

Spring 2016

CHINESE TO ENGLISH TRANSLATION: IDENTIFYING PROBLEMS AND PROVIDING SOLUTIONS

Shihua Brazill

Montana Tech of the University of Montana

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CHINESE TO ENGLISH TRANSLATION:
IDENTIFYING PROBLEMS AND PROVIDING SOLUTIONS

by
Shihua Chen Brazill

A thesis submitted in partial fulfillment of the
requirements for the degree of
Master of Science in Technical Communication

Montana Tech
2016



Abstract

The purpose of this study was to identify problems and provide solutions for improving Chinese to English translation quality, including ways to avoid Chinglish. Both qualitative and quantitative research methods were used, including interviews of 20 faculty members and a survey of over 300 students at 7 universities in China. The study researched four problem areas: Chinglish, cultural awareness, machine translation (MT), and translation profession. The results indicated that causes for Chinglish stem from different levels including vocabulary, syntax, and cultural levels. Cultural awareness was found to be a key factor for improving translation quality, especially when it comes to idiomatic translations. MT is best when used for gisting, which means a rough translation of the source text that allows the reader to understand the essence or general meaning of the source text even though the sentence structure, grammatical agreement, parts of speech, or word meanings are not accurate. Finally, it was found there is a need to train more competent translators. Solving these problems will improve the quality of Chinese to English translation.

Keywords: Chinese to English Translation, Chinglish, Culture Awareness, Machine Translation (MT), Translation Quality, Semiotics, Translation Education, Language Pairs, Chinese Language, Chinese Culture, Chinese Higher Education, Translation Profession, Technical Communication, English as Second Language, ESL

Dedication

I thank my thesis chair and advisor Dr. Pat Munday for guiding me through my academic career and education in the USA. I admire his intelligence and approach to life, and I feel fortunate to be his first Chinese graduate student at Montana Tech. Thank you, Professor Pat, for your guidance and encouragement.

I appreciate Mr. Conor Cote for motivating me through the literature review process and providing valuable reference feedback.

I also thank Dr. Michael Masters for his expertise in quantitative research methods.

I want to thank my dear grandmother who raised and supported me.

I wish to thank my parents for their unconditional love and support.

I am thankful for all my friends, including Edie Yeargin, Carol Reiff, Shuting Zheng, and many others for their support.

I also thank my inspiring mentors and teachers in China, including Wei Shangrong, Xiao Na, Xiao Kangshu, Song Xiaofang, and many others.

Special thanks to my dear beloved husband. Thank you so much for your love, support, and care! I could not have reached this milestone without you being on my side. You are the best.

Thank you all for sharing this journey with me!

Acknowledgements

My gratitude goes to Montana Tech Technical Communication department faculty Dr. Pat Munday, Dr. Chad Okrusch, and Dr. Nick Hawthorne, and to administrators Dean Beverly Hartline of Graduate Studies and Dean Doug Coe of CLSPS for financial support—especially for funding my research trip to China. I also thank Dean Hartline for facilitating a connection with Tsinghua University, which helped me set up interviews.

I sincerely thank my committee members Mr. Conor Cote, Dr. Michael Masters, and Dr. Glen Southergill for their time and feedback.

Finally, I would like to acknowledge the many interviewees and students who participated in this study.

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Glossary of Terms¹

Term	Definition
Chinglish	Chinglish refers to ungrammatical, difficult-to-understand translations of Chinese into English language. Chinglish is created because of the differences between Chinese and English thought patterns, as a negative transfer of the mother tongue.
Codes	A combination of semiotic system.
Connotation	The implied or cultural meanings of signs.
Cultural code	Culture code is the unconscious meaning we apply to any given thing.
Denotation	The literal meaning of a sign.
Domain	Area or field of knowledge that is communicated within a text, translation, or corpus. (Logos 2016).
Dynamic equivalence	It refers to reproduce in the receptor language the closest natural equivalence of the source-language message.
Gist translation	Use of human or MT to create a rough translation of the source text that allows the reader to understand the essence or general meaning of the text. (Logo 2016).
Globalization	Globalization describes the process by which regional economies, societies, and cultures have become integrated into a global network through communication, transportation, and trade. Globalization is often referred to as a cycle rather than a single process (Logos 2016).
Iconic signs	Sign mode where the signifier resembles the signified.
Indexical signs	Sign mode where the signifier has a causal connection to the signified.
Localization	Process of adapting or modifying a product, service, or website for a given language, culture or region. Language localization (from the English term locale, a place where something happens or is set) is the second phase of a larger process of product translation and cultural adaptation (for specific countries, regions, or groups) to account for differences in distinct markets, a process known as internationalization and localization. Language localization is not merely a translation activity, because it involves a comprehensive study of the target culture to adapt the product to local needs.

¹ My own interpretation unless otherwise cited.

	The localization process is generally related to cultural adaptation and translation of software, video games, and websites, and less frequently to other forms of written translation (which may also involve cultural adaptation processes) (Logos 2016).
Machine translation (MT)	Translation of text from one language to another language by means of computer software.
Object	Object refers to either a physical object or an object of thought that embodies the sign.
Round-trip translation	It involves translation of text from one language to another and back again.
Semiotic square	Map or diagram of signifier relationships that goes beyond simple oppositional pairs.
Sign	The smallest unit of meaning. Anything that can be used to communicate.
Signifier	Signifier refers to the written or spoken word itself.
Signified	Signified refers to the mental concept that is evoked by the signifier.
Skopos theory	Translation is created for particular addressees with specific purposes in a given situation.
Source language	Original language of the text that to be translated. (Logos 2016).
Symbolic signs	Sign mode where the relationship between the signifier and the signified is purely conventional and cultural specific.
Target language	Language into which the text is to be translated. (Logos 2016).
Technical translation	Translation of technical texts, such as user or maintenance manuals, catalogs, and data sheets. (Logos 2016).
Translation	Process of rendering written communication from one language into another or the output that results from this process. Translation is the communication of the meaning of a source language text into an equivalent meaning in a target language text. The word translation derives from the Latin <i>translatio</i> (which itself comes from trans- and fero, together meaning to carry across or to bring across) (Logos 2016).

