether in the basic education stage or in the higher education system, English has become a compulsory subject, fluent English proficiency has become a basic requirement for career development. The learning of English as a foreign language begins from kindergarten to elementary school, and English learning in junior middle school, high school, and university is a key area of cultivation. This thesis focused on the study of English as a foreign language (EFL) during the higher education stage. Chinese EFL students in colleges, typically aim to master basic listening, speaking, reading, and writing skills for simple daily communication, such as shopping, traveling, and watching English media. As globalization intensifies, more college EFL students seek these language competencies to enhance their academic performance and career prospects through English learning. The demand for deeper English learning has grown, making college English a crucial component of higher education.

Despite the relatively complete English education system in China, many Chinese EFL students still face numerous challenges in their learning process. For example, the unified teaching style of college English teachers, which has been formed for a long time, has made students passively accustomed to this learning mode and lost their initiative in learning English (Han et al., 2021). Most teachers focus solely on completing the required syllabus tasks and neglect the development of students' critical thinking abilities in college English classes (Zhang, 2022). These factors contribute to teacher-dominated classrooms, resulting to persistent student silence and low engagement. Many Chinese EFL students face unstable motivation, insufficient drive, and low learning efficiency, relying on rote memorization and merely completing exercises without critically engaging with the material (Wang et al., 2022). Wang et al. (2019) argued that student-centered foreign language teaching views students as the central figures in education and active constructors of knowledge. There are individual differences in the foundation of college English among EFL students, and their learning attitudes, motivation, and approaches directly affect their English learning. If these issues are ignored in college English classrooms, many students may lose their ability to learn actively, leading to a weak awareness of self-directed learning and a loss of interest in English learning. Therefore, it is particularly important to explore the relationships among language learning approaches, behavioral engagement, and learning competencies. Learning approaches are one of the key factors that affect the effectiveness of language learning. By helping EFL students develop effective language learning approaches, educators can stimulate their interest in learning English, strengthen motivation, encourage self-regulated learning with modern multimedia technology, create a relaxed and enjoyable learning

environment, and deepen language learning competencies. It ultimately enhances the quality of college English education.

At the same time, behavioral engagement in learning is also an important dimension that affects learning competencies. According to Guo et al. (2022), behavioral engagement is the fundamental dimension of student engagement and serves as the conduit of students' psychological engagement (emotional and cognitive) in learning. High levels of engagement are associated with better academic performance and a deeper understanding of the material (Wu et al., 2024). Additionally, engaged students are more likely to develop critical thinking skills and a positive attitude towards learning (Guo et al., 2022). Therefore, studying Chinese EFL students' behavioral engagement is of highly significance. It is an important factor affecting learning performance, which also applies to EFL learning. More importantly, learning in the era of information extends beyond acquiring scientific and cultural knowledge to mastering skills like communication, problem-solving, and innovation to meet future demands. Therefore, educators must guide students toward deep learning, which emphasizes autonomous and meaningful construction, rather than mechanical, memorization-based, or surface learning. Enhancing learning competencies is essential for adapting to the complexities of the information age (Wang et al., 2022). In an era of overloaded information, EFL students encounter a vast array of diverse English learning resources. Those with deep learning competencies can more effectively filter, integrate, and critically analyze information, thereby acquiring valuable knowledge and skills. Enhancing deep learning competencies allows learners to integrate English with other subjects, engage in deep reflection, and express their views more accurately and fluently. Therefore, studying Chinese EFL students' learning competencies is of highly significance. Domestic and foreign scholars have achieved fruitful research results on the impact of college students' engagement and on learning outcomes based on large-scale survey data. In existing research, many studies on Chinese EFL students focus on language competencies, language learning motivation, or a specific language learning method, but few studies comprehensively consider the interaction among language learning approaches, behavioral engagement, and language learning competencies. The relationships among to language learning approaches, behavioral engagement, and learning competencies remains unclear.

Therefore, this study investigated the language learning approaches, behavioral engagement, and learning competencies among Chinese EFL students in English learning, and analyzed the relationships among them. In theory, this study can fill the gap in existing literature. Many studies on Chinese EFL students have focused on a single variable, such as learning motivation or language ability, but few have combined learning approaches, behavioral engagement, and learning competencies for comprehensive analysis. By revealing the interrelationships between these variables, this study helps deepen educators' understanding of the complex mechanisms in the English learning process and further promote the development of language learning theory. In practical terms, this study has a direct guiding role in teaching practice. Through empirical analysis of different learning approaches and behaviors, the research results can provide data support for teachers to design more effective teaching strategies. These strategies can not only stimulate students' learning motivation, but also guide them to optimize their learning approaches, thereby improving the effectiveness of language learning. Especially in a non-native English-speaking country like China, targeted teaching suggestions have important practical significance for improving overall English proficiency. Finally, from the perspective of EFL students, this study will provide a basis for learners to reflect on their own learning behavior. By understanding which learning methods are most effective, learners can more consciously adjust their learning strategies, enhance their deep learning competencies and learning outcomes. This not only helps them with language learning during their academic stage, but also lays a solid foundation for their future career development.

