

# Information Technologies and Translation Instrumental Competence

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**Abstract.** This paper outlines the types of information technologies applied to translation today and translation sub-competences. A study was made in which students were motivated to participate in building DIY corpus based on a given task and to solve the problems in their former translation. It was found that students' instrumental competence was improved in recognizing, evaluating, and utilizing information technologies in solving real translation problems, and that their other translation sub-competences could be acquired when translating a real world task in highly contextualized teaching environment. The purpose of the study is to showcase the necessities of including the revising skills required for online machine translate into instrumental competence of language learners at undergraduate level and the possibilities and limitations of online machine translation system when translating Chinese texts into English.

## Introduction

In this information age “a computer with internet connection” has replaced “a heap of dictionaries and a bunch of books” (Jiménez, 2011) and been indispensable for professional translators. It functions mostly as knowledge bases that provide the translators with world and expert knowledge (Austermühl, 2006:12). That is, translation quality nowadays is not only based on the bilingual competence of translators but also on his or her capacity to adequately and efficiently use new information technologies to solve translation problems. Instrumental competence has been characteristic of translation expertise, significantly distinguishing professional translators from non-professionals (Massey, 2011:2; PACTE, 2005: 615; PACTE, 2009: 227). However, in China, the knowledge of translation technologies is only offered to translation students or postgraduates who major in English. Undergraduate English majors have no formal opportunities to learn the use of electronic translation tools in their classroom learning, especially to identify ranges of information technologies available today to translators, judge the role and quality of each type and properly use them to increase the speed and quality of translation. A growing majority of researchers and practitioners in China have realized the importance of electronic translation tools in translation, yet few research has been done so far concerning how to develop the expertise knowledge in translation teaching for undergraduate English majors.

## Information Technologies in Translation

According to Austermühl (2006:13-15), the three main elements in translation process - reception, transfer and formulation - demand different competencies and activities by the translators, and different features by the tools used in their support. Online dictionaries help the translator during the reception phase decode the linguistic information inside of the source text. More work should be done to assist translators in the transfer phase because few tools are designed so far. As complementary tools to dictionaries, search engine and electronic corpora are more important in locating collocation and verifying given combinations. In Fulford's study, information technologies applied to translation are divided into both general-purpose software like internet search engines, online dictionaries, encyclopedias, electronic corpora, etc and special-purpose software, such as translation memory and machine translation; her study indicated that general-purpose softwares are more frequently used among freelance translators (Fulford, 2005). Jiménez (2011) also believes that general applicant tools

are more important for professional translators, especially search engine (Google) and electronic corpora. Increasingly developed information technologies bring more resources and tools to translators. One pilot study revealed that online machine translate systems, as one of the special-purpose software, are popularly employed among university students at both reception and formulation stages of translation. The focus of the study is to train undergraduate English majors in the use of Google search, DIY corpus and online machine translate.

### **Sub-competences of Translation Competence**

Translation competence is the underlying system of knowledge needed to translate, which is made up of five sub-competences (bilingual, extralinguistic, knowledge about translation, instrumental and strategic) and psycho-physiological components (PACTE, 2003: 56-57):

The bilingual sub-competence is knowledge required for communicating in two languages and includes pragmatic, socio-linguistic, textual and grammatical-lexical knowledge.

Extra-linguistic sub-competence includes bicultural knowledge about the two cultures involved, encyclopaedic knowledge about the world and subject knowledge about special fields.

Knowledge about translation sub-competence includes: (1) knowledge about how translation functions such as types of translation units, processes required, methods and procedures used (strategies and techniques), and types of problems; (2) knowledge related to professional translation practice such as different types of briefs, clients and audiences, etc.

Strategic sub-competence guarantees the efficiency of the translation process and solve the problems encountered. Its functions are: (1) to plan the process and carry out the translation project (choice of the most adequate method); (2) to evaluate the process and the partial results obtained in relation to the final purpose; (3) to activate the different sub-competencies and compensate for deficiencies in them; (4) to identify translation problems and apply procedures to solve them.

The psycho-physiological components include: (1) cognitive components such as memory, perception, attention and emotion; (2) attitudinal aspects such as intellectual curiosity, perseverance, rigour, critical spirit, knowledge of and confidence in one's own abilities, the ability to measure one's own abilities, motivation, etc.; (3) abilities such as creativity, logical reasoning, analysis and synthesis, etc.

Instrumental sub-competence is knowledge related to the use of documentation sources and information and communication technologies applied to translation: dictionaries of all kinds, encyclopaedias, grammars, style books, parallel texts, electronic corpora, searchers, etc.

PACTE argues that the improvement of translation competence depends upon the reconstruction and development of translation sub-competencies, which is interrelated, and can make up for each other, that is, the development of translators' instrumental competence can activate other translation sub-competencies and compensate for their defects (PACTE, 2003).