1. Introduction

In a broad sense, the researcher chose this project “Chinese to English translation: identifying problems and providing solutions” because technical communication and translation are closely linked together. In China, new technical communication programs are emerging from long-established translation programs, but Chinese universities do not yet offer comprehensive programs in technical communication. Peking University (PKU) is one of the few universities that recognizes the need for a technical communication program, and PKU integrates it into the computer-aided translation program. The University of Twente and PKU closely collaborate in a double-degree program focused on combining technical communication with translation, localization, globalization, and culture. According to Gao, Yu, and Jong (2014), the relationship between technical translation and technical communication is a natural one. When the Chinese technology industry was still in the early stages of development, many user menus had to be translated. Chinese companies that are internationally oriented must now consider technical communication and translation as one. Companies such as IBM, EMC, Symantec, and IGT are increasingly recruiting qualified Chinese students for technical writing positions. Minacori & Veisblat (2010) find that, in the United States, translators and technical communicators have different qualifications and skills. In Europe, where the technical communication profession and its corresponding academic programs are recent developments, technical communicators often begin with a background in translation. This paper will provide a problem-solving approach for the current practice of Chinese to English translation and contribute to the technical communication field by shedding light on the process of accurate translation.

1.1. Background of the Problem

Chinglish occurs when a mistranslation of English stems from the Chinese way of thinking. Chinglish is created because of the differences between Chinese and English thought patterns, as a negative transfer of the mother tongue. Lack of cultural understanding also contributes to Chinglish. Guo (2008) identifies that the differences in grammatical rules between Chinese and English to be another major cause of Chinglish, with subject-verb mistranslation being the most common error. When a translator is educated and experienced in both the culture and language of the source and target languages, Chinglish issue can be reduced and possibly resolved.

Identifying the cultural sensitivity of a language can improve overall translation quality. When the cultural context is mistranslated, potential misunderstandings will be produced. Li (1998) and Sun (2003) state that understanding cultural differences could help minimize communication gaps. If a translation is dictated word-for-word rather than focusing on the cultural context, the target culture may not understand the meaning and will possibly find it offensive. Mistranslation is attributed to translators lack of an understanding of both Chinese and American cultures. Professional translators can help alleviate these misunderstandings by having a cultural sensitivity for both languages. They will know when not to translate an offensive word-for-word phrase, being faithful to the meaning of the source language and respectful to the target language.

Overreliance on Machine Translation (MT) without human editing and an awareness of domain-specific limitations should be brought to attention. Aiken et al. (2009) and Seljan et al. (2011) determine that MT is shown to be domain specific and is especially useful for gist translation, i.e. yielding an understandable meaning even if the grammar was garbled. MT has a gap in translatability when translating untranslatable words. The literature (Chapter 2.1.4) notes

the danger of an overreliance on MT and the undesirable outcomes of doing so. Additionally, MT tools have problems translating cultural context such as idiomatic expressions. With these problems, it is wise to have the addition of professional human translators post edit MT outputs.

Becoming a professional translator is important to providing quality translation. Sofer (2012) and Gouadec (2007) state that a professional translator must be well versed with subject knowledge, have different skillsets, and be professionally ethical. Biel (2011) claims that in order to produce an accurate and quality translation, the translator must adopt the five-stage process of translating, checking, revising, reviewing, proofreading, and final verifying. One needs to master the subject knowledge and have professional ethics in order to become a good translator. In China, the educational system for training future translators could be improved by providing these professional translators with proper trainings.

1.2. Problem Statement

The problem of mistranslation from Chinese to English affects intercultural communication. This study focuses on a few particular problems in translation quality that are identified through preliminary research and literature review. These problems include Chinglish, a lack of cultural sensitivity for the target language, overreliance on MT without human editing and an awareness of domain-specific limitations, and a need for greater professional responsibility.

1.3. Purpose Statement

The purpose of this thesis is to identify some common Chinese to English translation problems, incorporate cultural sensitivity for the target language, examine the limitations of MT tools, investigate contemporary translation profession, explore methodologies to assess translation quality, and offer solutions to improve translation quality. Chinese to English

mistranslation causes a negative influence on effective intercultural communication. Intercultural communication is a vital component for technical communication programs. In exploring these questions, the researcher wanted to employ both qualitative and quantitative methods because the two approaches are complementary and helped fully address the topic.

1.4. Significance of the Study

Translation is a process of conveying meanings between different languages and cultures and is an important factor in intercultural communication. If people from different countries and different languages are not able to communicate well with each other, it can be catastrophic for both parties. Translation affects aspects of people's lives and influences communication throughout the world. This research is significant to individuals who are interested in this field. This study also provides information to people who are not familiar with translation and cultivates their interest. Moreover, it provides insight for educators and companies that have a vested interest in improving the education and skills of professional translators. In the long run, it is hoped that this project creates awareness for the translator's responsibility to provide quality translations, and how they may improve it.

1.5. Research Questions

The study focuses on the following research questions:

1. Can common Chinese to English translation mistakes be classified into some sort of pattern or typology?
2. How does cultural sensitivity affect Chinese to English translation quality?
3. How are MT tools used by translators?
4. What qualifications do translators have?
5. What are some ways we can improve Chinese to English translation quality?

1.6. Hypotheses

The primary hypothesis is that increased human translator involvement in the translation process will enhance Chinese to English translation quality. The two derivative hypotheses are the followings:

1. Human awareness and understanding of common translation problems can minimize translation problems; and
2. With an increased understanding of cultural differences, human translators can more effectively use MT tools and avoid mistranslations.

1.7. Research Design

The research used both qualitative and quantitative research methodologies. For the qualitative method, 20 semi-structured interviews with professional translators and university professors from Tsinghua University, China University of Mining and Technology, Sun Yat-sen University, Zhaoqing University, and Guangdong College of Business and Technology were conducted. For the quantitative method, over 300 students from Shanghai International Studies University, Southern Medical University, Zhaoqing University, and Guangdong College of Business and Technology were surveyed. Both the interview and the survey participants were purposely chosen. Interviews and surveys were conducted at the selected schools since they have a large number of English majors and the researcher has excellent faculty and administrative contacts there. In addition, professors there had previously indicated their interest in this type of study. The researcher, being a Chinese citizen who grew up in the area where the research was conducted, and completing her undergraduate degree in China, is familiar with the current social, economic, cultural context, and political conditions.

The interviews and surveys were conducted between December 10, 2015 and December 28, 2015. The subjects were approached in a culturally appropriate manner by interviewing and surveying the participants face-to-face and by asking questions appropriate to Chinese culture. Chinese people tend to be more responsive to face-to-face interactions. It was important to be respectful to the participants and communicate with them in Mandarin Chinese in order to ensure that they understood the purpose of this research.

The 11 interview and 19 survey questions for this study were grouped into the following four categories:

1. Problems in translation investigation.
2. Translation quality assessment.
3. MT tools.
4. The translation profession.

Pre-tests were conducted in order to ensure that all the interviews and survey questions were comprehensible. Participants were asked to answer truthfully and accurately to the interview and survey questions, based on their personal experience and knowledge, and respond honestly and to the best of their abilities.