Objectives of the Study - This study aimed to determine the relationships among language learning approaches, behavioral engagement and learning competencies among Chinese EFL students to promote a language program for enhancing their English learning competencies. Specifically, this paper explored on the following aspects: determined Chinese EFL students' language learning approaches as to deep approach and surface approach; identified the Chinese EFL students' behavioral engagement in terms of participation, persistence, concentration, interaction, academic challenges, and self-regulated learning; assessed the Chinese

EFL students' learning competencies as to mastering core academic content, thinking critically and solving complex problems, working collaboratively, communicating effectively, learning how to learn, and developing academic mindsets; established relationships among Chinese EFL students' language learning approaches, behavioral engagement and learning competencies; and proposed a program to enhance language competencies among Chinese EFL students in China.

2. Methods

Research Design - This study adopted descriptive research design. According to Kelkar (2023), descriptive design is a research methodology that combines quantitative and qualitative approaches to gather data to describe phenomena, situations, or populations. This design primarily employs observations, surveys, and case studies as its main research methods. In this study, the researcher utilized questionnaire to acquire quantitative data from participants regarding language learning approaches, behavioral engagement and learning competencies. Descriptive analysis methods were used to present the analysis of the three variables, showing the current level and relationship among Chinese EFL students in terms of language learning approaches, behavioral engagement, and learning competencies, which can also help in determining whether significant differences do exist regarding demographic profiles. Based on existing research findings on the three variables, this study summarized the research results and gave a language program to enhance Chinese EFL students' English learning.

Participants of the Study - The present study was conducted in China. The participants were chosen from level 1 (freshman) and level 2 (sophomore) EFL students majoring in business and engineering within four colleges. The total number of these two major freshman and sophomore was 1137. Using the Raosoft online sample size calculator, with a 5% margin of error, 99% confidence level, and 50% of the population distribution, a total of 420 EFL students were selected using simple random sampling techniques, and their data were investigated and submitted through an online survey published on Wenjuanxing, a professional online platform for survey, examination, assessment, and voting. There was no information obtained involving students' personal information.

Instrument of the Study - The design and compilation of the questionnaire on language learning approaches, behavioral engagement and learning competencies among Chinese EFL students are mainly based on three questionnaires. Before the survey questionnaire, respondents' personal information is firstly collected. Part 1 contained basic demographic information to obtain the profile of the respondents, such as sex, major, grade and type of college. Part 2 intended to determine the Chinese EFL Students' language learning approaches. The questionnaire is adapted from the "Revised Learning Process Questionnaire" developed by Kember et al. (2004). It includes two constructs: deep approach and surface approach, and each has two subscales: motives and strategies. Motives include surface motive and deep motive. Strategies include surface strategy and deep strategy. The deep learning motives are formed by thirst for knowledge exploration, while surface motives refers to the learning motive formed by coping with exams or future job hunting. Surface strategy are formed by minimizing scope of study and memorization, while deep strategy are formed by relating ideas and understanding. The questionnaire included a total of 22 questions in two dimensions: deep approach and surface approach. It adopts a 4-point rating, which is: 1 point represents "strongly disagree", 2 points represents "disagree", 3 points represents "agree", and 4 points represents "strongly agree". Part 3 adopted a self-made questionnaire on college students' behavioral engagement in EFL learning.

The questionnaire structure draw inspiration from the online learning behavioral engagement analysis framework constructed by Li et al. (2016) and took the six subscales of behavioral engagement obtained from literature research, namely participation, persistence, concentration, interaction, academic challenge, and self-regulated learning as the main dimensions for analyzing college students' English behavioral engagement. The indicators of each of learning behavioral engagement reflect the characteristics of Chinese students as far as possible. The questionnaire adopted a 4-point Likert scale on agreement or disagreement. Part 4 measured students' learning competencies. The questionnaire used in this study is designed based on deeper learning

competencies formed by William et al. (2013). Based on extensive interviews with experts in the field and a review of the relevant literature, William et. al., (2013) identified six dimensions of deeper learning competencies, which have collectively become the focus of a national initiative to promote deeper learning in schools. These dimensions are mastering core academic content, thinking critically and solving complex problems, working collaboratively, communicating effectively, learning how to learn, and developing academic mindsets (William et al., 2013). The questionnaire used a 4-point Likert scale in assessing the level of agreement or disagreement. To further ensure the validity and reliability of the questionnaire, pilot research was implemented before the formal survey. Values for Cronbach alpha for scales were produced with the reliability procedure of SPSS, a professional statistical analysis software developed by IBM. The results of the reliability tests yielded acceptable marks. Table A gives Cronbach values for each sub-scale.

