

Innovative Practice of First-Class Oral English Course in the Context of New Engineering Education

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Abstract: In order to solve the pain point problems in teaching, the teaching team of Oral English Course has carried out a hybrid teaching reform and developed a provincial-level first-class online course. The course content was reconstructed and a number of integrated online and offline course resources have been developed. Adhering to the educational philosophy of “student-centered and outcome-oriented”, the course team optimized the BOPPPS teaching design model and established a hybrid teaching mode for Oral English Course that progressively integrates online and offline activities that organically integrates the teaching objectives of “knowledge, ability, and quality”. Through the teaching reform, the interactivity of classroom instruction, the expansiveness of extracurricular learning, and the autonomy of online learning are organically integrated. By utilizing an interactive online teaching platform, the breadth, depth, difficulty, and challenge of learning are scientifically enhanced.

Keywords: First-Class Undergraduate Courses; New Engineering Education; Oral English Course; College Foreign Language Teaching

1. Introduction

The Oral English Course, a compulsory course of the Flight Technology major at the Civil Aviation Flight University of China (CAFUC), has undergone significant evolution to meet the dynamic needs of new engineering education paradigms[1-2]. Because of the critical role of English proficiency in the aviation industry, especially for pilots and air traffic controllers who must communicate effectively in international contexts, the course has been meticulously tailored to align with the broader objectives of cultivating top-tier

aviation professionals equipped with global competencies. The construction of this course has gone through the following three stages as shown in Figure 1:

In the initial phase of its development spanning from 2001 to 2015, the course was characterized by a traditional offline teaching approach. This phase placed foreign instructors at the helm of the course delivery, entrusting them with the autonomy to design their teaching plans, curate the course content, and manage the overall teaching process. This approach, while effective in providing direct language instruction, had its limitations in terms of scalability, flexibility, and the ability to incorporate diverse learning styles and resources.

Transitioning into the Flipped Classroom Teaching Phase between 2016 and 2018, the course underwent a transformative shift towards a more interactive and student-centered learning model. By adopting the “extracurricular autonomous learning + in-class flipped classroom” approach, the teaching team sought to foster a more engaging and participatory learning environment. They enriched the course with an array of resources, devised structured teaching plans, and developed comprehensive courseware and other instructional materials. The publication of the “New Heading Oral English for Civil Aviation Universities (Volumes I & II)” series marked a significant milestone in this phase, offering students a tailored learning resource that bridged the gap between general English language instruction and the specialized language requirements of the aviation industry. The most recent phase, commencing in 2019 and continuing to the present, has seen the adoption of an Online and Offline Blended Teaching model. This innovative approach leverages the strengths of both traditional classroom instruction and digital learning platforms to offer a more flexible and effective

learning experience. The establishment of the “Oral English” SPOC (Small Private Online Course) platform has been a pivotal development in this phase. By integrating SPOC-based learning into the curriculum, the course team has not only enhanced the accessibility and diversity of learning materials but also facilitated a more personalized learning journey for students. This blended learning model aligns with the Ministry of Education’s directive for first-class undergraduate course construction [3-4], embodying the principles of innovation, high quality and complexity in higher education. Together, these three phases of development reflect a deliberate and responsive approach to curriculum design and teaching methodology in the Oral English Course at CAFUC. As the course continues to evolve, it remains a cornerstone for the Flight Technology major in their English learning, ensuring that graduates are not only proficient in their technical domains but also equipped with the language skills necessary for success in the global aviation industry.



Figure 1. The Development of Oral English Course

2. The Establishment of Teaching Objectives for Oral English Course

2.1 Analysis of Pain Points in Teaching

According to the results of a comprehensive learning situation analysis, several key issues have been identified that need to be urgently addressed in the reform of the Oral English Course, as depicted in Figure 2. These issues are critical barriers preventing the achievement of the desired educational objectives and significantly influencing the effectiveness of English language acquisition among students. Firstly, there are considerable teaching resource problems that hinder the course’s effectiveness. The primary issue is the lack of online teaching resources which are essential in today’s digital learning environment. The existing one-dimensional paper teaching resources fail to meet the diversified learning needs of students. This mismatch makes it

challenging to implement a layered and graded approach to teaching, which is crucial for refining the learning process to suit individual student needs better [5-6].