1.8. Organization

This thesis is arranged by chapter in the following order:

1. Chapter 1 introduces the background, context in which the research took place, and reasons why this study was carried out.
2. Chapter 2 describes the relevant literature pertaining to Chinese and English translation – from which the research questions were derived – and lays a theoretical foundation for this line of inquiry.

3. Chapter 3 describes the research methodologies in detail, including interview and survey design.
4. Chapter 4 provides the results of the analyses related to each of the research questions listed above.
5. Chapter 5 discusses the interview findings and survey results.
6. Chapter 6 summarizes the findings of this thesis, discusses limitations, and lists recommendations for future research.

1.9. Summary

This thesis identifies problems in Chinese to English translation and explores methods to improve translation quality. The research questions and hypotheses were tested using both qualitative and quantitative research methods. Semi-structured interviews and surveys helped identify these problems and possible solutions. The following chapter reviews literature on Chinglish, the role of cultural sensitivity in the translation process, MT, and the translation profession.

2. Literature Review

Chinese to English translation problems occur frequently in formal and professional settings. The researcher intends to explore practical methods to improve translation quality regarding Chinese to English, with “Chinglish” (ungrammatical, difficult-to-understand translations of Chinese into English language) as a focus. Translation is used for cross-cultural communication; if people from different countries and different languages cannot communicate well with each other then it can cause serious problems, particularly in fields such as medicine or law. This literature review explores the thesis question “how can we improve translation quality from Chinese to English”? It develops the background issues that framed this research into improved translation.

The research sought to better understand how to improve translation quality by reviewing relevant sources in the translation literature. The literature review is divided into four sections including translation industry, translation principles, Chinglish, and the relationship between culture and translation. “Translation Industry” (2.1), gives a brief overview of the current translation industry in China, introduces the translation profession, discusses translation professionals’ ethical code, and analyzes the relationship between translation, localization, and technology. “Translation Principles” (2.2), explores translation theories and principles throughout the history of translation. This section examines the debate over translation practices and what scholars believe are the best methods. “Chinglish” (2.3), focuses on the reasons why Chinglish occurs and how to avoid mistranslation through real life examples. “Culture and Translation” (2.4), covers many meaningful examples of how paying attention to cultural differences improves translation quality and produces more effective communication.

The researcher organized this literature review so that each section builds upon the previous section. The literature review starts from the history of the translation industry in China and ends up to the significance of cultural awareness in Chinese to English translation.

The strategy for conducting a review of the existing literature was to use search terms such as translation industry, translation principles, Chinglish, and the relationship between culture and translation. The researcher consulted the university reference librarian and electronic databases, and made use of interlibrary loan and open access articles freely available online. After identifying existing literature, the researcher read and wrote an annotated bibliography, identifying key contributions from each article. Lastly, the researcher compiled this information into a critical review to identify strengths and weaknesses of various articles, explored disagreements and different methodological approaches, and identified gaps or opportunities for research.

2.1. Translation Industry

The literature on the development of translation in China stresses the importance of learning from the West, current translation training that is more systematic in China than in the West, and that overcoming language and cultural gaps is crucial for successful translation. The literature provides a strong case for continuing the historical development of practices that improve translation quality in China.

2.1.1. Translation History in China

Kefei & Fan (1999) describe four waves of translation activities in Chinese history. The translation of Buddhist masterpieces was the first wave, which started in the late Han Dynasty (206 BC to AD 220) and deeply affected Chinese religion and social values. The second wave focused on science and technology beginning in the late Ming Dynasty of the 16th century when

Jesuit ministers came from the West to spread religion and teach Chinese people about Western civilization. The third wave started in the mid-19th century and ended after the May 4th movement when China was forced to open its borders and learn from the West; this wave centered on Western imperialism and emphasized military matters and culture, which include works of social and military sciences. Literary translation started to flourish towards the end of the 19th century. The fourth and current wave of translation activity began in the late 1950s after the May 4th movement, which was characterized by the translation of Marxist classics and proletariat literacy works. The Cultural Revolution in the People's Republic of China interrupted this development but it continued in the late 1970s because of increased commerce and economic development. These four waves of translation helped stimulate intellectual and cultural development in China. The authors conducted a bibliographical survey of the translation works between 1950-1997 in mainland China, Hong Kong, and Taiwan. The resulting statistics and observations indicate that the pace of translation publication is closely associated with China's economic development.

According to Fan (1999), mid-nineteenth century China began to realize that it needed to learn from the West through translation. However, translators and scholars in China disagreed about the criteria, methods, and assessment of translation quality. Fan (1999) states that a traditional scholar and reformist, Liang Qichao (1873-1929) argued that three concepts must be put into action for the translation industry in China to develop. These three concepts include selecting the right books for translating, laying out rules and conventions for translating, and training competent translators. First, Liang insisted that translating Western documents, histories, and laws into plain Chinese could serve as an educational purpose for uneducated Chinese citizens. Second, Liang recommended that English names, when translated to Chinese, should be

based on the Beijing dialect because it is the official language in China. Third, Liang pointed out that it is vital to train proficient translators who are not only fluent in both the source and target languages, but also knowledgeable in a specific field.

Jin (2011) states that translation training has become more systematic in contemporary China. Sixty Chinese universities have set up translation departments as part of undergraduate foreign language degrees. However, only the three best foreign language universities in China offer graduate degrees in translation. They are Beijing Foreign Studies University, Shanghai International Studies University, and Foreign Studies of Guangdong University. Lei (1999) provides some guidance on teaching translation in Chinese universities. Lei believes the differences in the cultural systems of Chinese and English are enormous. A good translator is someone who can bridge the language and culture gaps. To produce high quality translators, teachers need to be knowledgeable in translation practice, theory, and research. Furthermore, translation teachers should be familiar with both Chinese and English language, literature, and culture. Finally, translation teachers need to be able to accurately analyze students' mistakes from different lingual and cultural aspects. The higher translation skills the students learn from their teachers who are also good translators, the more accurate translation results they will produce.

2.1.2. Translation Profession

Translation has become a universal profession around the world and plays a vital role in communication. Bellos (2011) considers that translation is an art that reflects the flexibility of the human mind. Translation is everywhere, ranging from diplomatic relations to food labels, and without translation, cultural diversity would be diminished. Translation from Chinese to English is in demand due to the increasing cooperation and trade between Chinese and English-speaking

countries. From different viewpoints, some scholars assert that translation is a science whereas others describe it as a skill. Based on the literature that supports each of these three views, we can safely describe translation as a combination of art, science, and skill. Iverson (2003) considers translation as an art. The researcher agrees with the artistic characteristic of translation because it needs to creatively and actively craft understandable and elegant meanings, which is similar to what artists do with their artwork. Translation is a science because when interpreting meanings, ideas, and thoughts into another language and culture, translators should try to be objective, unbiased, and accurate. In addition, good translation needs to follow the rules of grammar and syntax, as well as convert the exact meanings of the original message without embellishment. Some translation areas tend to be more of an art than a science. For instance, a literary or poetic translation is more of an art than a technical translation. The artistic and scientific nature of translation brings a good debate among translation professionals. With the rapid development of MT, there are more arguments that the nature of translation is a science. Michelleb (2010) claims that some universities categorize their graduate translation degree as a Master's of Science whereas others call it a Master's of Art. On the contrary, some scholars argue that translation is also a skill because translation methods can be learned through experience. The researcher believes that translation is not merely dependent on skills because having cultural understandings is significant. If a translator only knows the techniques but does not understand the cultural differences, the skills would produce a bad translation. One should not underestimate the value of a good translation.