Table A

Results of Reliability Tests

Indicators	Cronbach Alpha	Remarks
Deep approach	0.874	Good
Surface approach	0.921	Excellent
Participation	0.728	Acceptable
Persistence	0.940	Excellent
Concentration	0.826	Good
Interaction	0.894	Good
Academic challenges	0.849	Good
Self-regulated learning	0.955	Excellent
Mastering core academic content	0.860	Good
Thinking critically and solving complex problems	0.848	Good
Working collaboratively	0.884	Good
Communicating effectively	0.723	Acceptable
Learning how to learn	0.869	Good
Developing academic mindsets	0.816	Good

Table A presents the reliability test results of Cronbach alpha for 14 indicators. The Cronbach alpha value is used to evaluate the internal consistency of a scale or questions, that is, whether the questionnaire can reliably measure the same concepts (Habók et al., 2020). Generally speaking, the higher the Cronbach alpha value, the better the reliability of the questionnaire. The Cronbach alpha values of most indicators in Table A are within the range of Good or Excellent, indicating that the scale as a whole has good reliability. Some indicators, such as participation and communicating effectiveness, are within the acceptable range. Although their reliability is acceptable, their internal consistency is slightly lower compared to other indicators. Overall, the scale displayed in the table has high reliability in measuring key indicators such as surface approach, persistence, and self-regulated learning.

Research Procedure - Prior to conduct the study, a letter asking the permission of the university officials were sought. Once approved, the data gathering commenced. The questionnaire was distributed in the form of an online questionnaire with the help of many EFL teachers. Four colleges in China were selected as the research object, involving 420 students from 2 majors, and questionnaires were randomly distributed. Students were able to work individually, since all instructions were included in the online questionnaire. At the same time, students were notified that their responses were collected for research purpose only. The teachers who facilitated the data collection had the opportunity to collect students' questions and remarks to report them to the researchers. During the process of collecting data, researcher checked the progress of questionnaire filling on the platform and set reminders. After about two months, the questionnaire collection was completed. After that, the researcher downloaded the data from the platform, screened valid questionnaires, and cleaned up invalid data.

Data Analysis - As for the data analysis, the data collected were collated by SPSS, and the data were analyzed and processed by descriptive analysis methods. To facilitate data analysis, the answers to the questions

were scored with the Likert scale, and the scores of 4, 3, 2, and 1 where 4 is the highest. Weighted mean and ranking were applied to in assessing the three variables. Correlation analysis was used to examine the relationship among the three variables. Pearson correlation was used to test the significant relationship among the three variables. This analysis identified whether there is a significant positive or negative correlation among the three variables, assisting in the evaluation of whether the more deep approaches students adopted, the more behavioral engagement engaged, or the more deep approaches students adopted, the deeper learning competencies they have, or if more behavioral engagement are associated with deeper learning competencies.

Ethical Considerations - Firstly, ensuring informed consent from all participants is essential. Researcher obtained consent from the students before collecting their personal information and sensitive data. Secondly, safeguarding participants' privacy and data security is of utmost importance. Additionally, participants' rights and welfare was respected throughout the study, including the right to voluntary withdrawal from the research and minimizing any potential risks or discomfort. Lastly, the dissemination and utilization of research findings was adhered to academic ethical standards, ensuring that no adverse effects are imposed on the participants and maintaining the credibility and reliability of the study.

3. Results and discussion

Table 1
Summary Table on Language Learning Approaches among Chinese EFL Students

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Deep Approach	2.59	Agree	2
2. Surface Approach	3.23	Agree	1
Composite Mean	**2.91**	**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 provides an overview of Chinese college EFL students' approaches to language learning. With regard to students' language learning approaches, the following results can be found. The overall composite mean of 2.91 indicates that respondents generally adopt both approaches to some extent. According to Kember et al. (2004), within each of the deep and surface factors there are four subscales in the RLPQ. At the top are deep and surface approaches. The middle level adds motive and strategy elements to each approach. In this study, deep motive includes intrinsic interest and commitment to work. Surface includes fear of failure and aim for qualifications.

The weighted average of surface approaches is higher than that of deep approaches and close to the strongly agree. It means that students generally preferred a surface approach, which may emphasize fear to failure, rote memorization, exam preparation, meeting school requirements and career development. This is due to the influence of exam-oriented education in high middle school, which leads students to pay more attention to exam scores and short-term memory effects, while neglecting the long-term accumulation and deep understanding of knowledge. The results of this study are basically similar to those of Cai (2019). Cai (2019) surveyed 152 second year non English major university students and found that "personal development" had the highest value, indicating that most students learn English for their own development. Studying abroad has become the second motivation for students. Academic performance ranks third, indicating that some students study English in order to pass various English exams and achieve satisfactory results. Surface motivation is not conducive to students' choice of deep approaches. This data is also consistent with Lu's (2024) research. Currently, some students only learn English to cope with exams and pass the College English Test-Band 4 and College English Test-Band 6 exams, lacking initiative. In teaching, effective teaching methods have not been adopted to replace "indoctrination" teaching, resulting in many students still passively learning theoretical knowledge in the classroom. This has led to students paying more attention to the memory of knowledge and neglecting the learning and application of various language skills. At the same time, Huang's (2021) research found that the vast majority of university English major teachers still teach English major students from the four levels of listening, speaking, reading, and writing, without attaching importance to popularizing foreign cultures, resulting

