

# A Pilot Study on Undergraduate Students' English-Chinese Translation Shifts in Web-searching Process: combining screen-recording and retrospective verbalization methods

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## Abstract

Translation shifts (i.e. linguistic changes at lexical, syntactic and expression levels) naturally occur with the use of translation techniques in the process of translating a source text (ST) into another target text (TT). However, previous scholars mostly focused on analyzing translation products but hardly investigated translation shifts through translation process research (TPR) methods. Therefore, the pilot study combining screen-recording and retrospective verbalization methods aims to explore the causes and types of translation shifts made in three undergraduate students' web-searching process in the hope of summarizing some implications for translator training.

The preliminary findings are as follows. Firstly, the combination of screen-recording and retrospective verbalization methods could detect the causes of undergraduate students' dissatisfying translation shifts, such as their over-reliance on online dictionaries or insufficient background knowledge in the ST. The results of the pilot study also show the implications of both recalling students' application of internalized translation techniques and prompting them to reflect on how to make better translation shifts through the consultation of relevant background knowledge in the ST. Secondly, despite the usefulness of web resources, students should be taught to cross-check reliable web resources for refining TT expressions with personal translator's style as another implication of translation shift analysis.

**Keywords:** English-Chinese translation shifts, web-searching process, screen-recording method, retrospective verbalization

## 1. Introduction

Translation shifts have been studied for a long period of time by both Western and Chinese scholars (e.g. Vinay & Darbelnet, 1958/1995; Loh, 1958a/1958b; Catford, 1965; Popovič, 1970; van Leuven-Zwart, 1990a/1990b; Newmark, 1988; Sager & Hamel, 1995; Hatim & Munday, 2004). The translation shift theory, belonging to descriptive translation studies (Toury, 1980), becomes full-fledged through comparative linguistic analysis (e.g. Vinay & Darbelnet, 1958/1995). Among the above scholars' studies, Vinay and Darbelnet's and Catford's shift models have been widely discussed by other researchers (e.g. Cyrus, 2009; Zhang & Li, 2009).

Translation shift analysis serves as "a means of describing what constitutes the translation product but there are limits about what it can (or even attempts to) tell us about the actual process of translation (Munday, 2008, p. 63), so the theoretical basis for the pilot study is formulated by *cognitive translation process* in an attempt to break through the limits of product-oriented translation shift analysis.

The approaches of translation shifts are rarely tested by empirical translation process research (TPR). Although Bahramy and Aidinlou (2014) verify the positive effects of teaching translation shifts for more acceptable translated texts, they focused more on the improvement of students' translation quality than on the process of making translation shifts. Therefore, the pilot study will fill this research gap by using TPR methods to investigate the causes and types of translation shifts in undergraduate students' translation (web-searching) process, their retrospective verbal reports on translation shifts and the implications of shift analysis for translator training.

## 2. Literature Review

### 2.1 Definitions of Translation Shifts

Translation shifts are defined by a few scholars. Munday (2008, p. 55) considers translation shifts to be "small linguistic changes occurring in translation of source text (ST) to target text (TT)." Jabak et al. (2016, p. 154) define translation shifts as "an important feature of any translation as they are unavoidable, especially if the SL and TL belong to two different families

such as English and Arabic,” and their study discusses such linguistic shifts as word order, parts of speech, word choice, tense, number and voice to make the concept of translation shifts “more intelligible and more practical” (p. 165).

Actually, Catford (1965, p. 73) is the first scholar that introduces and defines the term translation shifts as “departures from formal correspondence in the process of going from the SL to the TL.” He further proposes the following types of translation shifts (pp. 75–82): *structural shifts* (shifts in grammatical structures), *class shifts* (shifts from one part of speech to another) and *unit shifts* (shifts happen when a translation equivalent in the TL is at different units to the SL among word, clause, sentence, group and morpheme; for example, a word can be translated into a short sentence with the segmentation technique).

Another scholar, Popovič (1970, p. 80), defines another type *shifts of expression* as “the result of the translator’s conscious efforts faithfully to reproduce the aesthetic totality of the original [text].” Shifts of expression also pertain to literal or free translation deriving from “the tension between the original text and the translation ideal” (Munday, 2008, p. 62). These shift types as a result of particular English-Chinese translation techniques (see Section 2.2) will be analyzed in the pilot study.

## 2.2 Related Studies on Translation Shifts

The following studies on translation shifts will be reviewed because they motivated the researcher to analyze the causes and types of translation shifts in the pilot study.

Some scholars conducted contrastive linguistic studies on different types of translation shifts. For example, Al-Zoubi and Al-Hassnawi (2001) construct their own model to analyze various types of translation shifts at linguistic and paralinguistic levels, and they propose a new term “translation equivalence” for the translators to establish between the source language (SL) and target language (TL). Newmark (1988) identifies four types of translation shifts: the first type is the change from singular to plural; the second type happens when the SL grammatical structure does not exist in the TL; the third type is the one when literal translation is grammatically possible but may not fit the natural usage in the TL; the fourth type refers to the transposition technique as the replacement of a virtual lexical gap by a grammatical structure.

Besides, some corpus-based studies (e.g. Munday, 1998; Macken, 2007) also examined the lexical, syntactic and freeness levels of translation shifts and presented some findings of shift occurrences. Shih (2012) also conducted a corpus-aided study to explore English-Chinese translation shifts in prepositions, concluding that “prepositional translational shifts are closely related to a host of factors such as contrastive linguistic differences between SL and TL, textual functions and the translator’s style” (p. 59).

According to the above studies, translation shifts are actually “a phenomenon inherent to translation,” which is not anymore regarded as “mistranslations” or “deviations of the norm” (van Leuven-Zwart, 1990b, p. 228). In order to better understand the causes and types of translation shifts in students’ web-searching process, the pilot study will mainly adopt *a top-down shift analysis* (Kade, 1968), i.e. to examine such factors other than translation techniques as the characteristics of the TL beyond the semantic level, the function of a translation, students’ interpretation of web resources and the translator’s style.