Sofer (2012) indicates that translation and interpretation from Chinese to English is growing rapidly because of increased international business between China and America. The modern Chinese industry not only has numerous opportunities, but also vast challenges. The

modern Chinese translation industry began to develop in the 1980s because of China's program, led by President Deng Xiaoping, of opening its borders to the outside world. A decade later, many translation and localization companies began to appear. In 1998, there were 109 translation companies registered in Beijing, China. However, more translation companies brought more price competition and not necessarily higher quality. By 2012, there were more than 800 translation companies in Beijing and more than 3,000 translation companies in China. Problems came with rapid growth. For instance, the 2008 Beijing Olympics games employed more than 100 professional translators and 150 professional interpreters. Frequent problems occurred due to a lack of standardization and regulation. These problems appeared in part because the public did not correctly understand the translation profession (Huang & Huang 2008).

Many people believe that any person who is bilingual can be a translator. The low entry standards in China have produced unqualified translators and incorrect translation products, which result in low respect and payment for professional translators. Moreover, many people do not understand that translation is an intricate practice, so they often expect the translator to provide a good translation in a short period of time for low pay. In the end, people often do not recognize or appreciate the work of professional translators. These accumulating circumstances are not good for cultivating translation professionalism and will eventually lead to a shortage of professional translators (Huang & Huang 2008). The translation market in China is enormous; however, there is a shortage of competent translators due to low salaries and lack of training programs.

In 2008, over 400 million Chinese were learning English but only a handful of people were qualified translators, due to inadequate translation training. Most translators are part-time and do not have training in professional translation skills and ethics. The need to translate

Chinese publications into foreign languages is needed now more than ever. One of the most important reasons for higher demand is that few foreigners possess the level of expert skills for translating Chinese into other languages. When more foreigners begin to learn Chinese, the problem might be resolved (Huang & Huang 2008).

In 2003, CATTI (China Aptitude Test for Translators and Interpreters) was established by the Ministry of Personnel for anyone interested in translation. The test stressed professional translation skills learned in training programs. The CATTI promotes professionalization for translators and helps insure the quality of entry-level applicants pursuing translation professions. In three years, over 26,000 people took the CATTI exam, but only about 20 percent passed. This is because translation instruction still lags market demand in China, especially training in higher-level aspects of the profession such as legal and medical subjects, terminology management, translation project management, and translation technology (Huang & Huang 2008).

One needs to master subject knowledge and professional qualities in order to become a professional translator. In Sofer's view (2012), professional translators must be capable of translating a wide variety of subjects. Meanwhile, translators must maintain a reasonable speed while working because they are often paid by the number of words translated. In order to be a well-rounded translator, one should keep learning new words, new concepts, and new subjects. Other qualities that are fundamental for a professional translator include a willingness to learn, a love of language and culture, a dedication to produce a high quality translation, and the ability to work in a team.

A good translator produces quality and accurate translations. Gouadec (2007) defines a quality and accurate translation as comprehensible, clear, and legible. To achieve a quality translation, professional translators normally go through three stages: pre-transfer, transfer, and

post-transfer. Pre-transfer refers to the preparation of translation, which may include providing an estimate, and negotiating payment type, rates, and product deliverables. Transfer is the process of performing the translation from the source text to the target text. Post-transfer is a phase of quality control, where the translator proofreads the final translation and finishes the required format. A good translator is also proficient in using modern technologies, such as word processing, desktop publishing software, translation memory, computer-assisted translation, and other communication techniques that are required by the clients. These techniques and expertise help produce a high-quality translation, which adds value to the products or services.

Translation accuracy levels depend on the translators' skill levels and the translation process. Sofer (2012) identifies many different translation skill levels starting with level 0 as someone who is not able to comprehend the target text and finishing with level 5 as someone who can translate cultural references, complex subject matters, and has an understanding of how the target audiences think. The author indicates people who are under level 3 are not proficient at professional translating because of the lack of subject matter knowledge, language competency, and translation style that appears foreign to the target audience.

Biel, Ł. (2011) states that the standard translation process ensures the quality of translation. This process includes six stages: translating, checking, revision, review, proofreading, and final verification. Close attention to translators' skill level and the six-stage translation process can prominently improve accuracy and readability of a given translation. He states that the translated product should first be proofread by the original translator, and then reviewed by a different translator. According to Sánchez (2004), team-translation should combine a group of translators from both the source and target languages to examine any translation errors. Team-translation assures translation quality and improves a translator's

productivity and accuracy. Accuracy is a vital part of translation ethics, which should be the ultimate goal for all translators.

2.1.3. Translation Ethics

As Johnson (2008) indicates, in order for a professional to be ethical, one should present his or her credentials and services accurately. Translation needs to be as accurate as possible, based on respect for the target language and culture. Protecting clients' confidential information is also fundamental. Translators, in some cases, deal with public information; however, when it involves confidential information, they must stand on ethical ground to protect the client's privacy.

According to Pym (2001), ethics is becoming a cross-cultural concern in translation studies. As an ethical matter, a translator represents the author and the source text. On one extreme, the translator must be loyal to what is being stated in the source text without adding his or her own subjective views. On another extreme, if a client requires a translator to lie in the translation, the translator must reject the unethical request no matter the benefit he or she will be given. Alwazna (2014) argues that it is important to practice ethical translation by following the source text's content accurately and producing a target text, which is understandable by the target audience and culture. Phelan (2001) states that translators and interpreters should never take tasks that are outside of their abilities - an ethical concern that every translator has to deal with, even if for financial reasons.

Translation agencies paying low fees or not paying freelance translators at all is common, which has become an ethical issue worldwide. Robinson (2004) points out that many companies, especially small companies do not value the quality of translation or appreciate how mistranslation can affect their international business; therefore, they are not willing to pay for a

professional translator at the regular rate. Instead, they will try to either translate by themselves or hire someone who will translate cheaply, regardless of the quality. Robinson (2004) also states that since translators get paid by the number of words rather than by the hour, most translators are not willing to spend much time searching through dictionaries, consulting clients, or consulting a subject expert in order to find the most accurate and correct meaning for a single vocabulary word. However, translators who follow the code of translation ethics will pursue the goal of seamless, accurate, and correct translation.

