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# On Teaching Reform and Innovation of Computer-Aided Translation Technology

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**Abstract.** In the era of artificial intelligence, translation market puts forward the new requirements for translation talents in translation technology. Nowadays, the cultivation of translation talents is far from meeting the needs of the market in translation technology. Therefore, it is urgent to for higher education institutes to cultivate the translation technology competence of translation talents. Taking South China Business College of Guangdong University of Foreign Studies as an example, this research carries out a teaching reform of the course Computer-aided Translation (CAT) for undergraduate students majoring in Translation. Supported by the translation projects, this paper conducts an empirical-experimental study on "campus class", "enterprise class " and "research and learning" from the perspectives of translation competence model by the PACTE group. The research results finds that teaching reform and innovation of the Course by the fusion of education and industry is of great practical significance to the training of application-oriented translation talents.

**Keywords:** Computer-aided Translation; the fusion of education and industry; teaching reform; practice.

## 1. Introduction

Nowadays, with the rapid development of information technology, information technology has been deeply integrated with the language service industry. Computer-Aided Translation (CAT) can help translators complete translation tasks efficiently. Currently, CAT software, such as SDL TRADOS, MemoQ, Dejavu, Wordfast, are widely used in the globalization and localization of industries. According to the Requirements for Bachelor of Translation and Interpreting (BTI) in Higher Education Universities, graduates majoring in BTI should be proficient in using translation tools and understand the operation process of translation and related industries. Translation professionals who master translation technology will be favored by the future talents market. Therefore, under the background of the "Internet +" era, translation technology talents is in great need in talents market, therefore, it is extremely urgent to for colleges and universities to cultivate application-oriented translation technology talents in line with the needs of market development. The fusion of industry and education is an important approach to cultivate application-oriented translation talents.

Currently, 284 colleges and universities in China offer BTI, but the translation talents trained by colleges and universities cannot keep up with the market demand. Most of colleges and universities still implement traditional theoretical teaching and ignore information technology. In the era of information, translation technology has become a necessary skill for translators and interpreters. Computer-aided Translation is a compulsory course for undergraduates majoring in translation.

## 2. Background of Teaching Reform

In 2017, the General Office of the State Council of China issued a document titled Several Opinions on Deepening the Fusion of Education and Industry (State Office [2017] No. 95), in which enterprises will be encouraged to participate in the operation of vocational schools and universities and grant more intern vacancies for students to strengthen cooperation with educational

institutes. On August 21st, 2018, the Government Office of Guangdong Province issued the implementation opinions on deepening the combination of production and education, put forward the integration development in Guangdong-Hong Kong-Marco Greater Bay Area. On February 18, 2019, the CPC Central Committee and the State Council issued Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area, according to which the area will be built into an international education demonstration zone. Therefore, the fusion of education and industry is an urgent requirement to promote the supply-side structural reform of human resources, and is of great significance to comprehensively improve the quality of education, expand employment and entrepreneurship, promote economic transformation and upgrading, and cultivate new drivers of economic development under the new situation.

## 3. Construction of Teaching Reform Model

The course Computer-aided Translation (CAT) is offered in the seventh semester for undergraduates majoring in translation in our college. Based on the Triangulation of Translation Competence Model by the PACTE group, we constructed the Triangle Model of Teaching Reform of the CAT course by means of the fusion of education and industry, which can be seen in Figure 1. According to the Triangle Model of Teaching Reform of the CAT course, we designed the teaching scheme carefully.

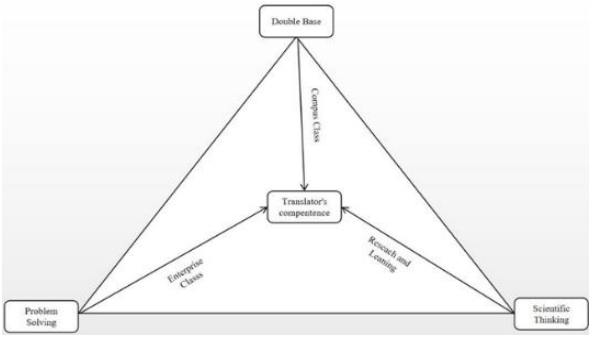


Fig. 1. Triangle Model of Teaching Reform of the CAT

### 3.1 Design of Course Objectives

From the triangulation of translation competence model by the PACTE group, the cultivation of talents' competence should start from the core qualities, and the connotation of the core quality should start with three levels, which are "double base", "problem solving" and "scientific thinking". [1] "Double base" takes basic knowledge and skills as the core, "Problem-solving competence" takes basic methods acquired in the process of solving problems as the core, and "scientific thinking" is a thinking method formed through experience, cognition and internalization. The objectives of the course reform are to cultivating students' translation competence in technology application, information construction, project management and collaborative translation.