in students being unable to systematically grasp subject knowledge from multiple perspectives, which is not conducive to students' logical thinking training and core literacy improvement. However, respondents also adopted some deep approaches, even the weighted mean not very high, such as an interest in understanding learning materials, relating it to other knowledge and commitment to study. The weighted average of this indicator falls within the range of agree, but have not yet reached the level of strongly agree. The intention of seeking deep understanding has often been seen as the defining distinction from a surface approach (Kember et al., 2004). Understanding, according to Xu et al. (2022), refers to the grasp of the essence or substance of things, and deep learning is the learning aimed at understanding. Since learners have not yet reached understanding, it is difficult for them to acquire those learning contents. Only by truly thinking, analyzing, and exploring what they have learned with their brains can understanding be achieved and knowledge truly belong to learners. Understanding does not come out of thin air, but requires learners to effectively connect old and new knowledge and experience, constantly constructing the meaning of knowledge. Guo (2020) believed that relating ideas, which contrasts to the fragmented knowledge that commonly leads to a surface approach, is the transfer of knowledge learned in one context to a new one. It not only requires students to master the knowledge they have learned, but also requires them to integrate and apply the knowledge they have learned.

The summary table reveals that Chinese EFL students always choose both approaches in their language learning, but more inclined towards a surface approach to language learning. The results of this part are similar to the research results of Han et al. (2021), where many college students lack the ability to independently set English learning tasks during their long-term college English learning process and have not fully acquired English deep learning approaches through self-regulated learning. The dominance of the surface approach may lead to short-term academic achievements but could limit students' ability to apply English in real world contexts. The lower emphasis on the deep approach suggests that students may not be fully developing critical thinking or a deeper understanding of English. This trend highlights the importance of rethinking teaching methods and assessment practices to encourage more engagement, critical thinking, and lasting comprehension in language learning. As Guo (2020) believed, deep learning approach is not just a reaction to surface learning, nor does it believe that cultivating higher-order thinking is enough for deep learning. They believed that surface approaches like memorization itself is of great importance and is an essential activity of deep learning.

Table 2
Summary Table on Behavioral Engagement among Chinese EFL Students

Indicators	Weighted Mean	Verbal Interpretation	Rank
1.Participation	3.24	Agree	1
2.Persistence	2.60	Agree	3
3.Concentration	2.57	Agree	4
4.Interaction	2.72	Agree	2
5.Academic Challenges	1.90	Disagree	6
6.Self-regulated Learning	1.99	Disagree	5
Composite Mean	2.50	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 presents an overview of respondents' assessment on Chinese EFL students' learning behavioral engagement. The composite mean of 2.50 indicates that the respondents agreed their behavioral engagement in general. This is consistent with the research results of Wang et al. (2022), which show that the overall level of foreign language learning engagement among college students is above average. Among the indicators cited, participation got the highest mean score of 3.24, followed by interaction. Academic challenges and self-regulated learning ranked the lowest and assessed as disagreement, meaning, they still considered these two sub-domains as helpful. Previous studies have found that participation is a fundamental behavioral engagement in language learning, reflecting students' acceptance and recognition of curriculum rules and requirements, and serving as the foundation for other behavioral engagements (Li et al. 2016). Students' participation can help them better understand the course and engage in course learning, gradually developing a corresponding interest in the course. At this time, students will be willing to spend time and energy on course learning, forming emotional recognition of the course (Zhu et al. 2024). The improvement of teaching resources, such as optimizing the teaching

environment, enriching teaching content and forms, and diversifying teaching methods, will have a significant impact on students' learning participation.

Interaction ranked second in this study, which is consistent with previous research results. Kou et al. (2019) found that non-English major college students have a more positive understanding of classroom group interaction. Interaction can provide learners with important channels for language learning and communication, increasing opportunities for language use and correction (Xu, 2020). Interaction is beneficial for building harmonious classroom relationships, helping students to engage more deeply in the classroom, and obtaining richer learning opportunities (Long et al., 2021). Regarding the relationship between interaction and learning engagement, research has found that teacher-student interaction has a positive promoting effect on learning engagement (Chhetri et al., 2022). Academic challenges and self-regulated learning ranked the lower and assessed as disagreement, which indicates that students lack sufficient coping and self-management abilities when facing difficulties. Learning English requires long-term effort and the ability to face challenges, and students' weaknesses in these two areas can lead to limited learning outcomes. As previously analyzed, research by Salmela-Aro et al. (2020) indicates that the pandemic has exacerbated students' academic challenges, leading to increased learning exhaustion. This aligns with the result of this study. According to Wu et al. (2024), various academic obstacles are associated with reduced engagement in school activities. The utilization of formal language within educational environments can generate considerable anxiety for students, inducing fear and impeding their learning process. Linnenbrynk-Garcia et al. (2019) emphasize the importance of academic challenges, explore how motivation and emotional regulation can aid students in addressing these difficulties, and propose that educational design should emphasize emotional support and motivational approaches to enhance academic engagement. Overall, this table reveals respondents' moderate performance in terms of participation, persistence, concentration, and interaction, as well as their weakness in academic challenges and self-regulated learning. This provides a direction for educators and students themselves to improve, especially in enhancing their acceptance of learning difficulty and self-management abilities.

