



# Research and Practice on the Cultivation System of College Students' English Speculative and Innovative Abilities with Problem-Driven, Output-Oriented and Competition-Promoted Approaches

Lei Zhang<sup>a</sup>, Jingjia Guo<sup>b,\*</sup>

School of Foreign Language Studies, Dalian Jiaotong University, Dalian, Liaoning 116028, China

<sup>a</sup>leiiris@163.com, <sup>b,\*</sup>14024794@qq.com

**Abstract.** As the need for skilled talents intensifies, fostering college students' English speculative and innovative skills is paramount. This study devises a college English cultivation framework centered on "problem-solving, output-focused, and competition-driven education." It addresses learning challenges to spark active thinking, fostering knowledge application into tangible achievements. Utilizing English competitions, it fosters competition spirit and innovative thinking. Proven effective, this system boosts students' English proficiency, speculative prowess, and innovation. In debates, students demonstrate enhanced language skills and multifaceted problem-solving. The output-oriented approach encourages depth and breadth of knowledge, elevating learning outcomes. This innovative approach offers fresh perspectives on English education, meriting widespread adoption.

**Keywords:** problem-driven; output-oriented; critical thinking

## 1 Introduction Research Background

Today, the future has arrived. Artificial intelligence represented by ChatGPT and Sora has brought a huge impact on college foreign language teaching, triggering disciplinary changes and greatly influencing the cultivation of professional talents <sup>[1]</sup>. However, foreign language teaching should not be afraid. Instead, it should rise to the challenge, show disciplinary characteristics in the development of the country and society, and explore a bright path for talent cultivation. For a long time, promoting the development of college students' speculative ability has been one of the core goals of China's higher education. Advocating heuristic, inquiry-based, discussion-based, and participatory teaching and creating a good learning environment, cultivating students' speculative ability is the responsibility of educators and also a national strategic task.

As early as the mid-1940s, Harvard University's "General Education in a Free Society Report" pointed out that talents should have abilities such as effective thinking, clear communication, clear judgment, and identification of universal values. This is

speculative ability. In recent years, the attention of China's foreign language field to college students' speculative ability has increased. Many studies focus on the problems and strategies in its improvement [2]. Traditional college English teaching focuses on language skill training, and students perform poorly in speculative abilities such as analysis and reasoning [3]. Li Bing proposed the importance of college English reading teaching for the cultivation of speculative ability. The times require overcoming the "absence of speculation" and achieving a breakthrough [4].

With the development of AI technology, it brings new opportunities for the cultivation of college students' speculative ability. For example, intelligent language learning systems provide personalized paths and feedback, and virtual learning environments simulate discussion and debate scenarios. In the era of artificial intelligence, in addition to professional integration and curriculum setting, teaching models and teaching methods must have breakthroughs [5]. In this context, the School of Foreign Languages of Dalian Jiaotong University adapts to the new situation and implements the task of cultivating people with morality. In response to the problems in the cultivation of science and engineering talents in local colleges and universities, combined with our own actual situation, it explores reforms. After more than ten years of research and practice, a valuable and influential teaching summary has been formed. This study aims to explore the cultivation of English practical and speculative abilities of non-English major college students, promote the combination of the two, apply what they have learned, and improve their comprehensive quality and social adaptability.

## **2 Teaching Problems Mainly Addressed**

This article deeply analyzes the underlying causes of problems in the college English teaching and cultivation process. It formulates strategies centered on enhancing students' speculative and innovative capabilities. It makes step-by-step improvements to the teaching model to address the issue of difficulty in applying knowledge. It refines teaching concepts, constructs supporting teaching resources, and explores the establishment of a cultivation system for college students' English speculative and innovative abilities that is problem-driven, output-oriented, and promoted by competitions. Focusing on students, it cultivates students' transferable knowledge, abilities, and skills, promotes their lifelong learning and continuous development, enables them to continuously raise their speculative awareness and strengthen their innovative ability, and even possess entrepreneurial ability in the future. The research and practice of the cultivation system for college students' English speculative and innovative abilities driven by problems, oriented by output, and promoted by competitions mainly includes the following aspects.

