

The Construction of Aviation Translation Course based on Translation Competence

Huani Chen*, Zibin Yang, Yafei Liu

School of Foreign Languages, Civil Aviation Flight University of China, Guanghan, Sichuan, China

**Corresponding Author.*

Abstract: “Aviation Translation Course” is a compulsory course in the MTI (Master of Translation and Interpreting) program of Civil Aviation Flight University of China, and a core course in the curriculum system. In accordance with the “Translation Competency Model”, the course objectives and contents were established, and a “Four-cycle Teaching Mode” was constructed based on the Conversational Framework, which serves to enable students to systematically master the principles of literature and documents translation. Through students’ participation in translation projects of civil aviation flight manuals, maintenance manuals, civil aviation regulations and civil aviation business documents, the course cultivate competent translators who are capable of engaging in translation tasks in various fields of civil aviation.

Keywords: Aviation Translation; Translation Competence; Conversational Framework; Translation Projects

1. Introduction

The cultivation of MTI (Master of Translation and Interpreting) must rely on a high-quality program. One of the important features of MTI program of Civil Aviation Flight University of China (CAFUC) that distinguishes the program from other colleges and universities across the country is that it highlights civil aviation-related knowledge on the basis of the students’ mastery of the basic English language and translation skills. According to the MTI cultivation program of CAFUC, the program is centered on the core concepts of “language”, “translation”, “civil aviation” and “application”. Based on these core concepts, the teaching content, teaching methods, teaching tools and assessment methods of each course were explored so as to embody the

characteristics of civil aviation translation. “Aviation Translation Course” is a compulsory course in the first year of MTI program in CAFUC, and it is a core course in the curriculum system of the program. In accordance with the “Translation Competency Model” [1], the teaching objectives and contents of the course were established, and a “Four-cycle Teaching Mode” was constructed based on the Conversational Framework to cultivate competent translators who are capable of engaging in translation tasks in various fields of civil aviation.

2. Theoretical Foundation

At the end of the last century, some scholars from the Autonomous University of Barcelona in Spain conducted a Translation Competence research project (PACTE-Process in the Acquisition of Translation Competence and Evaluation), and established a model of translation competence (TC) [2-3]. In this model, TC is made up of 5 interrelated sub-competencies (including bilingual sub-competence, extra-linguistic sub-competence, specialized knowledge of translation sub-competence, instrumental sub-competence and strategic sub-competence) and psycho-physiological components (including cognitive, behavioral and psychomotor mechanisms) as shown in Figure 1 [4], which provides an implication for the teaching of translation and the cultivation of translators’ translation competence.

In Figure 1, strategic sub-competence is at the core of translation ability, activating other sub-competences, used to identify and solve practical translation problems [5]. These five translation sub-competences are interrelated and complementary to each other, forming a systematic and organic whole [6].

The Establishment of Teaching Objectives for Aviation Translation Course

The MTI program at the Civil Aviation Flight University of China (CAFUC) aims to develop highly specialized professionals in the field of translation and interpreting, particularly catering to the needs of the civil aviation industry. This comprehensive program is designed around several key objectives to ensure graduates are well-equipped to serve in various capacities within the sector. These objectives include:

(1) Professional Ethics: Emphasizing the importance of integrity, confidentiality, and professional conduct as essential traits for interpreters and translators working in civil aviation and other sectors.

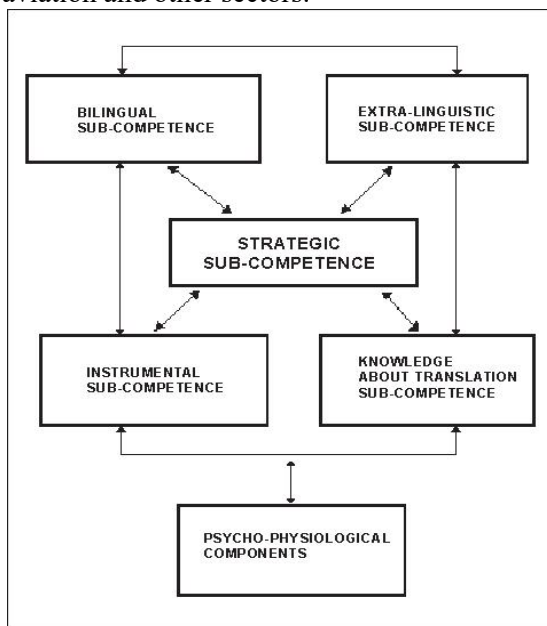


Figure 1. Translation Competence Model

(2) Theoretical and Practical Skills: Ensuring that students have a strong foundation in translation theory and the practical skills required for effective interpreting and translating. This includes the ability to accurately and efficiently convey information between languages.