### 3.2 Design of Teaching Activities

Teaching objectives and teaching activities should be integrated with each other; therefore, the design of teaching activities should meet the requirements of teaching objectives. In order to promote the teaching reform of the CAT course through the fusion of education and industry, we design three kinds of teaching activities to support the realization of teaching objectives " class teaching", "enterprise class" and "research and learning" on the basis of the triangulation of translation competence model by the PACTE group. [2]

### 3.3 Selection of Teaching Contents

The teaching contents in campus class includes six parts, including translation searching awareness and searching methods, CAT basic principles, operation and application (Trados, MemoQ, Dejavu, Wordfast and Web translation platforms), term management technology, machine

translation and post-translation editing, film subtitle translation, and translation project management. Term management includes term extraction, term management system, term management principle and process; Project management is the process of using specialized knowledge, skills, tools and methods in project activities to achieve or exceed the requirements and expectations under limited resources. In addition, the online translation collaboration function of CAT software can not only cultivate translation technical competence and project management competence, but also improve team collaborative translation competence. Since the CAT experimental teaching center equipped with some CAT software and tools was set up in our college in September, 2018, which provides a good teaching environment for the teaching reform of the course Computer-aided Translation. The teaching content in enterprise class is project translation， which is guided by the enterprise supervisors. Thus, translation theory and practice can be combined with each other.

### 3.4 Design of Teaching Methods

After designing the training objectives, teaching contents and teaching activities, we actively explore effective teaching methods. In campus class teaching, we take scenario simulation teaching method. Based on the learning of the basic knowledge and operational skills of CAT, the teacher arranges every group of students to participate in the projects of simulation translation in some fields, including law, economy, trade, tourism, health, environmental protection, culture and so forth. Adhering to the practice teaching concept, we mainly adopt “Project-driven Teaching Method”. Translation projects need the support of technical competence, which can promote the high-quality and efficient completion of translation projects. Project-driven teaching method is a kind of teaching activity in which teachers and students carry out a complete teaching project together. It requires team consciousness and cooperation of team members to develop project-driven teaching method. Project-driven teaching method is a kind of teaching activity in which teachers and students carry out a complete teaching project together. It requires team consciousness and cooperation of team members to develop project-driven teaching method.

## 4. Teaching Practice

The teaching reform practice of the CAT course in our college has been carried out for one semester. In the practice process, " campus class " and "research and learning " are led by two college teachers, and "enterprise class" is jointly guided by the teachers from the enterprises.

### 4.1 "Campus Class"

“Campus class” is a experimental process consisting of four steps. First of all, college teachers teach students to master the basic operation knowledge and skills of CAT and carry out practical operation for two months at college lab. Secondly, teachers will organize students to carry out a two-week simulation translation projects, which includes the fields of business, law, science and technology, news and so on. Every translation project is divided into six sub-projects, each class is divided into six groups which is responsible for one sub-project. Every team member of each group must partake in the whole project process from creating a new project, building a new translation memory and a term base, pre-translation to post-editing and completing the project. After the completion of the translation project, each group will report their own translation project by means of PPT. Thirdly, six groups revise and discuss the translation with each other. Discussion stimulates students’ interests and promote the internalization of text translation skills. [3] Finally, the teacher makes comments on students' mastery of translation skills and translation quality, so as to help students improve their operation skills of CAT software and tools and translation competence. “Campus class” is a beginning of the teaching reform of the CAT course.

### 4.2 "Enterprise Class"

"Enterprise Class" is the key to the fusion of education and industry of teaching reform of the CAT course. The teaching place is changed from the school to the enterprise, and the students enters the enterprises to learn the working mode and translating process, and participate in the

project translation in person. The teaching content of "enterprise practice" is project translation. Students join in an enterprise team in a certain field, and professional translators in the enterprises guide students to translate projects. The specific approaches are as follows: After completing "campus class", BTI students participate in one-month practice of enterprise project translation on the spot. Each group consisting of four to six students will be assigned to practice in enterprises, especially translation companies. These companies are the off-campus practice bases of our college, including Guangzhou Xinshi Translation Service Co., LTD., Guangzhou Grouphorse Translation & Interpretation Co., Ltd, Guangzhou Tailing Translation Service Co., LTD., YGYM Translation Service Co., LTD. In the translation practice of "enterprise class", students have a real experience of the whole process of project translation from project analysis to the final completion, including project specification, requirements of project quality, application of translation technologies and extra-linguistic competences. In the meantime, the students have more motivation to participate in the translation practice in enterprise class by means of education and industry.