As Ge (2013) notes, misspelling demonstrates a translator's irresponsibility and unprofessionalism. A translator's lack of attention and unreliable attitudes can cause confusing spelling and grammar mistakes. One of Ge's misspelling examples is shown in Figure 1, which should be translated as "Enter." To be ethical, translators should proofread their work well before the product is given to the client.



Figure 1: Chinese Enter Sign

Kenny (2011) focuses on the ethics of using MT. In order to use MT ethically, human translators themselves need to strive for excellence and understand how to incorporate technology into translation without compromising the final product.

Some gaps exist regarding ethical principles for professional translators. Dolmaya (2011) uses case studies and content analysis to compare translator associations' ethical codes from over 50 countries. These associations' ethical codes are approved by the International Federation of Translators; therefore, the sample is considered valid and representative. The author compares

these codes to determine the most frequently used codes that are the most important for the translation profession. In addition, the author went a step further to analyze online discussion forums of the practice-oriented translation network “TranslationCafe.com.” The author groups the issues being discussed in the forums, and then compared them to the code of ethics to determine how the code applied in translation practices. Through this comparison, the author identifies areas where gaps between the code of ethics and translation practices occur. According to this study, there are only two professional principles agreed on by all - confidentiality and competence. Different associations’ codes varied by some degree. Nearly three quarters of the codes stated that sharing knowledge and providing honest feedback to other professionals is moral. In contrast, out of competition, damaging other professionals’ reputations by claiming their works are inaccurate is unethical. When it comes to rates, there is no agreed upon identifiable minimum rate but overcharging and undercharging for services is deemed inappropriate. Some codes stated that translators should refuse to translate when there is a conflict of interest and should not accept gifts that are intended as bribes. Accuracy was frequently discussed in most of the codes; accuracy was defined as being faithful, complete, clear, and satisfactory by the end-users. Translators should not accept projects that are illegal or intended for dishonest purposes. The problem of translating information for illegal purposes raises a number of questions not addressed in the literature: If translators do not know the clients’ motivations and desires for the translation, is the translator being unethical and should they be punished for translating immoral documents? Should translators always investigate the clients’ intentions and purpose for the end product? These questions do not appear to be adequately addressed in the existing ethical codes.

Dolmaya successfully groups the issues in the transaltorscafe.com discussion forum, though this study's validity is limited by the sample size. Only a few of the participants were professional licensed translators and anyone can join the discussion. Other participants included students, freelance translators, inexperienced translators, and people who have no translation experience. Therefore, the sample may be biased and unrepresentative. Despite this limitation, the results indicate that the associations' ethical codes have not addressed some general issues occurring in the translators' daily practices. For example, codes of ethics do not generally address the use of translation software and technologies, leaving a gap of how translators should ethically use unlicensed translation software or machine translators.

2.1.4. Translation, Localization, and Technology

Qiang and Teng (2008) describe localization as transforming technological products and services – including software, websites, and online help programs – to target the international market. Localization requires translators who not only have master skills in language and culture, but are also able to use translation technologies in order to be competitive in the world market. Due to the high demand of these specialized translators, more and more occupations related to translation technology engineers are opening.

The history of localization began in the 1980s, when there was need for computer software to be modified for the target audience. In 1990, The Localization Industry Standards Association (LISA) was founded in Switzerland, becoming the first non-profit organization on localization. Nowadays, Bowne Global Solutions, LionBridge, and SDL Trados are considered the premier localization companies (Qiang and Teng 2008).

Advanced translation technology must be adopted to ensure accuracy and efficiency of the localization industry. Modern translation technology developed in four stages: the beginning

stage was from 1930-1966, the decrease stage was from 1966-1970, the recovery stage was from 1970 to the end of the decade, and the prosperity stage begins in the 1970s and continues today (Qiang and Teng 2008).

Advanced Translation technology applications include machine translation (MT) and Computer-assisted Translation (CAT). CAT uses Translation Memory (TM) as a component. TM requires human translators to populate and grow a translation database.

MT is largely domain-limited and generated for a specific purpose. The literature includes a number of research studies that examine existing online MT services. This research describes various domains of MT evaluations, and shows that MT is not generally intended for a literary translation, but rather for a specific purpose.

For some years, MT – especially online translation systems – have been studied in comparison to expert human translation. Aiken et al. (2006) make an early contribution with an evaluation of Spanish-to-English translations using Yahoo SYSTRAN. More recently, Aiken et al. (2009) compare four free online MT systems including Google Translate, Yahoo SYSTRAN, AppliedLanguage, and x10 for the domain of common tourist phrases and some complex phrases from Spanish and German to English. They conclude that Google Translate was the most accurate of MT tested, and was especially useful for gisting, i.e. yielding an understandable meaning even if the grammar was garbled.

Seljan et al. (2011) conduct graded evaluations of texts from four domains (city description, law, football, and monitors) translated from Croatian into English by four free online translation services (Google Translate, Stars21, InterTran, and Translation Guide) and text translated from English into Croatian by Google Translate. The authors point out that Google Translate is a statistical MT based on a large number of corpora that support many languages.

Machine-translated texts were evaluated by inter-raters judging fluency and adequacy, with the inter-rater agreement measured using Pearson's correlation and Fleiss kappa. Results indicated that the quality of free online MT differed for specific language pairs, domains, terminology, and corpus size. Some tools performed better at translating specific language pairs, and the fluency and adequacy of different tools was highly domain dependent. For example, the domain of city description resulted in the lowest grades for all free online MT services because city description has the most freedom in its style. Error analysis indicated that untranslatable words were the biggest factor resulting in low grades, and that Google Translate was better for translating frequent expressions but not for translating language information such as gender agreement.

Seljan et al. (2015) uses human evaluators to score results of machine-translated texts for one none closely related language pair, English-Croatian, and for one closely related language pair, Russian-Croatian. Four hundred sentences from the domain of city descriptions were analyzed, i.e. 100 sentences for each language pair and for two online statistical MT systems, Google Translate and Yandex.Translate. Analysis was carried out based on the criteria of fluency and adequacy, and enriched by error analysis. In this study, fluency referred to style and adequacy referred to meaning, and Cronbach's alpha was used to measure internal consistency. Results demonstrated that Google Translate and Yandex.Translate scores varied for adequacy and fluency depending on whether the translation was English-to-Croatian or Croatian-to-English. Based on these results the authors concluded that when using MT tools, realistic expectations and using appropriate text genre (i.e. domain) would influence the perception of the translation quality. For instance, using the correct domain, similar language pairs, and regular word order results in higher scores. In addition, MT proved better at translating simple sentences and subject-verb-object order than translating complex sentences. Morphological errors/wrong

word endings were the most common error, followed by untranslatable/omitted words and lexical errors/wrong translations.