## 2.3 Translation Techniques, Strategies and Related Shift Models

A number of translation scholars (e.g. Ho, 1997; Molina & Hurtado Albir, 2002; Dong & Zhao, 2012) discuss and term translation techniques in the translation process. Molina and Hurtado Albir (2002) distinguish translation techniques from translation strategies: *translation strategies* are the procedures used by translators to solve problems with a particular objective in mind, while *translation techniques* characterize translation strategies and influence the translation results. Ho (1997) defines the restructuring technique used by the translators who split sentence structures to indicate the grammatical order of the SL for a more fluent TT. Dong and Zhao (2012) indicate that the translators use the conversion technique to transfer the ST word into another part of speech in order to achieve a corresponding effect in the TT. In the following, two shift models will be presented and compared in relation to the application of the above translation techniques.

Vinay and Darbelnet (1958/1995) contrasted the systematic-linguistic differences between English and French to prevent the translators’ errors in working with this particular language pair. Coincidentally, a Chinese scholar Dian-yang Loh (1958a/1958b) also put forward his translation shift model in 1958 with some similarities to Vinay and Darbelnet’s model (see Zhang & Li, 2009 for more details).

Based on Vinay and Darbelnet’s contrastive analysis, seven translation techniques are provided: three are *borrowing*, *calque* and *literal translation* as direct techniques, and the other four are *transposition*, *modulation*, *equivalence* and *adaptation* as oblique techniques. Although Vinay and Darbelnet did not use the term translation shifts, it is these four oblique techniques that lead to different shift types within English-French translation. These four oblique techniques commonly used in English-Chinese translation will be defined and compared with Loh’s translation techniques in the following.

Firstly, the *transposition* technique refers to “replacing one word class with another without changing the meaning of the message” (Vinay & Darbelnet, 1958/1995, p. 88). Transposition is similar to Loh’s *conversion* technique as substituting SL words with TL words that are “identical in meaning but different in terms of part of speech” (Loh, 1958b, p. 186). The transposition or conversion technique leads to Catford’s class shifts. Vinay and Darbelnet (1958/1995) also believe that the translators of any pair of languages should employ the transposition techniques to produce a natural-sounding translation.

Secondly, the *modulation* technique is defined as “a variation of the form of the message, obtained by a change in the point of view of the SL” (Vinay & Darbelnet, 1958/1995, p. 89). Loh’s *inversion* technique, similar to modulation, is defined as “the constituent elements of a sentence are arranged in a way that is different from the general rules of word-order of the language in question” (Loh, 1958b, p. 229). The modulation or inversion/restructuring technique thus results in Catford’s structural shifts.

Thirdly, the *equivalence* technique occurs in translation cases where “one and the same situation can be rendered by two texts using completely different stylistic and structural methods, and most equivalences belong to a phraseological repertoire of idioms, clichés, proverbs, nominal or adjectival phrases, etc” (Vinay & Darbelnet, 1958/1995, p. 90). However, Loh has no similar technique to equivalence which contributes to shifts of expression (Popovič, 1970).

Lastly, the *adaptation* technique is employed when the type of situation to which the SL message refers is unknown in the TL culture. In this case, “the translator has to create a new situation that can be considered as being equivalent” (Vinay & Darbelnet, 1958/1995, p. 91). Loh’s transliteration technique (similar to Vinay and Darbelnet’s borrowing technique) and coinage of new characters (similar to Vinay and Darbelnet’s calque technique) are two methods for “translating nouns denoting things of foreign origin” (Loh, 1958a, p. 47).

Based on the two shift models and their related translation techniques, the pilot study will explore the occurrences of students’ translation shifts in their translation process (i.e. their application of translation techniques and consultation of web resources as translation strategies), together with their retrospective verbal reports.

#### 2.4 Web-searching Studies on the Translation Process

Web-searching studies on the translation process are relatively few (e.g. Enríquez Raído, 2011, 2014; Shih, 2017; Chang, 2018). Enríquez Raído (2011) asked four postgraduate translation students to complete two translation tasks in two separate weeks of a course. She combined pre-task questionnaires, screen recording, online search reports and post-task interviews to study these students’ web-searching behaviors. Her findings point to not only the importance of web-searching skills for translation but also the requirement of more empirical studies on learning contexts where the types of translation tasks are determined by the need of using online information.

Shih (2017) used think-aloud protocols (TAPs) and the screen-recording method to investigate six Chinese trainee translators’ web-searching behavior in translating a scientific text. Although these subjects’ idiosyncratic behavior in online searches was identified in terms of their use of various web resources, Shih did not conduct post-task interviews to examine what her subjects thought about their web-searching behavior.

Then, Chang (2018) combined TAPs, the screen-recording method and cue-based retrospective interviews to explore the formation of ten Chinese students’ web-searching skills (i.e. instrumental competence) during their one-year postgraduate translation course in the UK. Chang’s study demonstrates that the combination of TAPs, screen recording and cue-based retrospective interviews can be used as a set of metacognitive reflection tools to hone translation students’ web-searching skills.

However, none of the above web-searching studies touch upon the connection between subjects’ use of web resources and translation shifts occurring in their translation process, and this is what the pilot study will tap into.

#### 2.5 The Application of TPR Methods into Shift Analysis

##### 2.5.1 Screen Recording

The screen-recording method enables the researchers to access subjects’ actions, their faces and what happens on the computer screen. Some screen-recording software (e.g. *BB Flashback*; see more details in the research design section), downloadable onto any computer, records AVI files of all on-screen activities during a translation task. In other words, everything translators do is recorded by “an unobtrusive application running in the background” (Angelone, 2012, pp. 46–47).

The screen-recording method – unobtrusive, user-friendly and ecologically valid – can be used in conjunction with verbal reports. According to Göpferich and Jääskeläinen (2009, p. 173), screen recordings are “particularly useful for analyzing the research activities which form an integral part of translation processes, as they provide a detailed account of which electronic sources or web-sites the subjects are using during translation.” Hence, the present study chooses the screen-recording method which not only serves as a suitable TPR tool but also makes subjects more autonomous in making translation shifts as a self-learning process.