Table 3
Summary Table on Learning Competencies among Chinese EFL Students

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Mastering Core Academic Content	2.40	Disagree	4
2. Thinking critically and solving complex problems	1.88	Disagree	5
3. Working Collaboratively	2.48	Disagree	3
4. Communicating Effectively	2.53	Agree	1
5. Learning how to Learn	2.53	Agree	2
6. Developing Academic Mindset	1.83	Disagree	6
Composite Mean	**2.28**	**Disagree**	

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 mainly presents an overview of Chinese EFL students' learning competencies in terms of six indicators. The overall level of English learning competencies among Chinese EFL students is at disagree with a composite mean of 2.28, indicating that the respondents disagreed that they have language learning competencies in general.

Among the indicators cited, communicating effectively and learning how to learn got the highest mean score of 2.53. This means that to some extent, students are able to present their data, findings, and ideas in a clear and orderly manner, and they are responsible for and guide their educational journey. Although these two indicators rank high among six indicators, respondents' attitudes towards effective communication and learning tend to be agree rather than strongly agree. This indicates that although they believe they can communicate effectively, they may face challenges in expressing themselves clearly, fluently, and accurately. Students' self-evaluation in terms of self-learning strategies and meta-cognitive strategies got agree, indicating that they believe they have a certain level of learning ability. However, the other four indicators are all disagree, indicating that their "learn how to learn" competencies have not been fully utilized or developed.

The weighted mean of working collaboratively is 2.48, which falls within the range of disagree. Although it ranks third, it is still below the threshold of agree. This indicates that Chinese EFL students have limited collaborative abilities in English learning. Collaborative learning can improve language communication and oral skills, therefore enhancing students' teamwork skills can help improve the effectiveness of English learning. Mastering core academic content follows closely behind, with a weighted average of 2.40, belonging to the disagree, indicating that students have relatively weak mastery of core academic content in English learning. This may mean that students have difficulty understanding complex language structures, vocabulary, and English cultural backgrounds. The weighted mean of thinking critically and solving complex problems is 1.88, ranking fifth and in the range of disagree. Critical thinking and problem-solving are manifestations of higher-order thinking abilities in language learning, particularly in analyzing, reasoning, and evaluating information. This low score may indicate that students lack the ability to think independently and experience in dealing with complex tasks during the English learning process.

Meanwhile, developing academic mindset got 1.83 and assessed as disagree. This indicator once again reveals the setbacks of students in the development of academic mindset. They are not fully dedicated to completing tasks, achieving objectives, and producing high-quality work to overcome obstacles. Guo (2020) believed that in the process of deep learning, students would master the core knowledge of the subject, grasp the essence and thinking methods of the subject, become excellent learners who are independent, critical, creative, cooperative, and have a solid foundation, and become the masters of future social and historical practices. Liu et al. (2024) advocated that deep learning is a learning activity that involves mastering core knowledge and applying it through transfer, emphasizing the cultivation of students' innovative thinking and comprehensive abilities. Learners rely on their intrinsic learning motivation and interests for sustained learning, achieving sustained development of cognition, emotions, abilities, and values.

Table 4
Relationship between Language Learning Approaches and Behavioral Engagement among Chinese EFL Students

Deep Approach	r-value	p-value	Interpretation
Participation	.639**	0.000	Highly Significant
Persistence	.738**	0.000	Highly Significant
Concentration	.740**	0.000	Highly Significant
Interaction	.710**	0.000	Highly Significant
Academic Challenges	.674**	0.000	Highly Significant
Self-regulated Learning	.612**	0.000	Highly Significant
Surface Approach			
Participation	.580**	0.000	Highly Significant
Persistence	.494**	0.000	Highly Significant
Concentration	.515**	0.000	Highly Significant
Interaction	.543**	0.000	Highly Significant
Academic Challenges	.305**	0.000	Highly Significant
Self-regulated Learning	.267**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 4 displays the association between Chinese EFL students' approaches to language learning and learning behavioral engagement. The relationship between the two main learning approaches (deep approach and surface approach) and different sub-scales of behavioral engagement is determined correlation coefficients r-values and significance test (p-values). The significance test uses p-values to determine whether there is a statistically significant correlation between variables. The r-values represent the correlation strength, ranging from -1 to 1. Approaching ±1 indicates strong correlation, while approaching 0 indicates weak or no correlation. The p-values in table 4 are all less than 0.01. The computed r-values indicate a strong direct correlation and the resulted p-values were less than the alpha level. This means that significant relationship exists and implies that the better is the student approaches to language learning, the better is the learning behavioral engagement. Although surface approaches also have a strong direct correlation with behavior engagement, their correlation is significantly weaker than that of deep approaches.