Kit and Wong (2008) evaluate six free online MT tools, including Babel Fish, Google Translate, ProMT, SDL free translator, Systran, and WorldLingo for the domain-specific translation of legal text. Using reliable, objective, and consistent methods such as BLEU (BiLingual Evaluation Understudy) and NIST (National Institute of Standards and Technology), they translated text from 13 languages into English. The domain consisted of a large corpus of legal texts of importance to law librarians and law library users. Users with MT tool experience were able to identify limitations of MT, which was generally not able to identify language exceptions and ambiguities (for example lexical ambiguity and structural ambiguity) of the linguistic features compared to translations performed by expert human translators. However, these types of translations were difficult both for MT and for humans without subject knowledge. Both MT and experts made frequent errors and often repeated the same errors. Additionally, texts that included slang, misspelled words, complex sentences, and uncorrected punctuations also caused incorrect translations. While MT could be considered a good solution for understanding information when translation quality is not the first priority, MT quality varied widely from language to language and domain to domain. The authors also pointed out that using back translation or “round-trip translation” was not an effective approach for evaluating MT quality because some words can be translated in different ways. A more effective way to evaluate machine technology was to compare a specific MT with a human-performed translation; the closer the MT outcome was to the human translation, the better the tool. Additionally, the degree of linguistic diversity between two different languages resulted in less accurate MT

results. For example, the accuracy of MT systems with Asian-European language pairs was much poorer than with European pairs such as Spanish-English.

Garcia-Santiago and Olvera-Lobo (2010) analyze MT from German and French into Spanish using Google Translate, ProMT and WorldLingo. These tools were selected because they were capable of performing translations between these language pairs, had a wide diffusion, and could perform translations quickly. The results indicated that MT accuracy differed for various language pairs, with ProMT best for translating from German to Spanish, followed by Google Translator; and with WordLingo the best for translating from French into Spanish, followed by ProMT.

In a broad historical overview, Gaspari & John (2007) state that Babel Fish, which was launched on December 9, 1997, was the first free online MT. Since then, many free MT online services became widely available and are regarded as a fast tool available for all internet users. Despite the MT services' poor output quality, they can be useful for obtaining the gist of a corpus. MT vendors offer free MT online services to promote their sales of full MT systems. Though professional translators appeared less likely to use online MT system in their work, people with limited English knowledge were more likely to use free online MT services. Users who have some knowledge of the target language tend to use MT online services as electronic dictionaries to look up or check vocabulary. In 1996, two speakers at AMTA (Association for MT in the Americas) conferences argued that online MT was the ideal solution to real communication problems. However, the use of MT online services might lead to safety violations in certain domains and the resulting legal issues remain unresolved. MT online providers are working on adding a wider range of language pairs, becoming more domain specific, and enhancing translation quality by creating more lexical entries and powerful rules.

Advanced Translation technology applications include MT and Computer-assisted Translation (CAT). CAT uses Translation Memory (TM) as a component. TM requires human translators to populate and grow a translation database. According to Somers (2003), MT tools and CAT tools are different from each other. MT can accomplish the tasks to a certain extent like translators do. CAT tools avoid repetitive tasks in order to help translators to be more efficiency. The author also states that we should not rely merely on MT, even though it sometimes produces reasonable results, as post-editing is vital after MT. Post-editing refers to correction of MT translation output by linguists. Newton (2002) defines MT as translation that is performed by a computer, with or without human assistance. Newton (2002) states that MT outputs are low quality without human translators to rewrite and edit the translation. However, Arnold (1994) points out that in some cases, MT can produce good results. Even where the quality is lower, it is often easier and cheaper to revise 'draft quality' MT output than to translate entirely by hand. (Arnold, 1994, p.11).

According to Drummer (1996), MT uses computerized systems to translate the source language texts to the target language texts. The need for MT is obvious because documents, such as books, articles, and other educational tools, must be translated to various languages to satisfy diverse readers. Tripathi and Sarkhel (2010) state that language and translation are vital tools in intercultural communication, and for providing access to diversity. Free MT tools, which included Microsoft's Bing Translator, and Google Inc.'s Google Translate, were easy to access by Internet users to bridge the diverse language gaps. However, as shown above, the literature also argues that the quality of MT is inferior to professional human translators. MT translates word-for-word and fails to convey complete meanings between the source and target texts. The

reason that MT tools are not as accurate as professional translators may be due to the linguistic irregularities, ambiguities, and lack of universal grammar and vocabulary.

Kazemzadeh and Fard (2013) define CAT as “an alternative approach to computer translation that integrates human expertise into the automatic translation process” (p. 23). The authors briefly reviewed the history of translation and technology. At the beginning of the 1950s Cold War, because of the strife between the United States and the Soviet Union, many documents were translated between Russian and English. The inefficient and slow traditional human translation process could not meet such a high demand in all subject matters in a short amount of time; therefore, computer technologies were developed to help complete the translations quickly and cheaply. Translation technologies have continued to grow rapidly in recent years because many users do not realize that computers do not achieve the nuances of professional translators. Kazemzadeh and Fard (2013) point out that human translation is far more expensive compared to machines because of the limitations of human productivity. For example, they demonstrated that a professional translator could only translate up to 2,000 words each day while assuring translation quality in technical subject areas (Kazemzadeh and Fard, 2013).

Olohan (2011) classifies TM as a type of CAT tool that could speed up the translation process. By using translation memory, translators can avoid translating repetitive words or phrases and maintain the consistency of the translation, saving both the translator’s time and the client’s budget. In other words, TM enables you to translate new texts while reusing specific elements from previous translations many times. SDL Studio is a popular TM that is used worldwide by professional translators. However, feedback indicates that SDL Studio is complicated to use. Therefore, some choose easier software as a substitute. Similarly, Walmer

(1999) finds that even though setting up and maintaining a TM database is difficult, in the long run it will save money. A TM will tremendously improve the speed, quality, and consistency of translation. Professional translators then only need to focus on sections that the TM database can not translate. Alcina (2008) argues that translation technologies will speed up the translation process and lower costs, but not all translators would use them. For instance, TM did not work well for audiovisual or literary translation because the language requires a more elegant and flexible vocabulary. However, people who translate specialized fields, such as legal, technical, and localization, find that TM is worthwhile and helpful.