### 2.5.2 Retrospective Verbal Reports

The cue-based retrospection method is able to provide subjects with powerful reminders by recalling their memory about their engagement in a translation task. Ericsson and Simon (1987, p. 41) point out that using cueing stimuli and giving subjects general instructions to report their thoughts, during the immediately preceding cognitive activity, produce retrospective verbal reports which to a large extent mirror the actual mental processes. According to Ehrensberger-Dow and Künzli (2010, p. 116), the strength of the cue-based retrospection method is that the researchers can collect cue-based retrospective data “that are less susceptible to memory decay” by replaying the recordings of subjects’ translation process and requiring them to comment on what they have done.

However, Englund Dimitrova and Tiselius (2009, p. 110) identify a weakness of the retrospection method: total recall of information cannot be generated and the accuracy of the information recalled may be reduced due to subjects’ inadequate memory. Hence, retrospection has to be *cued* to facilitate recall, and a cueing stimulus is preferably “encoded in the same way at recall as it was at the original presentation” (Ericsson & Simon, 1993, p. 119).

### 3. Research Aims and Questions

The primary aim of the pilot study is to explore the causes and types of undergraduate students’ translation shifts made in their web-searching process. The secondary aim is to summarize the implications of translation shift analysis for translator training. The research questions are as follows:

- (1) What are the causes and types of translation shifts made in three undergraduate students’ web-searching process during an English-Chinese translation task?
- (2) How and why do these students use translation techniques and web resources to produce translation shifts?
- (3) To what extent do these students think that the translation shifts made in their web-searching process could improve translation quality?

The above research questions will be answered by the analysis of the screen-recording and retrospective verbalization data. Details of research design will be explained in the following research design section.

### 4. Research Design

#### 4.1 Selection of Student Subjects

Three undergraduate students, who took a required course entitled *Basic Chinese-English Translation* at the Department of Applied English of Chaoyang University of Technology in central Taiwan, agreed to participate in the pilot study at the end of this course (see Appendix 1: Consent Form). In this course, the researcher had spent 18 weeks teaching the students how to use various translation techniques, such as addition, omission, conversion, sentence restructuring and ways of translating terms and proper nouns to solve translation problems in both general (e.g. news articles) and specialized texts (e.g. technological articles). In addition, they were also taught how to search for different types of web resources (online dictionaries, online encyclopedias and online parallel texts in the TL) to settle their translation problems. Moreover, through mid-term and final oral presentations, these students were asked to translate a given ST, reflect on their translation problems and evaluate the successfulness of their employment of translation techniques, web resources and other translation factors.

The reasons why the three student subjects were chosen are as follows. Firstly, they put much effort to translate and revise their weekly assignments; secondly, their mid-term and final oral presentations offered unique insights into solving translation problems and refining expressions in the TTs. Hence, based on their top 5% of average marks among other students, the researcher assumed that the three student subjects might have made progress in learning translation and could be more competent in applying translation techniques and web resources to make translation shifts. Table 1 shows the three students’ demographic information (see Appendix 2: Demographic Form).

Table 1. Student Subjects' Demographic Information

Codename	Gender	Age	Educational Background	Level of Common European Framework of Reference (CEFR Level)	Field(s) of Translation Experiences	Time Length of Translation Experiences
Tony	M	21	BA in English Language	B2 (Vantage)	No	0
Sherry	F	26	BA in English Language, Literature and Linguistics	B2 (Vantage)	Journalistic and tourism texts and subtitles	10 months
Helena	F	21	BA in Applied English	B1 (Threshold)	No	0

In Table 1, the average age of the three students is 23 and all of them major in the English language. The three students also achieve vantage and threshold levels in English proficiency tests. Except Sherry, the other two students claimed that they did not have any translation experiences (though they had practiced translating different text types during the 18-week course but may not consider those assignments to be practical). Therefore, it will be interesting to investigate how the three novice translators make linguistic changes (i.e. translation shifts) with the aid of translation techniques and web resources.

#### 4.2 Methodological Procedures

The three individual students were asked to translate an art news article (see Appendix 3: Source Text of the Pilot Study) from English into Chinese. This art news article briefly introduces the life of an Italian painter Artemisia Gentileschi (A.D. 1593–1654) and an upcoming exhibition for her paintings held by the National Gallery in London. This art news article scores 45.4 in Flesch Reading Ease Readability Formula and its readability level is “difficult to read for 15- to 17-year-olds.” During the past 18-week course of *Basic Chinese-English Translation*, these students had learned how to tackle lexical (i.e. terms and proper nouns), syntactic and knowledge problems while translating both general (e.g. news and tourism articles) and specialized texts (e.g. financial and technological articles), so the researcher decided to pick the art news article containing some vocabulary, background knowledge and lengthy sentences that might pose challenges on the students, hoping that they could make translation shifts by checking more web resources than using translation techniques.

During this translation task, the students' web-searching process of solving translation problems and choosing translation equivalents were recorded by a piece of audiovisual software *BB Flashback*. Shortly after the translation task was completed, the researcher replayed part of the individual students' *BB Flashback* videos and prompted them to specifically verbalize and comment on any linguistic changes (i.e. translation shifts) made in their web-searching process. As for the students' retrospective verbalization, the researcher adopted *the other-initiated approach* to ask the students to only verbalize “when explicitly requested to do so by the experimenter” (Færch & Kasper, 1987, p. 17) with the following pre-set questions:

- (1) What changes in words (terms and proper nouns) and sentences did you make while translating the article from English into Chinese?
- (2) How did you use translation techniques and online resources to make such changes in these translated words (terms and proper nouns) and sentences? Why did you decide to make such changes?
- (3) How important do you think online resources are for making changes in these translated words (terms and proper nouns) and sentences?
- (4) Do you feel that the changes in these translated words (terms and proper nouns) and sentences improve your translation quality?
- (5) Throughout the 18-week course *Basic Chinese-English Translation*, what have you learned to improve your translation quality by applying translation techniques and online resources?