The results confirms Huang et al. (2023) research. They found that deep approaches can significantly enhance students' behavioral engagement, including active participation in classroom and prolonged learning concentration, while students with surface approaches are more likely to exhibit low engagement. The difference between deep learning approaches and surface learning approaches lies in learning motivation, learning strategies, and other aspects. Deep learning methods can stimulate students' learning motivation, promote deep thinking and knowledge construction, thereby enhancing students' learning behavior engagement; surface learning approaches may lead to insufficient learning motivation, cognitive investment, and emotional investment among students. Therefore, educators and learners should pay attention to the selection and optimization of learning methods to promote students' deep learning and comprehensive development.

From the data in table 4, it is easy to find out the importance of deep approaches in college English learning. Chinese EFL students who adopt deep learning methods not only exhibit higher levels of participation, persistence, and concentration in their learning behavior, but are also more likely to face academic challenges and develop self-regulated learning in their English study. In contrast, although surface approaches also promote behavioral engagement to some extent, their effectiveness is far less significant than deep approaches. Therefore, for English teachers and learners, they should pay more attention to and encourage the application of deep approaches to improve English learning.

Table 5

Relationship between Language Learning Approaches and Learning Competencies among Chinese EFL Students

Deep Approach	r-value	p-value	Interpretation
Mastering Core Academic Content	.709**	0.000	Highly Significant
Thinking critically and solving complex problems	.629**	0.000	Highly Significant
Working Collaboratively	.695**	0.000	Highly Significant
Communicating Effectively	.778**	0.000	Highly Significant
Learning how to Learn	.727**	0.000	Highly Significant
Developing Academic Mindset	.583**	0.000	Highly Significant
Surface Approach			
Mastering Core Academic Content	.409**	0.000	Highly Significant
Thinking critically and solving complex problems	.294**	0.000	Highly Significant
Working Collaboratively	.397**	0.000	Highly Significant
Communicating Effectively	.406**	0.000	Highly Significant
Learning how to Learn	.442**	0.000	Highly Significant
Developing Academic Mindset	.243**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 5 shows the association between Chinese EFL students' language learning approaches and learning competencies. The computed r-values indicate a strong direct correlation and the resulted p-values were less than the alpha level. This means that significant relationship exists and implies that the better is the student approaches to language learning, the better is the learning competencies. The r-values between surface approach and the six learning competencies are significantly lower than those of deep approaches. The r-values between mastering core academic content, communicating effectively, learning how to learn and deep approach are higher than 0.7, indicating that students who use deep approaches are more likely to improve their competencies to understand and master the core content of the subject, more conducive to enhancing their effective communication skills and facilitating their self-directed learning and exploration of new knowledge.

Although the correlation effect of surface approach on learning competencies is not as significant as that of deep approach, it still has a certain impact on these competencies, such as mastering core academic content and learning how to learn because surface approach can also help students acquire certain competencies to some extent through memory, understanding, and other means.

The research results of this study are not quite consistent with the main results of Wang et al. (2022). They believe that deep learning approach are significantly correlated with students' language learning competencies,

and can enhance their language analysis, reasoning, and application skills. Surface approach rely more on mechanical memory and cannot effectively improve language learning competencies. However, the author agrees more with Zhu's (2020) viewpoint that surface approach and deep approach are not opposed, but rather gradual processes that complement each other to achieve the best learning outcomes.

Table 6

Relationship between Behavioral Engagement and Learning Competencies among Chinese EFL Students