Secondly, the teaching content itself poses problems that need to be addressed. There is a noticeable detachment of language teaching from the cultivation of professional competencies. This separation does not align with the current educational trend towards the integration of Arts and Engineering disciplines. Such an integration is vital for meeting the education objectives of aviation talents, especially in the context of new engineering education [7-8]. The content of the Oral English Course must be designed to bridge this gap, ensuring that students not only learn the language but also develop the professional competencies required in their field.

Thirdly, the teaching space issues present a significant obstacle to the course’s success. The limited academic hours allocated to the Oral English Course, coupled with insufficient teaching spaces, severely restricts the possibility of fully implementing interactive English learning activities. This limitation is a major concern as interactive activities are fundamental in enhancing students’ English listening and speaking abilities. Without adequate time and space, it becomes difficult to engage students in meaningful communication practices, which are essential for their language development.

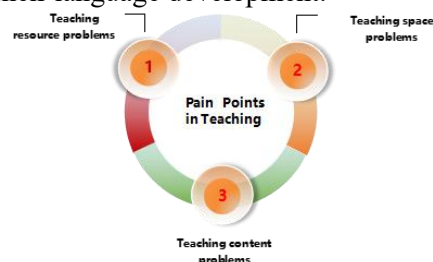


Figure 2. Pain Points in Teaching

In light of these issues, there is a pressing need for a comprehensive reform of the Oral English Course. The reform should aim at enhancing the construction of online teaching resources, revising the teaching content to better integrate language learning with professional competency development, and reforming the teaching mode to fully implement interactive English learning activities in this course. By addressing these key issues, it is possible to significantly improve the effectiveness of the Oral English

Course, thereby better preparing students for their future careers in the aviation industry and beyond. This reform is not only necessary for the advancement of students' language skills but also crucial for aligning the course with the broader educational objectives of the new engineering education paradigm.

2.2 Establishment of Teaching Objectives

Based on the educational positioning of the Civil Aviation Flight University of China—"Rooted in China, building a top-tier flight university", combined with the overall education objective of cultivating "applied, composite, international" talents in the new engineering context, as well as the "degree + license + English" talent cultivation model of the flight technology major, the following teaching objectives of Oral English Course has been established as shown in Figure 3:

- (1) Knowledge objectives: To be able to correctly pronounce vocabulary related to daily life and to understand the meaning of relevant vocabulary and expressions accurately according to the context.
- (2) Ability objectives: To be able to proficiently apply English language knowledge in daily life and the work environment in flight, to engage in multi-round conversations on topics relevant to the daily life of pilots in English, and to initiate analysis and provide solutions to problems that may be encountered in flight in English.
- (3) Quality objectives: To establish situational and safety awareness, possess cross-cultural communication skills, adhere to a rigorous and scientific professional spirit, and collaborate in a unified and cooperative work style.
- (4) Profession objectives: To possess a loyal and responsible character and professional ethics of dedication to one's work, along with sentiments towards one's home and country, innovative spirit, and an international perspective.



Figure 3. Teaching Objectives of Oral English Course

3. The Construction of Teaching Content and Resources for Oral English Course

3.1 The Construction of Teaching Content

The course team reconstructed the teaching content based on professional talent education objectives, covering a variety of topics related to the daily life and work of pilots, including college life, hobbies, language learning, physical health, flight safety, and the internationalization of civil aviation, integrating language learning with professional ability enhancement (referred to Figure 4).