Figure 1 shows how a student subject translated the article recorded by *BB Flashback* on a laptop, and Figure 2 displays an example of a *BB Flashback* video.

Figure 1. Student Subject's Translation Task Recorded by *BB Flashback*

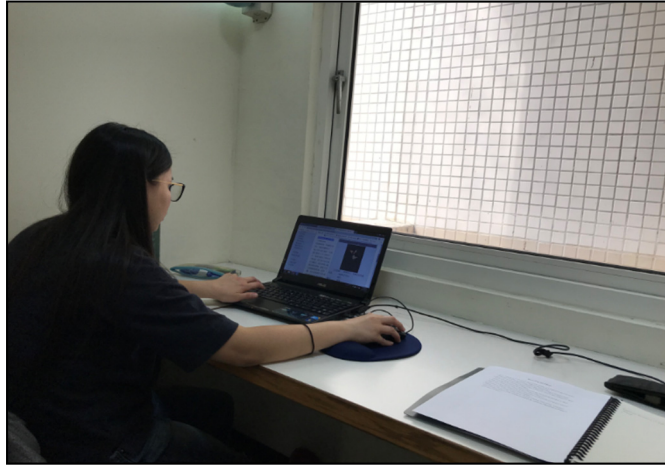
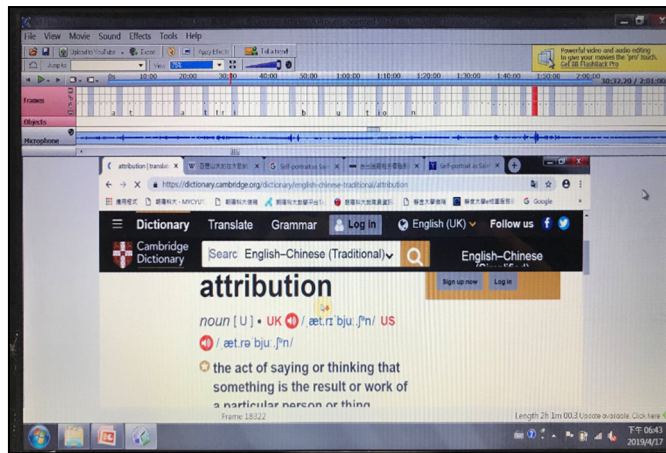


Figure 2. An Example of *BB Flashback* Video



## 5. Results and Discussion

### 5.1 Data Transcription

Previous translation process researchers (e.g. Krings, 1986; Jääskeläinen, 1999; Englund Dimitrova, 2005) developed their own transcription conventions for TPR data considering different research purposes. However, their transcription conventions only recorded subjects' verbalizations without screen-recording information.

Enríquez Raído's transcription convention (2014, pp. 103–105) was adapted for the pilot study because her convention includes more complete information about subjects' screen-recording behavior (i.e. timeframe, on-screen windows or tabs with URLs, subjects' verbal reports and their consultation of web resources), so this convention largely meets the needs of the pilot study for analyzing students' web-searching behavior.

### 5.2 The Causes and Types of Translation Shifts in Students' Web-searching Process

This section will achieve the two research objectives (see Section 3) regarding the causes and types of students' translation shifts made in their web-searching process during the English-Chinese translation task, and the implications of shift analysis for translator training will also be presented. In the following, case studies on the three student subjects' translation shifts will be discussed with their transcription records of screen-recording data and retrospective verbal reports on the use of translation techniques, web resources and other top-down factors (Kade, 1968).

#### 5.2.1 Class and Unit Shifts: Tony's Case Study

Table 2 shows the first student subject Tony's transcription records of class and unit shifts (Catford, 1965) in "gruelling." Tony looked up the ST word "gruelling" in *Bing Dictionary* and the machine translation of the ST segment in *Google Translate*. He might feel that the Chinese meaning "折磨人的" (*torturing*) in *Bing Dictionary* or the machine translation "艱

苦的” (*difficult/arduous*) could be translated in a different way because according to his retrospective verbalization, Tony reported that he had changed the order of words in some ST sentences for several times because “the sentence structure of English is strict, whereas Chinese sentence structure is more flexible.” As a result, he converted “gruelling” from an adjective into a noun, “折磨” (*torture*) and used the segmentation technique to translate “gruelling” into a separate sentence, “她備受折磨” (*She suffered from a lot of torture*). Tony’s use of the conversion and segmentation techniques in translating “gruelling,” possibly with the aid of *Bing Dictionary* and *Google Translate*, lead to both class and unit shifts that read more natural-sounding than literal translation. These shifts also correspond to Newmark’s third and fourth types of translation shifts (1988) respectively as “literal translation is grammatically possible but may not fit the natural usage in the TL” and “the transposition technique as the replacement of a virtual lexical gap by a grammatical structure.”

However, Tony was unsure of whether the translation shifts he made actually improved his TT quality because he thought that “only readers will find some mistakes and improper usage in my Chinese translation, and the readers will give me advice on improving the translation.” In addition, throughout the 18-week translation course, Tony claimed that he had learned the timing of using some translation techniques, particularly the conversion technique (Vinay & Darbelnet, 1958/1995; Loh, 1958b) and he also stressed the importance of translation techniques for improving TT quality.

As his retrospective verbal report further indicates, Tony mentioned that “I translated the ST based on the context and personal experience, and then re-edited and checked the TT.” The reason why he made linguistic changes is that he felt dissatisfied with his own translation, so he resorted to authoritative online information (e.g. *Wikipedia*) as a shortcut to improving his translation. For translating and refining short and long sentences, Tony reported that *Google Translate* provided him with a helpful hint. Hence, the implication for translator training is that undergraduate students shall be taught to carefully use translation techniques and consult web resources (e.g. online encyclopedias and machine translation) for making translation shifts.