Participation	r-value	p-value	Interpretation
Mastering Core Academic Content	.607**	0.000	Highly Significant
Thinking critically and solving complex problems	.346**	0.000	Highly Significant
Working Collaboratively	.534**	0.000	Highly Significant
Communicating Effectively	.574**	0.000	Highly Significant
Learning how to Learn	.595**	0.000	Highly Significant
Developing Academic Mindset	.345**	0.000	Highly Significant
Persistence			
Mastering Core Academic Content	.639**	0.000	Highly Significant
Thinking critically and solving complex problems	.531**	0.000	Highly Significant
Working Collaboratively	.607**	0.000	Highly Significant
Communicating Effectively	.702**	0.000	Highly Significant
Learning how to Learn	.620**	0.000	Highly Significant
Developing Academic Mindset	.544**	0.000	Highly Significant
Concentration			
Mastering Core Academic Content	.596**	0.000	Highly Significant
Thinking critically and solving complex problems	.574**	0.000	Highly Significant
Working Collaboratively	.612**	0.000	Highly Significant
Communicating Effectively	.699**	0.000	Highly Significant
Learning how to Learn	.632**	0.000	Highly Significant
Developing Academic Mindset	.554**	0.000	Highly Significant
Interaction			
Mastering Core Academic Content	.587**	0.000	Highly Significant
Thinking critically and solving complex problems	.489**	0.000	Highly Significant
Working Collaboratively	.574**	0.000	Highly Significant
Communicating Effectively	.647**	0.000	Highly Significant
Learning how to Learn	.585**	0.000	Highly Significant
Developing Academic Mindset	.470**	0.000	Highly Significant
Academic Challenges			
Mastering Core Academic Content	.516**	0.000	Highly Significant
Thinking critically and solving complex problems	.736**	0.000	Highly Significant
Working Collaboratively	.589**	0.000	Highly Significant
Communicating Effectively	.740**	0.000	Highly Significant
Learning how to Learn	.577**	0.000	Highly Significant
Developing Academic Mindset	.720**	0.000	Highly Significant
Self-regulated Learning			
Mastering Core Academic Content	.479**	0.000	Highly Significant
Thinking critically and solving complex problems	.639**	0.000	Highly Significant
Working Collaboratively	.518**	0.000	Highly Significant
Communicating Effectively	.665**	0.000	Highly Significant
Learning how to Learn	.500**	0.000	Highly Significant
Developing Academic Mindset	.695**	0.000	Highly Significant

Legend: Significant at p-value < 0.01

Table 6 presents the association between behavioral engagement and learning competencies. The computed r-values indicate a strong direct correlation and the resulted p-values were less than the alpha level. This means that significant relationship exists and implies that the better is the behavioral engagement, the better is the learning competencies. In terms of participation, the r-value between 0.346 and 0.607 indicates that students who actively participate in classroom discussions and activities are more likely to improve their language learning competencies, especially in the development of mastering core academic content competencies. In terms of persistence, the r-value between 0.531 and 0.702 indicates that students who invest more persistence in the face

of learning challenges perform better in various subscales of learning competencies, especially in the development of communicating effectively competencies. In terms of concentration, the r-value between 0.554 and 0.699 indicates that students who are able to concentrate on learning may have stronger language learning competencies, especially in terms of communicating effectively. In terms of interaction, the r-value between 0.470 and 0.647 indicates that positive teacher-student and student-student interactions contribute to enhancing language learning competencies, especially in terms of communicating effectively. In terms of academic challenges, the r-value between 0.516 and 0.740 indicates that students who accept and strive to overcome academic challenges have high language learning competencies, especially in thinking critically and solving complex problems, communicating effectively, and developing academic mindset. In terms of self-regulated learning, the r-value between 0.479 and o.695 indicates that students invests more in self-regulation can more effectively improve their language learning competencies, especially in the developing academic mindset.

This result confirms Wu et al.'s (2024) research. It conducted a correlation analysis between the three dimensions of learning behavior engagement and the various dimensions of college students' ability development. The results showed that there was a significant positive correlation between teacher-student interaction, peer interaction, self-directed learning and overall ability development, as well as between each dimension, indicating a close relationship between peer interaction, teacher-student interaction, self-directed learning and college students' ability development. Students with high behavioral engagement often exhibit more proactive learning behaviors, overcome difficulties in language learning, actively participate in classroom discussions, ask and answer questions. Through interaction with teachers and classmates, they can obtain immediate feedback, language input, and output opportunities. These interaction promotes language internalization, deeper understanding and application, thereby enhancing language learning competencies. In addition, students with high levels of behavioral engagement are more inclined to engage in repeated practice and consolidate what they have learned. This repetitive practice helps to transform new knowledge into long-term memory, significantly improve vocabulary memory, grammar mastery, and oral expression ability, and promote the application and transfer of language skills, which are the core elements of deep language learning.

Table 7

Proposed Language Program to Enhance Language Learning Competencies among Chinese EFL Students

Key Result Areas	Program Objectives	Activities / Strategies	Success Indicators	Person/s Involved
Language Learning Approaches				
Deep Approaches - trying to understand what the author means and figuring out the differences between English and Chinese expression when reading an article	-to improve students' sensitivity to the differences in expression between English and Chinese	**-Set up a special course on "Differences in Chinese English Expressions"** - discuss in detail common grammar, syntax, and semantic differences.	-80% of the students can summarize the differences in expression between Chinese and English after class and actively engage in classroom discussions.	English teacher; Translation expert Students
	-to cultivate students' ability to actively analyze English articles while reading.	**-Design a reading task** -require students to annotate key sentences and translate them while reading English articles, with a focus on analyzing the differences between English expression and Chinese.	-80% of the students can accurately translate and analyze key sentences in English articles, demonstrating an understanding of language expression.	-English teacher; -Students
Behavioral Engagement				
Academic Challenges -desire to improve listening, speaking, reading and writing skills by watching English movies, listening to English radio, reading English website news, etc.	-to cultivate students' ability to expand their English learning through multiple channels.	**-Open a workshop on "English Learning Resource Navigation"** -introduce various learning resources (such as TED talks, English news websites, learning applications, etc.)	-85% of students are able to independently discover and use online learning resources to expand classroom knowledge and demonstrate their understanding of new content in discussions.	English Teacher; Technical Support Team; Students
	-to enhance students' ability to apply English language knowledge to real-life scenarios.	**-Organize an "English Simulation Scene"** -allow students to simulate English conversations and communication in daily situations, such as travel, restaurant ordering, international conference speeches, etc.	-80% of students are able to communicate in English in simulated or real-life scenarios, demonstrating confidence and ability in language application.	English Teacher; Foreign Lecturer; Student