### 4.3 "Research and Learning"

After participating in the project practice in the "enterprise class", students begin their "research learning" under the guidance of the college teachers. The research and learning is generally carried out after class in the form of homework report. Students in each group conduct research and learning focusing on the topics of translation project, communicating, reflecting and summarizing the experience of translation projects in enterprises so as to deepen the understanding and acquiring their gains from practice. In addition, teachers and students guide students to apply for research projects for college students in translation technologies. At the same time, on the basis of the enterprise practice experience, teachers guide students to write and publish some academic papers on CAT technology operation. Among the students who learn the course CAT, a group of students consisting of four members succeeded in applying for the provincial-level college innovation training project On Training of Translation Technology Talents by Applying Trados and memoQ to Course Teaching. The group took part in the practical project translation by means of Trados and succeeded in finishing a translation project and published three academic papers under the guidance of both the campus teacher and enterprise supervisor.

After acquiring the theoretical knowledge in campus class, participated in the translation project in enterprises and had research and learning, the students had a complete training from a novice to a qualified translator by means of the fusion between education and industry, which paves a good way for their future study and work.

## 5. Reflection of Teaching Reform

We conducted questionnaires at the beginning and end of the semester. Before the students began to learn CAT, 81.6% of the classmates were not familiar with the basic operation of CAT software at all, 18.1% were "not very familiar", only 0.3% chose "relatively familiar", and no one chose "very familiar". After a semester of teaching experiment, the percentages for the above four group of classmates were changed into 0.0%, 2.1%, 85.7%, 10.1% and 2.1% respectively. These data show that most students have basically mastered CAT translation software technology and have the competence to carry out translation project, which proves that the teaching effect is relatively obvious.

In addition, we randomly interviewed 4 students, and their feedbacks are as follows:

The 1st Student: In the past, we only heard about the translation softwares. This semester, we really learn CAT, including the basic theoretical knowledge, operation of softwares, project translation, which broaden my scope of knowledge and improve my translation skills and translation efficiency.

The 2nd student: After the study of CAT for a semester, I had a deep understanding of CAT software, especially SDL TRADOS and MemoQ. I can proficiently operate the translation software

in translation practice now and benefit a lot from the combination between campus class and enterprise class. Besides, I also participated in a research project of CAT for college students.

The 3rd student: In the era of information technology, we translation majors need to master CAT technologies to keep pace with the times and improve translation ability and efficiency. Through class study in campus and translation practice in enterprise class, I learned how to use translation software efficiently and improved my translation skills, especially from the project-driven teaching method. Now I carry out translation proficiently by these CAT tools.

The 4th student: Learning CAT is acquiring a translation competence. I have learned some basic translation software operations in campus class and have experienced the entire translation process in enterprise class, which is conducive to improving my competence of translation technologies.

Through the feedback of the students, we can find that the students show a strong interest in learning CAT, participated in learning CAT operation actively, and are satisfied with our teaching strategies by means of fusion between education and industry. Teaching reform and innovation of computer-aided translation technology through the fusion between education and industry can cultivate students' technical application competence, information building competence, cooperation competence and project management competence. Through the empirical research, we find both advantages and disadvantages in the practice teaching of CAT course by means of the fusion of education and industry.

## 6. Summary

Translation technology is a prerequisite for translation talents at present. Traditional teaching modes for BTI should be changed in order to meet the need of current talent market. This research carries out an empirical teaching reform and practice of the CAT course for undergraduate students majoring in translation and interpreting by means of the fusion of education and industry. From construction of triangle model of teaching reform for the CAT course to the teaching practice process involving “campus class”, “enterprise class” and “research and learning”, the research has proved that the teaching reform and innovation of the CAT course through the fusion of education and industry is conducive to improving the students’ translation technology competence by mastering translation standardization of translation service enterprises, large-scale production of specific operation and working process, the project management, teamwork and flexible response capacities of many tasks. It is helpful to raise the students’ competition of employment in the future and cultivate more and more application-oriented translation technology talents for enterprises and the market.

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