(3) Proficiency in Translation Tools: Equipping students with knowledge and hands-on experience in using the latest translation technology and tools. This is crucial for enhancing efficiency and accuracy in translation tasks.

(4) Broad Professional Knowledge: Providing students with a broad understanding of the civil aviation industry and related fields. This includes insights into transportation, maintenance, manufacture, training, and management, among other areas. Such

knowledge enables translators and interpreters to better understand the context and specificities of the texts and communications they work with.

(5) Adaptability: Training students to be adaptable to the dynamic needs of the civil aviation industry and the regional economic landscape. This includes the ability to quickly learn and apply new information, adapt to changing situations, and handle various types of translation and interpreting tasks.

(6) Distinctive Civil Aviation Characteristics: Fostering a strong connection to the civil aviation industry by imbuing students with the distinctive knowledge, terminology, and practices specific to this industry.

(7) Career Orientation: Guiding students towards successful careers in translation and interpreting within the civil aviation industry and beyond. This includes career counseling, practical training opportunities, and exposure to potential employers.

Drawing from the PACTE Translation Competency Model and aligning with the educational goals of MTI, the Aviation Translation Course is designed with a clear set of teaching objectives. These objectives center on fostering professional translation skills, with a student-focused approach that incorporates modern educational technology. The course aims to blend the cultivation of ideological and humanistic values with the offline teaching modality.

(1) Knowledge Objectives:

To be able to understand professional translation principles.

To be familiar with the norms and conventions of civil aviation English writing.

(2) Skill Objectives:

To be able to develop proficient technical English writing skills in the context of civil aviation.

To be able to apply translation skills, particularly in converting civil aviation-related texts.

(3) Attitude Objectives:

To be able to have a strong sense of professional ethics and integrity in translation practice.

To be able to have technical literacy and humanistic sensibilities.

To be able to committed to the growth of the civil aviation industry of China.

To be able to have patriotism, a sense of responsibility, and dedication to professional excellence.

The specific requirements for the teaching objectives based on the TC Model are shown in Table 1.

Table 1. Teaching Objectives Based on the TC Model

Sub-competencies	Elements	Teaching Objectives
Bilingual sub-competence	pragmatic, socio-linguistic, textual and lexical-grammatical knowledge in each language	Be able to describe the nature of civil aviation English; be able to explain the linguistic features of civil aviation English at the lexical, syntactic, and discourse levels; and be able to explain the main rules of application of English for civil aviation.
Extra-linguistic sub-competence	encyclopaedic, thematic and bicultural knowledge	Be able to understand the knowledge of relevant subjects in the field of civil aviation, such as airports, airplane, air traffic control, and aviation security, etc.; be able to translate general, technical and specialized texts at the professional level.
Knowledge about translation sub-competence	knowledge of the principles that guide translation (processes, methods and procedures, etc.) and the profession (types of translation) briefs, users, etc.)	Be able to explain the three principles of accuracy, conciseness and conformity in civil aviation English translation; be able to enumerate and flexibly use civil aviation translation skills; be able to describe the main translation process of a translation company; be able to summarize the content of the translation services of a language service provider (LSP); be able to understand the standards and requirements of the translation services of China, the European Union and the United States, and have a certain degree of professional translation literacy.
Instrumental sub-competence	knowledge related to the use of documentation sources and information technologies applied to translation	Be able to learn corpus tools and CAT tools independently; be able to build a Civil Aviation English-Chinese parallel corpus, translation memory, and translation terminology base based on the existing corpus; be able to use platforms such as YiCAT to build translation projects.
Strategic sub-competence	solving problems and the efficiency of the process	Be able to efficiently coordinate and deal with all kinds of problems in translation; be able to identify difficulties in translation and solve them in a timely manner.
Psycho-physiological components	cognitive and behavioral (memory, attention The following are some examples of the mechanisms used in the development of the psychomotor system: span, perseverance, critical mind, etc.) and psychomotor mechanisms.	Be able to maintain a relatively stable mental state; be able to manage time reasonably well and meet deadlines; be able to adapt to changing environment in the translation industry.