Using translation technology without human editing often causes mistranslation. Vilar et al. (2006) identify classification errors in MT output. These errors include missing words, reversed word order, incorrect words, unknown words, and errors in punctuation. Public signs that were mistranslated in China, often referred to as “Chinglish,” were likely the result of mistranslation by machines without professional human translation post-editing, as these are common MT errors. Cui and Zhao (2013) provide some practical guidance for Chinese to English translation, such as adding, deleting, rewriting, and reorganizing the message to improve translation quality. In this case, MT might fail to fulfill these creative, flexible, and aesthetic functions.

It is worth noting that the European Commission (2012) reports that poor translation quality could result in customer-incurred costs, customer dissatisfaction costs, and company reputation costs; these findings show translation is a significant part of international business and communication but that it still requires improvement. Cultural differences reflect communication gaps between the source materials and target materials. MT fails to meet the needs of intercultural communication, while professional human translation will increase customers’

satisfaction of the company's products. Liu (2010) argues that incorrect MT can also affect customers' perceptions about product quality. Liu finds that MT remains a risky proposition that can damage business relations between different cultures. In fact, mistranslations might be seen as dishonest or unethical. In addition, if customers find it difficult to read and understand translated instructions, they might doubt the quality of the product. These doubts could lead customers to have a bad impression of the company, perhaps causing mistrust. Therefore, we need to employ professional translators to correct the mistranslation produced by machines.

2.2. Translation Principles

While employing professional translators is one way to improve translation quality, it is vital that these professionals have a thorough understanding of translation theory and principles. According to Fan (1999), a traditional Chinese scholar Linshu and a Western educated Chinese scholar Yanfu were two pioneers of translation philosophies in the 19th century. Linshu (1854-1921) himself did not speak English, but he had a deep understanding of language, literature, and culture; therefore, he was able to "translate" the Western works through interpreting what his collaborators told him. Linshu's translation helped Chinese people open their eyes to the world. Yanfu (1898-1973) was the first person to translate Western philosophies in modern China. He believes that there are three principles of a good translation: faithfulness (信), comprehensibility (达), and elegance (雅).

Faithfulness, which means to be faithful to the original content, should be the primary principle and the foundation for the other two principles. Lin Yutang (1895-1976), a famous writer and scholar, supplemented Yanfu's three principles by pointing out that it would be impossible to achieve entire faithfulness because one could not translate all the aspects of a sentence, which includes the basic meaning, the implied meaning, tone, style, and sound. Lin

argued that being faithful to the original texts does not equal to a word-for-word translation. A word has an implied meaning as well as a basic meaning; therefore, it is difficult to use a word-for-word method for all instances. Being faithful to the source text does not mean that one should translate literally because there is no equivalence for every word or idea between two different languages. Liu (2012) states that Chinese and English belong to different families; Chinese belongs to the Sino-Tibetan language family, which represent concepts rather than sounds. English belongs to the Indo-European language family, which is an alphabetic language of hypotactic structure, with Latin letters representing the sound of a word. Therefore, it would be even more difficult to find the equivalences between these two languages from such different families. He (2009) describes how some Chinese words have no equivalence in English due to the cultural gaps between languages. For instance, there are no straightforward equivalents in English for Chinese titles such as “客栈, 村庄, 酒庄, 师傅 (kè zhàn, cūn zhuāng, jiǔ zhuāng, shī fù)” (p. 92). Comprehensibility and elegance should both be based on faithfulness.

Comprehensibility means that the target text should be as understandable as possible compared to the source text. Elegance typically means, as it does in computer software/coding, using as few words as possible to produce accuracy and clarity.

Liu (2012) discusses the well-known 20th century Western linguist and translation theorist Eugene A. Nida (1914-2011). Nida's translation principle, dynamic equivalence, is to reproduce "in the receptor language the closest natural equivalence of the source-language message..." (As cited in Liu, 2012, p. 12). Nida defines formal correspondence or formal equivalence translation as focusing on the form and content of the original message or source texts without paying attention to the target texts. Translating using the formal correspondence approach is almost impossible, because we are not able to find equivalents in everything between

language pairs, especially Chinese and English since they come from two very different language families. Nida favors dynamic equivalence over formal correspondence because formal correspondence is essentially word-for-word translation; the use of it makes it impossible to produce quality translation (as cited in Liu, 2012). For example, the famous Chinese saying “巧妇难为无米之炊 (qiǎo fù nánwéi wú mǐ zhī chuī)” when using dynamic equivalence would be: one cannot make bricks without straw, which makes perfect sense to Westerners. While using formal correspondence, it would be: Even the cleverest woman cannot cook a meal without rice. The formal correspondence translation keeps the linguistic rules of the receptor language; however, receptors of the English language would have a hard time understanding the cultural aspect as to why they would need rice to make a meal. The translation might be problematical in English since English-speakers usually do not have rice as a staple food, more importantly, it would be perceived as anti-feminist. It implies that women do the cooking and are responsible for meals.

Another influence theory of translation is Skopos theory. According to Du (2012), when accessing translation quality, Skopos theorists do not focus on faithfulness or equivalence. Instead, they evaluate the purpose, looking at the relationship between source and target text, and how the purpose determines the translation strategies and processes. In other words, “the ends justify the means.” Skopos theory was developed by Hans J. Vermeer and it was the center of the functionalist translation theory developed in Germany in the 1970s. Skopos means “aim” or “purpose” in the Greek vocabulary. In this sense, understanding the purpose of translating the source texts and the function of using the target texts is crucial. For example, if a document were to be translated from the source language into the target language, it would be translated for marketing promotions differently than for academic purposes.

Munday's principle of sense-for-sense is similar to Nida's principle on dynamic equivalence. Munday (2009) argues that the word-for-word method of translation should be revised using a sense-for-sense method. A sense-for-sense translation method focuses on the whole meaning of the contexts and the cultural background. The need for this revision is clear when looking at an example such as the Chinese sign that might be freely translated by a professional translator to English as "Be careful! Do not slip and fall." When translated literally, it becomes "Slip and fall down carefully." This kind of translation error is so common on public signs in Mainland China that it has given rise to the term "Chinglish" which will be discussed below. See Figure 2.



Figure 2: Slip and Fall Down Carefully

2.3. Chinglish

Chinglish can be defined as the mistranslation of the English language that is influenced by the Chinese culture and language. Ge (2013) states that mistranslation represents low translation quality, which will damage the mutual understanding between people from different cultures.

The differences between Chinese and English cultures often cause mistranslation, which is one aspect of Chinglish. Xuehong (2005) states that Chinglish is the misshapen language that does not follow the rules of the English language and culture. According to Wang (2012), the causes of Chinglish include syntactic transfer from Chinese, influences of the Chinese thought

patterns, and inadequate cultural awareness. Wang (2012) describes that Chinese people tend to think circularly, while Westerners tend to think linearly as shown in Figure 3.