Table 2. Tony’s Class and Unit Shifts

Timeframe (h:m:s.ms)	On-screen Windows/Tabs	English ST Segments (underlined words, terms, proper nouns and sentences)	Underlined Translation Shifts in the Chinese TT	Consultation of Web Resources	Retrospective Verbal Reports
1:20:19.50	<i>Bing Dictionary</i> ( <a href="https://cn.bing.com/dict/">https://cn.bing.com/dict/</a> )	At the age of 17 Gentileschi was raped by the painter Agostino Tassi and then faced a <u>gruelling</u> court case.	她在17歲時曾被聘請(的)繪畫教師阿戈斯蒂諾·塔西強姦, 之後面對這場官司, 她備受折磨。	Check [ <i>Bing Dictionary</i> ]: “極度疲勞的” ( <i>exhausted</i> ), “折磨人的” ( <i>torturing</i> )	“During the process of translation, long sentences with more information are easy for me to picture the scenario so that I can give a more colorful version. ‘Gruelling’ here is an adjective, but in my translation it becomes a noun [...] But short sentences for me are hard to translate, and they gave me less information, so I must translate this sentence with my own ideas and knowledge [...] I copied the whole sentence to <i>Google Translate</i> and see how <i>Google</i> translated it. <i>Google Translate</i> can give me a helpful hint.”
1:22:43.21	<i>Google Translate</i> ( <a href="https://translate.google.com.tw/">https://translate.google.com.tw/</a> )		(back-translation: <i>When she was 17 years old, she was raped by the employed painting teacher Agostino Tassi, and then while facing the court case, she suffered from a lot of torture.</i> )	Check [ <i>Google Translate</i> ]: 在17歲時, Gentileschi 被畫家阿戈斯蒂諾·塔西強姦, 然後面對一個艱苦的法庭案件。  (back-translation: <i>At the age of 17, Gentileschi was raped by the painter Agostino Tassi, and then faced a tough court case.</i> )	

## 5.2.2 Structural Shift: Sherry's Case Study

Another student subject Sherry reported that she made more translation shifts in long sentences such as relative clauses, “I underlined the adjective (relative) clauses and circled the noun clauses to check the meaning of the sentences [...] so I separated the sentences and tried to find fluent Chinese.”

Table 3 displays Sherry's transcription records of a structural shift (Catford, 1965) in “appear in various roles.” Sherry looked up the two ST words “various” and “appear in” in *Yahoo Dictionary* and *Linguee Dictionary*, and she further read an online Chinese *BBC* news article about the background information of the female artist Artemisia Gentileschi. According to her retrospective verbal report, Sherry reported that she roughly understood the miserable story of Artemisia Gentileschi and applied the inversion/modulation technique (Loh, 1958b, p. 229) to modify “自畫像” (*self-portraits*) with “呈現各種角色的” (*presenting various roles*), but she felt that her Chinese translation, “她繼而畫出許多呈現各種角色的自畫像” (*She then kept drawing [many presenting various roles] self-portraits*) was still imperfect because she lacked enough background knowledge. Sherry's structural shift also refers to Newmark's second type of translation shift (1988) as “the SL grammatical structure does not exist in the TL.”

As Sherry's retrospective verbal report further suggests, the combination of the screen-recording and retrospective verbalization methods could be pedagogically useful to probe into why some undergraduate students make dissatisfying translation shifts in TT expressions, possibly because of their over-reliance on online dictionaries or lack of an in-depth understanding of the background knowledge in the ST.

Sherry's retrospective comments also point out that online information is of importance for locating the translations of proper nouns and exact meanings of the ST words. More importantly, she checked relevant background information (e.g. *Taipei Museum's* art news article) and restructured the TT sentences mainly for more fluent expressions. This explains that the causes of translation shifts are related to not only fluent TT expressions as the characteristics of the TL (Kade, 1968) but also to the level of the translators' understanding of background knowledge in the ST.

From the retrospective verbal report, Sherry claimed that the translation shifts she made might improve TT quality to some extent (Bahramy & Aidinlou, 2014), but she still needed more time to gain background knowledge before translating the ST. Over the 18-week translation course, Sherry had learned the usefulness of the inversion and conversion techniques (Vinay & Darbelnet, 1958/1995; Loh, 1958b) for making translation shifts in the TT. Another implication for translator training is that the combined methodology could not only recall students' use of internalized translation techniques but also make them more focused on acquiring background knowledge from web resources to make better translation shifts.

Table 3. Sherry's Structural Shift

Timeframe (h:m:s.ms)	On-screen Windows/Tabs	English ST Segments (underlined words, terms, proper nouns and sentences)	Underlined Translation Shifts in the Chinese TT	Consultation of Web Resources	Retrospective Verbal Reports
1:09:48.20	<i>Yahoo Dictionary</i> ( <a href="http://tw.dictionary.search.yahoo.com">http://tw.dictionary.search.yahoo.com</a> )	She went on to paint numerous self-portraits <u>in which she appears in various roles.</u>	她繼而畫出許多呈現各種角色的自畫像。 (back-translation: <i>She then kept drawing [many presenting various roles] self-portraits.</i> )	Check [ <i>Yahoo Dictionary</i> ]: “不同的” ( <i>different</i> ), “各種各樣的” ( <i>various kinds of</i> )	“I think ‘in which she appears in various roles’ is difficult for me because this sentence is also a relative clause, and I couldn't tell the exact meaning of ‘appear,’ so I think the translation is not good [...] I remember I just checked ‘appear in’ but couldn't find any useful (online) results.”
1:09:57.50	<i>BBC 英倫網</i> : 走出強姦和折磨陰影的女畫家			Check <i>BBC Chinese news</i> : “The Female Painter Who Steps Out of the Shadows of Rape and Torture”	
1:12:24.80	( <a href="https://www.bbc.com/ukchina/trad/vert-cul-45423455">https://www.bbc.com/ukchina/trad/vert-cul-45423455</a> ) <i>Linguee Dictionary</i> ( <a href="http://cn.linguee.com">http://cn.linguee.com</a> )			Check [ <i>Linguee Dictionary</i> ]: “亮相” ( <i>show up</i> ), “登出來” ( <i>publish</i> )	