### **2.1 Classroom Practice in College English Hierarchical A-Level Class Teaching**

First of all, about 300 freshmen are selected through the entrance test and are enrolled in 10 classes for hierarchical teaching practice to analyze the reasons for the absence of

speculation from both teaching and learning aspects. The core problem is the lack of situational assumptions for students to solve practical problems in English, weak ability to ask questions and analyze problems, difficulty in establishing critical thinking ability, lack of liberal arts knowledge background, lack of targeted teaching models, and insufficient construction of supporting teaching resources, backward teaching concepts, etc.

In the A-level course teaching, the entire teaching process is divided into three links: driving, facilitating and evaluating. The instructional design relies on the content of textbooks and sets up cognitively challenging scenarios to trigger students' real confusion and arouse students' desire for knowledge. Driven by language tasks, cross-cultural conflicts and reflective questions, students are prompted to pay attention to language knowledge and gradually complete tasks as speculation and cross-cultural reflection relying on the acquired language in the process of completing knowledge construction and complete the output link.

Secondly, improving teaching strategies and using intelligent learning platforms such as Welearn, U-Campus and Iwrite to improve classroom teaching and after-class autonomous learning. Oriented by output, on the basis of the original textbooks and supporting teaching materials, activities with strong speculation such as English speeches and debates are introduced into classroom plans. Virtual situations are used to promote real learning effects so that students can truly solve problems and tell Chinese stories well in English.

Thirdly, recording students' phased learning achievements. Adopting a formative assessment system, designing subjective exams, and holding class-scale speech contests and debate contests to examine students' ability to solve practical problems in English. Teachers select the latest authoritative textbooks for students, such as "Introduction to College English Debates", "Win in Debates", "The Art of Public Speaking", etc., to help students systematically train methods of English speeches and debates, and download and distribute professional documents related to various industries. A speech on the topic of Chinese cheongsam can help students understand the origin, style and cultural influence of Chinese cheongsam. The evaluation link is the detection of learning achievements and a strategy to further promote deep learning. The evaluation link is completed through a combination of online and offline, peer evaluation, teacher evaluation and teacher-student discussion, giving full play to the positive backwash effect of evaluation on teaching.

Through the problem-driven and output-oriented teaching practice in the past six years, and by using discipline English materials with relatively high cognitive levels and difficulties and the arrangement and implementation of related learning tasks, the development of students' higher-level thinking abilities has been effectively promoted.

## **2.2 Establishing the English Innovation Competition Base**

While emphasizing the instrumentality of language learning, the world outlook, values, Chinese sentiment, international vision, and spirit of cooperation in students' thinking growth are essential connotative characteristics to work diligently to become international talents. In response to this long-term and complex thinking requirement, the

teaching team makes the training projects to create conditions for outstanding students to emerge.

Quality education focusing on cultivating innovative spirit and practical ability is the main theme of higher education reform today. The College Students' Innovative English Studio of the School of Foreign Languages of our university can be an effective way to cultivate college students' speculative and innovative abilities and comprehensive English application abilities, and a beneficial supplement to classroom English teaching. The campus cultural activities carried out by the studio adhere to the concept of quality education and provide platforms and opportunities for young college students to exchange views, showcase their specialties, and achieve win-win cooperation. While fully emphasizing students' dominant position in English activities, we also macroscopically control the quality of campus English activities. Dubbing contests are used to exercise students' imitation ability, speech contests to enhance their public speaking effectiveness, debate contests to train their critical thinking, and reading and writing contests to convey major international current affairs and world civilizations, thereby expanding students' international vision and improving their problem-solving ability, truly enabling them to apply what they have learned. The renowned psychologist Bruner pointed out that "the acquisition of knowledge is an active process, and learners should not be passive recipients of information." Planning and preparing competitions, organizing events, managing and coordinating affairs, and other tasks allow students to understand the importance of social practice abilities such as understanding cooperation, working efficiently, and building teams, laying a solid foundation for improving their comprehensive quality and cultural connotation.