### **Developing Translation Instrumental Competence**

To develop students' instrumental competence, a study was made in my translation teaching for undergraduate English majors by encouraging them to engage in compiling DIY corpus. They were assigned a real world task: to choose the major information on my university about its location, campus, history and so on and translate them into English, with the purpose of supplying basic information about the university. A short paragraph, about the campus from the university website (no English version so far), was chosen as a sample in present study to illustrate how students' instrumental competence can be improved in aspects of recognition, evaluation and utilization of electronic translation tools. The following shows (a) the source text in Chinese Pinyin, followed by (b) the translation by an online machine translate Youdao, and (c) a revised version by using electronic tools available as aid. The elements of the source text and their English counterparts are numbered correspondingly for the convenience of discussion.

a) Zaozhuang Xueyuan wei yu Zaozhuang Shi Shizhong Qu beijiao<sup>1</sup>, Jiulong Shan nanlu, Guocun shuiku zhi pan<sup>2</sup>, yishanbangshui, fengjingduhao<sup>3</sup>; jianzhu cuoluoyouzhi, xin lao xiaoqu hunranyiti<sup>4</sup>. xiaoyuan sanji youhua, sijichangqing<sup>5</sup>, shi dushu zhixue de lixiang zhi di<sup>6</sup>.

b) Zaozhuang college is located in the downtown district of zaozhuang northern suburb<sup>1</sup>, jiulong foothill, Guocun reservoir bank<sup>2</sup>, river, the scenery alone<sup>3</sup>; Building strewn at random have send, old and new campus one integrated mass<sup>4</sup>. Campus three season, evergreen<sup>5</sup>, is an ideal place for reading research<sup>6</sup>.

c) Zaozhuang University is located in the northern suburb of Shizhong District of Zaozhuang city<sup>1</sup>. It is at the bank of Guocun reservoir and southern foot of Jiulong Hill<sup>2</sup>. The beautiful campus provides an ideal place for learning<sup>3</sup>.

To learn about students' capacities to use information technologies in translation, a preliminary study was made in which they were asked to translate the paragraph. In the present study, they are trained to recognize, evaluate and utilize information technologies available in solving the problems in their former translation.

**Recognition.** The preliminary study revealed that the digital resources students used in translation were largely restricted to online bilingual dictionaries, in which they had many difficulties in choosing the appropriate one among polysemous words. This suggests that students have to be systematically introduced the main features of real world translation and the varied resources nowadays available in translation, such as online monolingual dictionaries, encyclopedia, more importantly, search engine, electronic corpora and online machine translate. Google has much better performance in searching information concerning English and translation than other search engines commonly used in mainland China. As a complementary aid in translation, the basic knowledge of machine translation and strategies of compiling corpus should also be introduced to undergraduates according to a given task. In order to provide the basic information on the university, a DIY corpus, CUWESC (Corpus of University Webpage in English-spoken Countries) was compiled by students themselves through reading the relevant information on the webpages (mainly *About Us*) of universities in countries where English is spoken as native language and collecting the information needed for the given task. With the continuing development of translation technologies, machine translation output, even more or less revision needed, has been one of the important online resources and should be properly used.

**Evaluation.** The preliminary study also showed that students tended to use MT output but lacked knowledge in judging its role and reliability, for many of them just feed the whole source text into Youdao and directly adopt the results (b). Parts of them are understandable but the rest are not. The teacher then introduced how online machine translate works and helped students learn its possibilities and limitations respectively. Students also should know how to evaluate the quality of online resources to ensure their accuracy, reliability and value and to avoid incorrect information in translation. Austermühl (2001, 64-66) proposed the criteria to judge the quality of web documents: the author's credentials, document preparation process and presentation, meta-information, accuracy and timeliness. By using Google search, students knew that *reading research* in 6 of (b) does exist but means *research on reading*, which is quite different from Chinese *dushu zhixue*. 2, 3, 4 and 5 in (b) are too literal renderings of the source text, and no such detailed description of campus landscape was found on the university webpages in English-spoken countries, so problems were detected.

**Utilization.** In revising the MT output, students learned to use electronic tools of all kinds to solve translation problems. In 1 of (b), *college* is not consistent with the English name of the university; *downtown* is equivalent to *shizhong* in meaning, however, as the name of city district, Pinyin is generally used here to locate the place. Feeding *downtown district* in Google search, students knew that their first letters should be capital, so a possible solution *Shizhong District* was got. In 2 of (b), a word *nan*, the underlined Chinese character in 2 of (a), is lost. So it was added in (c). Considering the location of the university and prompted by English words in MT output, many students revised *jiulong foothill* into *at south foot of Jiulong Hill*. With google search, a possible solution to 2 of (b) is got: *at the bank of Guocun reservoir and southern foot of Jiulong Hill*. This indicates the importance of post-editing and revising skills in working with draft translation of online machine translate. In

browsing university webpages in English-spoken countries, students were exposed to fresh and idiomatic English expressions, and began to familiarize themselves with the micro- and macro-linguistic features of the target text of this type. 3, 4 and 5 in source text (a) are good sentences in Chinese, if literally translated, they will have little solid content in English. With the help of the teacher, students got to realize that these parts could be deleted or the source text had to be rewritten in order to conform to the writing conventions of English university webpages *About Us*. Searching in CUWESC with *campus* as the keyword, students deleted 3, 4 and 5 of (b) and revised 6 of (b) into one sentence like 3 of (c).

## Summary

With the continuing development of information and translation technologies, increasing numbers of translators will be working with MT output (Austermühl, 2011:19). In solving the real translation problems, students identified the information technologies available today and learned how to judge and properly use them. The author argues that the revising and editing skills required for online machine translate should be included in translation instrumental competence. The study suggests that online machine translation system like Youdao has better performance in translating Chinese texts with solid content, say, informative texts than those descriptive ones with many flowery sentences in them. This may also imply that Chinese descriptive texts need more pre-edition before being fed into machine translate.

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