Incorporating contemporary topics like the advancement of domestically-produced large aircraft through the Belt and Road Initiative, the Lancang-Mekong Cooperation, and the stories of Chinese Civil Aviation Heroic Captains into the curriculum, the focus was on professional quality cultivation. This approach aimed at guiding students to enhance their overall flight professionalism and embrace the modern spirit of civil aviation. The goal was to nurture high-quality aviation professionals who possess strong ethical standards and a global outlook.

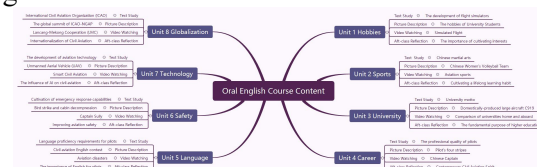


Figure 4. Teaching Content of Oral English Course

3.2 The Construction of Teaching Resources

Based on the personalized needs of students, a number of integrated online and offline teaching resources have been developed, constituting a "differentiated, diverse, and high-quality" course resource system that comprises Oral English Course textbooks, teaching platforms, course teaching plans, teaching courseware, graded course test banks, micro-lecture video libraries, and teaching case libraries.

- (1) Course textbooks have been written. In line with the language proficiency requirements of the International Civil Aviation Organization, New Heading Oral English for Civil Aviation Universities (Volumes I & II) have been written. The textbooks integrate professional knowledge and aviation communication scenarios to cultivate students' abilities to

effectively communicate in English within aviation contexts.

The textbooks are designed and compiled in accordance with the “University English Teaching Guide” issued by the Ministry of Education [9]. The writing team extensively draw on the compilation experience of excellent English textbooks both from China and abroad. The textbooks aim to enhance students’ English speaking skills through scenarios relevant to civil aviation college students, authentic language, and targeted practices, thereby helping students meet the oral proficiency requirements set out in the “University English Teaching Guide” [10]. The features of this textbook are as follows:

A variety of topics related to the daily lives of students at civil aviation schools are selected for each unit, helping students to express themselves fluently on various subjects.

Highlighting the task-based teaching philosophy, a variety of exercises are provided in the textbooks, including reading aloud, discussion, substitution exercises, Q&A, role play, picture description, retelling, speeches, etc. Oral practice is integrated with reading, listening, and video watching, adapted to the needs of students of different levels and comprehensively developing their oral communication skills.

(2) A course teaching platform has been established (referred to Figure 5). Based on the Superstar platform and the aviation related teaching resources, an Oral English SPOC (Small Private Online Course) has been constructed, including chapter learning, exercise banks, test banks, learning resources, participatory activities, and course management. The course platform significantly enriches the resources available for students’ autonomous learning, while providing teachers with abundant teaching resources and channels to assess students’ learning levels, progress, and outcomes. Based on the teaching platform, a blended teaching approach can be achieved, integrating in-class and aft-class, online and offline learning.

(3) Blended teaching courseware has been developed. Following a blended teaching design, standard blended teaching courseware was produced.

(4) A course test bank has been built. A graded course test bank was developed in accordance with the blended course teaching syllabus.

(5) A teaching case library has been developed. Based on the teaching content, a teaching case library was developed.

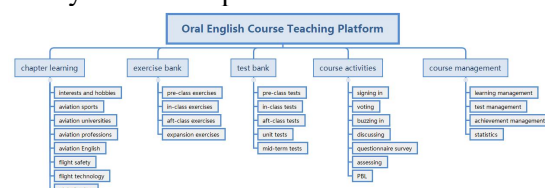


Figure 5. Teaching Platform of Oral English Course

4. The Construction of Hybrid Teaching Mode for Oral English Course

Adhering to the educational philosophy of “student-centered and outcome-oriented”, the course team optimized the BOPPPS teaching design model and established a hybrid teaching mode for Oral English Course that progressively integrates online and offline activities that organically integrates the teaching objectives of “knowledge, ability, and quality”.

Focusing on course objectives, the teaching is organized in three stages: online (Tencent Meeting + SPOC), offline (flipped classroom), and online (project expansion), which includes eight closed-loop teaching activities: autonomous learning, pre-tests, warming-up, explanation of key and difficult points, participatory learning activities, post-tests, extended learning, and summary.