Self- regulated Learning -often reflecting on the significance of what was learned for oneself and make a self-evaluation of the learning process.	-to cultivate students' habit of regular self-evaluation of the learning process and promote self-regulated learning.	**-Organize a "Learning Reflection Workshop"** -teach students how to effectively reflect on the correlation between what they have learned and their personal goals and share their reflection on this workshop.	-85% of students conduct self-evaluation of their learning process, and the quality of self-evaluation gradually improves.	-English Teacher; -Students; -Peer Assessment Group
Learning Competencies				
Develop Academic Mindset -believing that hard work will payoff in increasing knowledge and skills.	-to enhance students' confidence in academic learning, cultivate a persistent learning attitude, and help students establish long-term academic goals.	**-Organize lectures on "Academic Mindset Cultivation"** -invite outstanding graduates or experts to share their learning experiences, helping students understand the key to academic success. **-Establish an "Academic Growth Diary"** -encourage students to record their daily learning progress and reflection, helping them cultivate a mindset of continuous improvement.	-80% of students are able to demonstrate a positive attitude towards academic tasks and show stronger confidence and motivation during the learning process.	-Academic Mentor; -Student Counselor; -Classmate
		-Conduct training on "Goal Setting and Achievement" - help students set reasonable academic goals and motivate them to continue working hard through periodic evaluations.	-85% of students are able to set and achieve personal academic goals.	Student; Academic Mentor; School Administrator
thinking critically and solving complex problems -can browse many English websites to identify data and information needed to help complete one's task.	To improve students' ability to identify, filter, and integrate useful information when browsing multiple English websites	**-Set up a lecture on "English Resource Navigation and Retrieval Techniques"** - teach students how to efficiently use English search engines and find reliable data and resources. -design an online task based on real problems, requiring students to search for data from different English websites and submit a complete report.	-80% of students are able to accurately identify and use multiple English resources to complete academic tasks. -The submitted report has rich data sources, accurate information, and demonstrates critical screening ability.	Students; English teachers librarians

4. Conclusions and recommendations

College Chinese EFL students agreed equally that although surface approach may lead to short-term academic achievements and could limit students' ability to apply English in real world contexts, the deep approach fully develops critical thinking or a deeper understanding of English. Majority of the respondents agreed that participation, interaction, persistence and concentration were the highest ranked behavioral engagement while, self-regulated learning and academic challenges were the lowest and assessed as disagree. Most respondents agreed that communicating effectively and learning how to learn were the highest ranked learning competencies while, working collaboratively, mastering core academic content, thinking critically and solving complex problems and developing academic mindset were the lowest ranked learning competencies and assessed as disagree. There is a very strong correlation showing highly significant relationship between language learning approaches and behavioral engagement, between language learning approaches and learning competencies, and between behavioral engagement and learning competencies. This implies that the respondents have fair evaluation on language learning approaches, more likely shown agreement on behavioral engagement and learning competencies. The researcher proposed a language program to enhance language learning competencies of college EFL students in China.

Colleges or universities may create English learning atmosphere centered on student learning and provide more online and offline communication platforms and digital resource for teachers and students. Academic affairs department may implement stratified teaching with different learning objectives to meet students' basic differences. Curriculum planners may introduce Task Based Language Teaching (TBLT) and Project Based Learning (PBL) into English teaching courses. By designing tasks related to real life and setting theme projects closely related to students' interests, students are encouraged to conduct in-depth research, group discussions, role-playing, and showcase their final results. English language teachers may create a student-centered classroom learning environment to motivate students' learning interest and engagement, and innovate teaching approaches and models in the context of digitalization to improve teaching efficiency. Besides, they may strengthen the

connection between English subject and professional knowledge to help students master more professional knowledge and skills, and guide college students to understand the importance of English knowledge and its positive impact on employment. Students may actively explore the practical application of English, linking classroom content with real life or other subjects. At the same time, actively participate in English discussions and group activities, share viewpoints, and enhance language expression and cooperation skills.The proposed language program may be considered by the management for review implementation and evaluation thereafter. Future researchers may conduct a follow up investigation regarding the same variables after implementing the proposed language program.

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