### 5.2.3 Shifts of Expression: Helena’s Case Study

The last student subject Helena reported that she changed the passives into active voice as translation shifts. Table 4 displays Helena’s transcription records of shifts of expression (Popovič, 1970; Munday, 2008) in “underrepresented” and “astonishing.” Although she just looked up the ST word “underrepresented” in *Bing Dictionary*, Helena did not follow the literal meanings of *Bing Dictionary* but freely translated the connotative meaning of “underrepresented” as “以男性為主導的” (*mainly dominated by men*). Helena also employed the equivalence technique [1] (p. 90) to make the form of her translation more variable by rendering the ST word “astonishing” into a Chinese four-character idiom “唏噓不已” (*not stop sighing*) and even adding another idiom “獨樹一幟” (*show one’s unique style*) which has no equivalent to the ST segment.

From her retrospective verbalization, Helena reported that she allowed for the ST text type as a news article and emphasized that the Chinese translation would have been lengthy and unattractive if she had not made any linguistic changes. Additionally, Helena claimed that she did not frequently use translation techniques, and the web resources she browsed such as online dictionaries and *Wikipedia* were less important for making linguistic changes, though reading *Wikipedia* and online articles could assist her in understanding the background knowledge of the ST before she made translation shifts. On the contrary, she argued that personal translation skills outweigh web resources in terms of making translation shifts. As Helena’s retrospective verbal report suggests, it was noted that the function of a translation and the translator’s style are important factors to translation shifts, and this jibes with Shih’s findings (2012, p. 59).

According to her retrospective comments, Helena believed that the translation shifts she made could improve TT quality (Bahramy & Aidinlou, 2014), and she also found the conversion and restructuring techniques (Vinay & Darbelnet, 1958/1995; Loh, 1958b) most useful for making translation shifts after the 18-week translation course. Helena also felt satisfied with the refined TT expressions full of her personal style.

Table 4. Helena’s Shifts of Expression

Timeframe (h:m:s.ms)	On-screen Windows/Tabs	English ST Segments (underlined words, terms, proper nouns and sentences)	Underlined Translation Shifts in the Chinese TT	Consultation of Web Resources	Retrospective Verbal Reports
20:25.20	<i>Bing Dictionary</i> ( <a href="https://cn.bing.com/dict/">https://cn.bing.com/dict/</a> )	In recent decades, there has been growing interest in the artist, because of both her <u>astonishing</u> personal story and increasing concern that female painters have been <u>under-represented</u> in art history and museum displays.	近幾十年來，由於阿特蜜希雅令人唏噓不已的人生經歷以及在通常以男性為主導的藝術領域的 <u>獨樹一幟</u> ，使她備受關注。 (back-translation: <i>In the past decade, because of Artemisia’s life experience which makes people not stop sighing and showing her unique style in the art field mainly dominated by men, [these causes] make her get increasing concern.</i> )	Check [ <i>Bing Dictionary</i> ]: “未被充分代表的” ( <i>not fully representative</i> ), “代表性不足” ( <i>insufficiently representative</i> )	“I changed the passive voice to active voice, like I translated ‘underrepresented’ into males’ contribution to art, and I also checked the meaning of ‘underrepresented’.”

## 6. Conclusion

The pilot study combining three undergraduate students' screen-recording data and retrospective verbal reports takes an initiative to explore the causes and types of translation shifts (i.e. class, unit, structural and expression shifts) made in these students' web-searching process. The preliminary findings are as follows.

Firstly, the combination of the screen-recording and retrospective verbalization methods could diagnose why some undergraduate students as novice translators cannot make satisfying translation shifts, possibly because of their over-dependence on online dictionaries or lack of sufficient background knowledge in the ST. Moreover, the methodology of the pilot study demonstrates the implications of not only recalling students' application of internalized translation techniques (e.g. the conversion and inversion/restructuring techniques) but also prompting them to reflect on how to make different types of translation shifts (Jabak et al., 2016) by learning background knowledge from useful online encyclopedias or parallel texts with similar expressions.

Secondly, although most students' retrospective verbal reports pointed to the usefulness of web resources for refining TT expressions as a main cause of translation shifts, translation shifts may also reveal students' personal translator's style. As the three student subjects' web-searching behavior was less diversified, translator trainers should teach students to cross-check various types of web resources with a pinch of salt while making linguistic changes which may be related to TT function and the translator's style.

Future studies could replicate the pilot study based on the following suggestions. Firstly, because of the limited sample size in the pilot study, future studies shall compare more postgraduate students' or professional translators' web-searching behavior with that of undergraduate students to picture universal translators' behavior in making translation shifts (particularly the inference to TT function, personal translation skills and the translator's style). Secondly, although most student subjects in the pilot study felt that the translation shifts they made might improve TT quality in some way (Bahramy & Aidinlou, 2014), future studies shall include more subjects' translation quality assessment data to objectively analyze the causes and effects of translation shifts.