4. The Construction of Teaching Content for Aviation Translation Course

The course content is structured around the teaching objectives of imparting knowledge,

fostering abilities, and cultivating qualities. It comprehensively covers key translation-related fields within civil aviation, including an overview of civil aviation translation, the distinct features of civil aviation English,

translation techniques specific to the civil aviation context, the translation of civil aviation manuals and technical documentation, the translation of civil aviation regulations, and the practical application of translation technology.

The era of professionalization in the field of translation have witnessed a significant shift from traditional manual translation to modern technology-driven translation [7-8]. This change has not only altered the speed and quality of translation but has also reshaped the role of translators. The aviation course content highlights some of the main characteristics and trends in professionalization-era translation:

(1) **Integration of Technology:** With the advancement of artificial intelligence and machine learning technologies, computer-assisted translation (CAT) tools and machine translation (MT) systems have become increasingly powerful. This has made the translation process more efficient, capable of handling large volumes of content at lower costs. Translation software such as Trados and MemoQ supports translation memories, effectively enhancing consistency and productivity.

(2) **Rapid Development of Translation:** Due to globalization and the widespread use of the internet, the demand for translation has increased rapidly. This involves not just the conversion of text from one language to another but also the capability for cross-cultural communication, ensuring that information is accurately understood and accepted across different cultural contexts.

(3) **Specialization in Translation:** As industry requirements become more specific and complex, translators are now more inclined toward specialization. Translations in fields such as healthcare, legal, technical, and business require specialized knowledge to ensure accuracy and applicability.

(4) **Quality and Certification:** Quality control in translation is becoming increasingly important. Many organizations and service providers now comply with international standards such as ISO 17100, which is a specific standard for translation services. Moreover, professional certification, such as the American Translators Association (ATA) certification, has become an important credential for assessing the professional level of translators.

(5) **Crowd-sourced Translation and Community Participation:** Through internet platforms, translation projects can achieve global crowd-sourcing. This not only provides translators with more job opportunities but also allows projects to benefit from richer inputs from diverse cultural and linguistic backgrounds.

(6) **Ethics of Translation and the Boundaries of Machine Translation:** With continuous advancements in machine translation, ensuring quality while maintaining efficiency, protecting copyrights, and respecting personal privacy has become a focus in the industry [9]. Moreover, machine translation cannot fully replace human translation, especially in dealing with complex contexts and cultural differences. The course content focus on the various aspects of translation from the professional perspective.

The course content is characterized by its focus on civil aviation, involving the translation of documents, notices, guides, safety protocols, and more within the aviation field from one language to another. This requires the MTI students not only to have excellent translation skills but also to have a deep understanding of the professional terminology and practices of the aviation industry. The following are some types of civil aviation documents covered in the course content:

(1) **Flight Manuals and Operation Manuals:** Provide necessary information during the operation of an aircraft, including safety, maintenance, and emergency procedures.

(2) **Safety Guidelines and Procedures:** Include Safety Management System (SMS) documents, emergency response plans, flight safety guidance, etc.

(3) **Regulations and Legal Documents:** Translate legal documents regarding aviation from various countries or regions, ensuring compliance with standards set by organizations such as the International Civil Aviation Organization (ICAO).

(4) **Training Materials:** Used for the training of pilots, crew members, and ground staff, including electronic teaching manuals, simulator training guides, etc.

(5) **Airport and Operations Management Documents:** Involve documents related to the operation of airlines, management of airport facilities, air traffic management, and more.

(6) Aviation Intelligence: Updates on routes and flight information, including NOTAMs (Notice to Airmen), weather reports, and flight plan information.

5. The Construction of Teaching Mode for Aviation Translation Course

The teaching mode focused on developing translation competency is an effective and comprehensive approach to train professional translators. By engaging students in real-world translation projects and utilizing a four-cycle teaching method, this mode aims to enhance students' translation skills rapidly and effectively.