The highly influential National College English Teaching Steering Committee, the School Department of the Central Committee of the Communist Youth League, top domestic universities, and authoritative publishers hold various levels of English competitions every year, aiming to cultivate and select high-end talents and improve their foreign language ability, speculative ability, communication ability, and innovation ability. The competition questions are mostly based on the training goals of international talents and comprehensively integrate key elements such as speculation, expansibility, and creativity to enhance students' cross-cultural communication consciousness, broaden their international vision, and improve international literacy and connotation. The process of English competitions itself is a continuation of classroom teaching, creating opportunities for students to deeply think about various major international issues, improving their speculative ability, analyzing ability, and understanding the importance of the overall concept, and actively cultivating and improving their team spirit. By participating in English competitions at various levels such as national, provincial (Liaoning), and municipal (Dalian), students can add competition capital and create impressive resumes for their future job hunts. In the competitions, the drawbacks exposed by students, such as lack of independent thinking, narrow knowledge scope, limited learning vision to their own majors and insufficient exploration in other aspects such as society, history, and culture, as well as the lack of independent thinking ability under the exam-oriented education system and the ineffective exertion of divergent and reverse thinking, all point to insufficient speculative ability and inability to flexibly apply knowledge. At the same time, participating in national competitions can greatly

improve psychological quality. College students' English speech contests and debate contests require extremely high short-term knowledge explosion ability. Many students may have a good English foundation initially, but due to lack of confidence and limited competition experience, they gradually begin to doubt themselves from initially affirming their own abilities. Eventually, some students even have the idea of giving up English competitions. These issues should be noted by instructors and reasonably guided to enhance their self-confidence to better adapt to more complex social and workplace life in the future.

Over the past seven years, the English competition teacher team of the School of Foreign Languages has been continuously expanding and has the ability to undertake more than 50 campus selection competitions of various levels of English competitions with high quality, guide the activities of student speech and debate clubs, Pioneer English Club, and other club activities, and serve as judge guests. The establishment of the base has created an excellent English output application platform for students, facilitating their discussions on international and domestic current affairs, enhancing cultural confidence, and helping tell Chinese stories well in English.

### 3 Conclusions

This study focuses on refining a cultivation system for college students' English speculative and innovative abilities, driven by problems, oriented towards output, and bolstered by competitions. The problem-driven approach fosters enthusiasm for exploration, deep thinking, and problem-solving. Output orientation encourages practical application through high-quality English works, enhancing knowledge utilization. Competitions create a vibrant, competitive environment, nurturing innovation and a competitive spirit.

During the practical process, we have witnessed that this cultivation system has yielded remarkable results. Students' comprehensive English application abilities have been elevated, enabling them to express views more accurately and fluently. Their speculative abilities have been enhanced, enabling them to analyze problems from multiple perspectives and put forward unique insights. The improvement in innovation ability also enables students to exhibit more creativity in English learning and practice.

However, the implementation of this system has not been without challenges. There are some areas that require improvement. In the future, we will further refine this cultivation system to better adapt to students' needs and the trend of educational development, providing stronger support for cultivating college students with outstanding English speculative and innovative abilities.

### References

1. Guo Yingjian. In the new era, foreign language majors should cultivate integrated foreign language talents [J] *Language Education*, 2024 (3): 1-27
2. Liu Xiaomin. On the construction of a cultivation model for speculative ability in college English teaching [J]. *Foreign Language World*, 2013 (5): 59-66.

3. Huang Yuanshen. 2010. English major courses must be thoroughly reformed—Further discussion on “absence of speculation” [J]. *Foreign Language World*, (1): 11-16.
4. Li Bing. Cultivation of speculative ability in college English reading teaching—Taking Integrated College English as an example [J]. *Contemporary Foreign Language Studies*, 2019 (4): 89-96.
5. Feng Qinghua & Zhang Kaiyi. Technology Enhanced Foreign Language Education [J] Exploring the Capabilities of Artificial Intelligence in Assisting Foreign Language Teaching and Research—A Case Study of ChatGPT 4.0 and Wenxin Model 4.0 2024 (03): 3-12.1

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