## Acknowledgements

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## References

- Al-Zoubi, M. Q. R., & Al-Hassnawi, A. R. (2001). Constructing a model for shift analysis in translation. *Translation Journal*, 5(4). [Online] Available: <https://translationjournal.net/journal/18theory.htm> (October, 2001)
- Angelone, E. (2012). The Place of Screen Recording in Process-oriented Translator Training. *RITT*, 14, 41–55.
- Bahramy, M., & Aidinlou, N. A. (2014). The Effect of Translation – Shifts Instruction on Translation Quality. *Journal of Education and Practice*, 5(10), 9–15.
- Catford, J. C. (1965). *A Linguistic Theory of Translation: An Essay in Applied Linguistics*. Oxford: Oxford University Press.
- Cyrus, L. (2009). Old Concepts, New Ideas: Approaches to Translation Shifts. *MonTI*, 1, 87–106.
- Chang, L.-Y. (2018). *A Longitudinal Study on the Formation of Chinese Students' Translation Competence: with a particular focus on metacognitive reflection and web searching* (Unpublished doctoral dissertation). University College London, UK.
- Dong, M., & Zhao, Y.-S. (2012). Translation of Chapter Titles from the Perspective of Sociosemiotics. *Studies in Literature and Language*, 5(1), 10–15.
- Enríquez Raido, V. (2011). Developing Web Searching Skills in Translator Training. *redit, número*, 6, 57–77.
- Enríquez Raido, V. (2014). *Translation and Web Searching*. New York & London: Routledge.
- Englund Dimitrova, B. (2005). *Expertise and Explicitation in the Translation Process*. Amsterdam: John Benjamins.
- Englund Dimitrova, B., & Tiselius, E. (2009). Exploring retrospection as a research method for studying the translation process and the interpreting process. In I. M. Mees, F. Alves & S. Göpferich (Eds.), *Methodology, Technology and Innovation in Translation Process Research: A Tribute to Arnt Lykke Jakobsen* (pp. 109–134). Frederiksberg: Samfundslitteratur.
- Ehrensberger-Dow, M., & Künzli, A. (2010). Methods of accessing metalinguistic awareness: a question of quality. In S. Göpferich, F. Alves & I. M. Mees (Eds.), *New Approaches in Translation Process Research, Copenhagen Studies in Language, vol. 39* (pp. 113–132). Samfundslitteratur Press: Copenhagen.
- Ericsson, K. A., & Simon, H. A. (1987). Verbal reports on thinking. In C. Færch & G. Kasper (Eds.), *Introspection in Second Language Research* (pp. 24–53). Clevedon/Philadelphia: Multilingual Matters.
- Ericsson, K. A., & Simon, H. A. (1993). *Protocol Analysis: Verbal Reports as Data*. Cambridge: MIT Press.

- Færch, C., & Kasper, G. (1987). From Product to Process. In C. Færch & G. Kasper (Eds.), *Introspection in Second Language Research* (pp. 5–23). Clevedon/Philadelphia: Multilingual Matters.
- Göpferich, S., & Jääskeläinen, R. (2009). Process Research into Translation Competence: Where are we, and where do we need to go. *Across Languages and Cultures*, 10(2), 169–191.
- Hatim, B., & Munday, J. (2004). *Translation: An advanced resource book*. London & New York: Routledge.
- Ho, H.-L. (1997). Binary Error Analysis of Sight Interpretation from English into Chinese and its Pedagogical Implications. *Studies of Translation and Interpretation*, 2, 111–135.
- Jabak, O. O. et al. (2016). Translation Shifts in Regard to Translation from English into Arabic and Vice Versa. *Journal of the Malaysian Translators Association*, XVIII(1), 154–166.
- Jääskeläinen, R. (1999). *Tapping the Process: An Explorative Study of the Cognitive and Affective Factors Involved in Translating* (Unpublished doctoral dissertation). University of Joensuu, Joensuu.
- Kade, O. (1968). *Zufall und Gesetzmäßigkeit in der Übersetzung. Beihefte zur Zeitschrift Fremdsprachen*. Leipzig: VEB Verlag Enzyklopädie.
- Krings, H. P. (1986). Translation problems and translation strategies of advanced German learners of French (L2). In J. House & S. Blum-Kulka (Eds.), *Interlingual and Intercultural Communication: Discourse and Cognition in Translation and Second Language Acquisition Studies* (pp. 263–276). Gunter Narr: Tübingen.
- Loh, D.-Y. (1958a). *Translation: Its Principles and Techniques, Book One*. Beijing: Times Publishing. (Editor’s note: please use the format below (choose either style) when the reference is in Chinese:
- Loh, Dian-yang (陸殿揚) (1958a) 《英漢翻譯的理論與技巧：上冊》 / *Translation: Its Principles and Techniques, Book One*, Beijing: 時代出版社/Times Publishing
- Loh, Dian-yang (陸殿揚) (1958b) 《英漢翻譯的理論與技巧：下冊》 / *Translation: Its Principles and Techniques, Book Two*, Beijing: 時代出版社/Times Publishing
- Loh, D.-Y. (1958b). *Translation: Its Principles and Techniques, Book Two*. Beijing: Times Publishing.
- van Leuven-Zwart, K. M. (1990a). Translation and Original: Similarities and Dissimilarities, II. *Target*, 2(1), 69–95.
- van Leuven-Zwart, K. M. (1990b). Shifts of Meaning in Translation: Do’s or Don’ts? In T. Marcel & B. Lewandowska Tomaszczyk (Eds.), *Translation and Meaning, Part 1* (pp. 226–233). Maastricht: Euroterm.
- Munday, J. (1998). A Computer-Assisted Approach to the Analysis of Translation Shifts. *Meta*, 43(4), 142–156.
- Munday, J. (2008). *Introducing Translation Studies: Theories and Applications*. (2nd ed.). London & New York: Routledge.
- Macken, L. (2007). Analysis of Translational Correspondence in View of Subsentential Alignment. *METIS-II Workshop on New Approaches to Machine Translation*, Leuven, Belgium.
- Molina, M. L., & Hurtado Albir, A. (2002). Translation Techniques Revisited: A Dynamic and Functional Approach. *Meta*, 47(4), 498–512.
- Newmark, P. (1988). *Approaches to Translation*. Oxford: Pergamon Press.
- Popovič, A. (1970). The Concept “Shift of Expression” in Translation Analysis. In J. S. Holmes, F. de Haan & A. Popovič (Eds.), *The Nature of Translation: Essays in the Theory and Practice of Literary Translation* (pp. 78–87). Mouton: The Hague.
- Sager, J. C., & Hamel, M. J. (1995). *Comparative Stylistics of French and English: A methodology for translation*. Amsterdam & Philadelphia: John Benjamins.
- Shih, C.-L. (2012). A Corpus-Aided Study of Shifts in English-to-Chinese Translation of Prepositions. *International Journal of English Linguistics*, 2(6), 50–62.
- Shih, Y.-Y. (2017). Web search for translation: an exploratory study on six Chinese trainee translators’ behaviour. *Asia Pacific Translation and Intercultural Studies*, 4(1), 50–66.
- Toury, G. (1980). *In Search of a Theory of Translation*. Tel Aviv: The Porter Institute for Poetics and Semiotics.
- Vinay, J.-P. & Darbelnet, J. (1958/1995). *Comparative Stylistics of French and English: A Methodology for Translation*. Amsterdam & Philadelphia: John Benjamins.
- Zhang, M.-F. & Li, P. (2009). Introducing a Chinese Perspective on Translation Shifts: A Comparative Study of Shift Models by Loh and Vinay and Darbelnet. *The Translator: Studies in Intercultural Communication*, 15(2), 351–374.