Based on the Conversational Framework[10] as shown in Figure 2, in combination with typical civil aviation translation cases, a four cycle teaching mode was constructed: "Teacher communication cycle (TCC)+Teacher modeling cycle(TMC)+Peer communication cycle(PCC)+Peer modeling cycle(PMC)". This paper takes the Malaysia Airlines 370 accident investigation report translation project as an example to illustrate the four cycles.

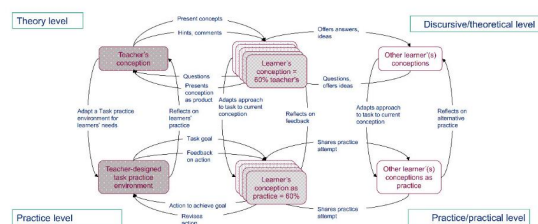


Figure 2. Conversational Framework

Phase 1: Teacher Communication Cycle (TCC, referred to Figure 3.)

In this phase, the teacher introduces the project and assigns pre-class tasks related to translating the safety investigation report of the MH370 accident.

This initial step encourages students to actively research and identify translation methods and techniques specific to this type of document.

The teacher provides feedback on students' ideas, helping them reconcile any misconceptions or gaps in their understanding.

Phase 2: Teacher Modeling Cycle (TMC, referred to Figure 4.)

In this phase, the teacher demonstrates their own involvement in a similar translation project, the "MH370 Accident Safety Investigation Report Translation Project".

This personal demonstration helps students understand the practical applications of

translation strategies and language features specific to this domain.

The teacher explains the nuances of the language used in the report and the translation strategies employed, providing students with a solid foundation for their own translations.

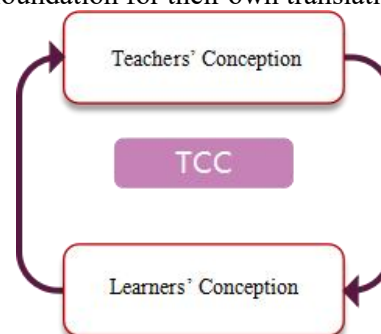


Figure 3. TCC

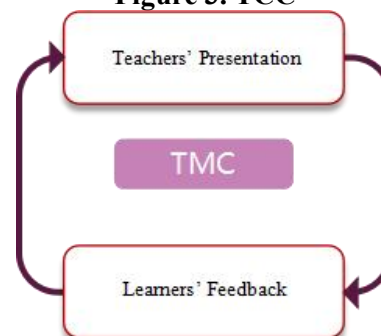


Figure 4. TMC

Phase 3: Peer Communication Cycle (PCC, referred to Figure 5.)

In this phase, students are grouped and encouraged to share their translation strategies and ideas with peers.

This peer-to-peer learning allows for the exchange of ideas, feedback, and regulation of concepts and knowledge within the group.

It also fosters a collaborative learning environment where students can learn from each other's strengths and improve upon their weaknesses.

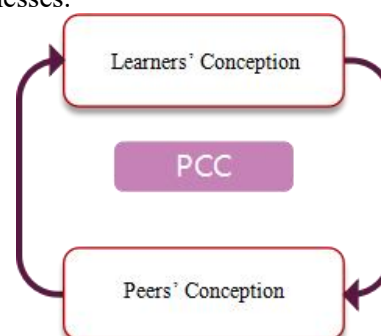


Figure 5. PCC

Phase 4: Peer Modeling Cycle (PMC, referred to Figure 6.)

In this phase, students are given the opportunity to complete translation practice projects on their own.

They are encouraged to observe and learn from their peers' translation practices and methods.

This allows students to apply what they have learned from both the teacher and their peers to real-world translation tasks.

Through this process of observation, learning, and practice, students can further refine their translation skills and develop their own unique approaches to translation challenges.