(1) Online Teaching (Tencent Meeting + SPOC) Stage: Based on the SPOC platform, students autonomously complete learning tasks of each lesson according to the learning task checklist, memorizing English vocabulary and expressions related to various aspects of a pilot’s daily life. Pre-tests are used to motivate pre-class self-study. A precise and targeted teaching can be achieved by analyzing online learning data.

(2) Offline Teaching (Flipped Classroom) Stage: Before class, teachers introduce civil aviation hot issues to inspire students’ patriotic sentiments and the spirit of contemporary civil aviation; introduce course objectives and complete the analysis of key and difficult points. During class, students conduct participatory learning activities such as role-playing, group debates, and class presentations. The students’ analytical thinking abilities can be improved by providing tiered learning tasks, thereby creating an advanced learning

environment. Simulating real-life situations can cultivate students' situational awareness through role-playing; group debates, and other collaborative activities can enhance team cooperation and awareness of rules; class presentations can motivate students' rigorous, scientific professional spirit and innovation. After class, students complete post-tests to assess the achievement of course objectives.

(3) Online Teaching (Post-Class Project Expansion) Stage: Students apply the knowledge of the course comprehensively to complete expansion projects. Teachers and students conduct summaries and reflections together.

5. The Construction of Assessment System for Oral English Course

Taking the course objectives and the education objectives of flight technology major as the basis for assessment design, a comprehensive course evaluation system for the entire teaching process was established. This system adopts a multidimensional and process-oriented assessment plan of "SPOC online learning performance + offline learning performance + final examination", quantifying every aspect of online and offline learning and comprehensively examining the achievement of course objectives.

The evaluation system for the Oral English Course hybrid teaching is composed of formative assessment (40%) and summative assessment (60%). The formative assessment consists of online autonomous learning performance through the teaching platform and regular offline performance. The online learning scores are based on homework, online interaction, course audio and video, chapter quizzes, topic discussions, and exams, primarily evaluating the achievement of knowledge and ability objectives; the regular offline performance is based on classroom attendance, participatory classroom activities (such as interactive quick responses, mind mapping, role-playing, etc.), and extracurricular extension projects, primarily assessing the achievement of ability, quality, and ideology objectives. The summative assessment is a final oral interview, with question types designed in reference to the oral exam types of CET-4 and CET-6, mainly assessing the achievement of ability and quality objectives.

6. Conclusion

In accordance with the spirit of the Ministry of Education's first-class undergraduate course construction, the teaching team has actively advanced the reform of Oral English Course teaching and developed a provincial-level first-class online course. In accordance with the course objectives and professional talent education objectives, the course team reconstructed the teaching content, developed a "differentiated, diverse, and high-quality" course resource system, and implemented a blended teaching mode based on the online course. Through the teaching reform, the interactivity of classroom instruction, the expansiveness of extracurricular learning, and the autonomy of online learning are organically integrated. By utilizing an interactive online teaching platform, the breadth, depth, difficulty, and challenge of learning are scientifically enhanced. The Oral English Course teaching reform achieved a certain degree of success:

(1) In the recent course teaching evaluations, both student assessments and university supervisory teaching evaluations have been in the top 10% of the university. The average final examination scores of student of blended learning classes in the last two semesters were more than 10 points higher than those of traditional classes, and the course pass rates for the last two terms exceeded 98.6%. According to the results of teaching reform research, 91% of the students expressed a strong willingness to continue to participate in the blended learning of the course in future.

(2) Students in the blended learning classes actively participated in various national foreign language competitions, winning nearly 20 awards at the university level, provincial and ministerial levels.

(3) The teaching team has won numerous awards including the first prize for Teaching Achievement Awards and Teaching Construction Awards at the university level. The members of the teaching team received the first prize in the Sichuan Province Teaching Achievement Awards. In 2022, Oral English Course was recognized by CAFUC as a First-Class undergraduate course at the university level.

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