## Notes

Note 1. The link of this art news article can be found at:

<https://www.theartnewspaper.com/news/london-prepares-to-celebrate-artemisia-gentileschi-in-2020>.

Note 2. The online test of text readability can be found at:

Note 3. The literal meanings and translations of all the Chinese words, phrases and TT sentences are provided throughout the article.

### Appendix 1: Consent Form

Dear student,

This is Dr. Leo Li-You, Chang, an assistant professor from Department of Applied English, Chaoyang University of Technology. I sincerely invite you to participate in a research project. Before I obtain your approval, I will explain the purposes and procedures of the research project in the following.

The purposes of the research project are firstly, to investigate any linguistic changes at lexical and syntactic levels made in your translation process, particularly in your web-searching process as a problem-solving and decision-making approach. Secondly, to explore your retrospective comments on those linguistic changes occurring in your use of translation techniques and web resources through a piece of audiovisual software *BB Flashback*.

The procedures of the research project involve the following steps. Firstly, you will be asked to translate an article from English into Chinese. During the translation task, your translation behaviors will be recorded by *BB Flashback* at the same time, including your image, the process of using web resources, and your production of the Chinese translation on an MS Word file. You are allowed to use any web resources or reference materials to solve your translation problems and choose translation equivalents. Shortly after the translation task, I will conduct a retrospective interview with you by replaying and cuing part of your video file produced by *BB Flashback*. You will be further asked to make retrospective comments on any linguistic changes in your translation product. Your anonymity will be protected, and a codename will be used in my research data.

Please tick the following boxes and sign if you agree to become a subject in the research project:

- As a participant, I will participate in Dr Chang's research project on time. If I fail to attend, I will notify Dr. Chang in advance and let him reschedule for me.
- I understand the purposes and procedures of the research project and agree to be a participant.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Appendix 2: Demographic Form

1. Full name (in English): \_\_\_\_\_
2. Gender: M / F
3. Age: \_\_\_\_\_
4. Educational background:
  - Bachelor's degree (BA/BSc) in \_\_\_\_\_
  - Master's degree (MA/MSc) in \_\_\_\_\_
  - PhD in \_\_\_\_\_
  - Other degrees; please specify: \_\_\_\_\_
5. English proficiency test scores: (multiple choices)
  - IELTS: \_\_\_\_\_
  - TOEFL (iBT): \_\_\_\_\_
  - TOEIC: \_\_\_\_\_
  - College English Test Band 4 and Band 6 (CET): \_\_\_\_\_
  - Other tests; please specify: \_\_\_\_\_

6. Have you ever practiced translating in a translation course *or* worked as a freelance translator during your undergraduate/postgraduate study?

Yes  No

If yes, please specify what text type(s) you translated: (multiple choices)

- Journalism (news articles, commentaries, columns, etc.)
- Business, economics, or finance (economic articles, statistical data, etc.)
- Legal (legal cases, regulations, provisions, etc.)
- Literature (prose, poetry, novels, etc.)
- Medical, technology, engineering or science
- Tourism (tourism articles, reviews, blogs, etc.)
- Manuals, handbooks, instructions or specifications
- Subtitles
- Other text types; please specify: \_\_\_\_\_

7. If your answer to Question 6 is yes, how long have you practiced translating: \_\_\_\_\_ year(s)

### Appendix 3: Source Text of the Pilot Study

London's National Gallery plans major Artemisia Gentileschi show in 2020

In 2020, the National Gallery in London is to hold a major exhibition on Artemisia Gentileschi, arguably Europe's greatest female Old Master (April-July 2020). This follows its recent purchase of her Self-portrait as Saint Catherine of Alexandria (1615-17).

The exhibition will be focused on paintings that have almost universally accepted attributions, excluding those that are seriously questioned by some specialists. Letizia Treves, the National Gallery's curator, says that this will enable us to see "the real Artemisia". In recent decades, there has been growing interest in the artist, because of both her astonishing personal story and increasing concern that female painters have been underrepresented in art history and museum displays.

Treves points out that Artemisia's "life story is intertwined with her art". Born in Rome in 1593, she was trained by her father Orazio Gentileschi, a distinguished follower of Caravaggio. At the age of 17 Gentileschi was raped by the painter Agostino Tassi and then faced a gruelling court case. She went on to paint numerous self-portraits in which she appears in various roles. In 1639 Artemisia joined Orazio in London where she was working at the court of Charles I. She died in 1654 or shortly afterwards, probably in Naples.

Artemisia Gentileschi's Self-portrait as Saint Catherine of Alexandria (1615-17) was a previously unknown work, which came up in a Parisian auction held by Christophe Joron-Derem at Hôtel Drouot in December 2017, with an estimate of €300,000 to €400,000. It sold to two dealers, Milan-based Marco Voena and London-based Fabrizio Moretti, for €2.4m (with fees). The National Gallery then bought the painting at a substantial mark-up for £3.6m, mainly with funds from its American Friends. The picture has now been cleaned, revealing the quality of the work and confirming the Gentileschi attribution.



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