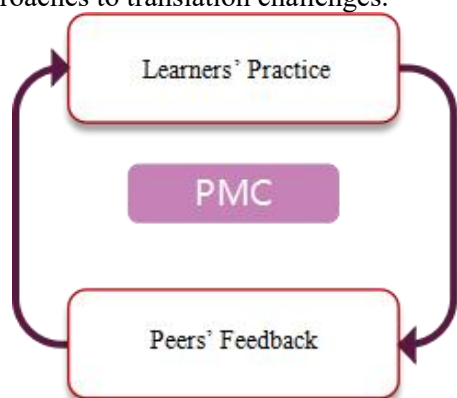


Figure 6. PMC

The aviation translation course team innovates the teaching mode, constantly inspiring and guiding students to identify, analyze, and solve problems during the learning process. By integrating the design of interactive teaching activities within the Conversational Framework, students' understanding and mastery of discourse translation methods are deepened, enabling them to flexibly apply relevant knowledge to complete civil aviation English translation tasks, which fully embodies the "learner-centered educational philosophy".

6. The Construction of Teaching Assessment System for Aviation Translation Course

The course team has established a comprehensive and multifaceted aviation translation teaching evaluation system based on the course's teaching objectives. This system employs a multidimensional and process-oriented assessment scheme that integrates "online learning performance + project-based performance + final evaluation" to comprehensively assess students' learning performance and outcomes. It quantifies every aspect of both online and offline activities, placing a greater emphasis on evaluating the students' learning process, effectively sparking their learning motivation. The blended

teaching assessment system for the Aviation Translation Course consists of formative assessment (40%) and summative assessment (60%). The formative assessment is made up of autonomous learning achievements via the online platform "Superstar" (60%) and translation project practice scores (40%).

7. Conclusion

Centering on translation competency, and through the translation practice in civil aviation manuals, technical documents, civil aviation regulations, civil aviation business documents, etc., the Aviation Translation Course enables students to systematically master the principles and skills of translating civil aviation related documents and cultivates a high competency of civil aviation translation. Applying Project-based Teaching method, the MTI students are guided to discover, analyze and solve problems in the learning process. An interactive teaching mode based on the Conversational Framework was constructed to deepen students' knowledge and understanding of translation methods, so that students can flexibly apply translation strategies to complete translation tasks.

Through the learning of this course, the MTI students cultivated by CAFUC has successfully completed various kinds of real civil aviation translation projects, including the SR20 flight manual, international cooperation service center translation projects, and granted approval for multiple innovation and entrepreneurship projects, and won awards in various kinds of translation competitions.

Acknowledgments

This paper is supported by grants from CAFUC Graduate Education and Teaching Research Project (No. XKJ2022-11), Special Fund Project for Educational and Teaching Reform in Central Universities (No. E2023042-3) and Provincial College Students' Innovation and Entrepreneurship Training Program Project (No. S202110624035).

References

- [1] PACTE. La competencia traductora y su aprendizaje: Objetivos, hipótesis y metodología de un proyecto de investigación, IV Congrés Internacional sobre Traducció, Universitat Autònoma de Barcelona, 1998, 52-37.

- [2] PACTE. Procesos de aprendizaje y evaluación en la adquisición de la competencia traductora, European Society for Translation Studies, Granada, 1998, 67-69.
- [3] PACTE. Acquiring Translation Competence: Hypotheses and Methodological Problems in a Research Project, Investigating Translation, Amsterdam, John Benjamins, 2000, 99-106.
- [4] PACTE. La Competencia traductora y su adquisición, Quaderns. Revista de Traducció, 2001, 6:39-45.
- [5] PACTE. Exploratory Tests in a Study of Translation Competence, Conference Interpretation and Translation, 2001, 4:41-69.
- [6] PACTE. Building a Translation Competence Model, Triangulating Translation: Perspectives in Process Oriented Research, Amsterdam, John Benjamins, 2003, 43-66.
- [7] Sun, Jindan & Wang, Chang. The Construction of a Course Model for the Cultivation of Translation Competence. Foreign Language Learning Theory and Practice, 2023, 99-104.
- [8] Dong, Hongxue; Chu, Shenghua; Zhang, Kunyuan & Dong, Zhe. A Study on the Development of Professional Translation Competence and Its Influencing Factors among MTI Students. Computer-Assisted Foreign Language Education, 2022, 02: 88-95+118.
- [9] Zhang, Zheng & Wang, Yun. Project-based Translation Teaching and Translation Competence Training in the MTI Program: Theory and Practice. Foreign Languages in China, 2020, 02: 65-72.
- [10] D. Laurillard. Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology. New York and London: Routledge, 2012.