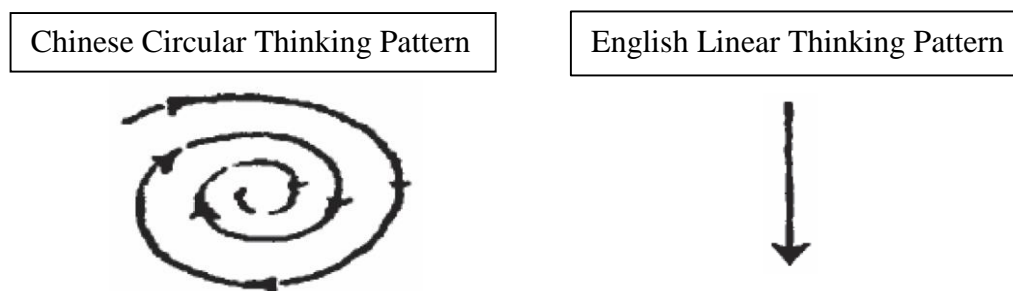


Figure 3: Different Thinking Patterns

Since different thinking patterns influence translations between the two languages, this could be the main cause of Chinglish issues. Likewise, Ji (2001) considers that the result of Chinglish is an awkward mixture of the Chinese-thinking mind, which is ungrammatically expressed in English; therefore, if Chinese speakers adjust the Chinese-thinking mind to how native English speakers organize their thoughts, the Chinglish issue would be resolved. A good example of Chinglish can be found in Jing (2007): “Pulling someone’s leg” in English means you are joking with someone, while a Chinese person who is not familiar with the idiom thinks that it literally means someone is trying to pull someone else’s leg. Jacobs (2010) cites another example of Chinglish provided by Jeffrey Yao, an English translator and teacher at the Graduate Institute of Interpretation and Translation at Shanghai International Studies University: The public sign in Figure 4 shows “Do not disturb, tiny grass is dreaming,” which is difficult for westerners to understand, following the convention of English language and culture, it should be, “Keep off the grass” or “Do not step on the grass.”



Figure 4: Do Not Disturb, Tiny Grass is Dreaming

Ge (2013) explains another good example as showed in Figure 5. The glasses store “西北眼镜行” was mistranslated word-for-word as Northwest Glasses Line, which does not indicate that this is a glasses business. According to the author, the correct translation should be “Northwest Glasses Company” or “Northwest Glasses Store”.



Figure 5: Northwest Glasses Line

Differences between Chinese and English grammatical rules can also cause mistranslation. Guo (2012) examines common errors in translating Chinese public signs to English. He identifies the following errors: incomprehensible rules for Chinese pronunciation (Pin yin²), inconsistency in the translation of names, embarrassing spelling mistakes, redundancy, change or loss of information, Chinglish, grammatical mistakes, inappropriate choice of words, and mistranslation on the cultural level. According to Guo (2008), in English, there are separate gender pronouns, such as “he, she, and it.” However, in Chinese, people just

² Pin yin is using Romanization of Chinese characters based on their Mandarin Chinese pronunciation.

say “ta (他, 她, 它),” which can refer to either male or female. When Chinese people are trying to translate a pronoun into English, mistranslation could happen when people confuse the gender of the pronoun. Guo (2008) points out other differences in grammatical rules between Chinese and English which create confusion and mistranslation, such as a singular and plural noun, subject-verb agreement, verb tense, articles, prepositions, and the order of first and last names. Among these problems, mistranslation between subject and verb is the most common issue. For instance, in Chinese, “I love you” and “she loves you” would just use the same verb form “love.”

In a similar way, Chen (2012) illustrates how languages differ widely in the ways people encode time. One of Chen’s most interesting observations from this reading is that some languages specify the timing of events, while other languages allow time to be left unsaid. For instance, in English-speaking countries, if a person wants to express “I can attend a seminar later today,” one should not say, “I go to a seminar.” The correct way to say this is “I (will go, am going, have to go, will be going, am going to go) to a seminar.” However, in Mandarin Chinese, one can omit any marker of future time and say, “I go to a seminar.” Additionally, there are no subjunctives or modals in Mandarin Chinese. Therefore, switching correctly between different tenses is vital for a Chinese-English translator.

Harman (2006) notes that repetition is used for emphasis in the Chinese language; expressions are assembled one upon another to emphasize a certain point. Even though the repeated characters are all different, they carry the same meaning, which makes it difficult to translate into English. The author uses an example to show the literal translation of such repetition in Chinese “Without further words being spoken, they had reached a tacit understanding. Husband and wife made an unspoken pact” (p. 20). A much better English translation without repetition is “Without further discussion, husband and wife reached a tacit

understanding” (p. 20). To achieve a more accurate translation, the author omits the repeated words and rearranges the order of the phrase based on the English language syntax.

Likewise, Li (1998) discusses the rank of the word, phrase, clause, and sentence when translating from Chinese to English. English words are based on both form and function, while Chinese characters depend mostly on their functions. For example, in English, “strong” and “strengthen” are considered two separate words. Instead, in the Chinese language, “strong” (巩固 gǒng gù) can be used either as a verb or as an adjective. The gap between Chinese and English syntactical structure makes the translation shifts challenging.

Having a deep understanding of language structures and grammatical rules in both languages is crucial to produce accurate translation. Meanwhile, a good translator must be mindful of the cultural differences between the source and target languages.

2.4. Culture and Translation

Translation is a highly sophisticated task, which includes knowledge of both the source language and the target language, understanding the content of the texts translated, and knowing how to integrate translation experience to progressively increase the translation quality. An experienced professional translator understands the significance of cultural differences, audiences’ needs, and research gaps regarding what is required to produce high quality translation.

Cultural awareness is a major lacuna of MT. Sun (2003) emphasizes the importance of cultural sensitivity when translating a language, and cultural growth often depends on the ability to gain a fresh appreciation of other cultures through translation. Translation, in this sense, is not just about words and ideas. Objects, for example, are also translated. For instance, European cultures translated Chinese gunpowder as something to be used for weapons as well as for

celebration. It is difficult to understand a text without cultural interpretation. MT is incapable of incorporating cultural differences; it often produces low translation quality.

In certain situations, such as healthcare and international business, it is especially vital to have correct translation. For these situations, professional human translators are better equipped than machines at understanding the context of the meaning. In healthcare settings, mistranslation can result in lawsuits, potential injury, or even death of patients. Jacobs, Shepard, Suaya and Stone (2004) find that those patients who have a deficiency in English receive better health care quality when they communicate through interpretation. Sathe (2006) synthesizes a case study about the effects of mistranslation. A Spanish-speaking teenager told his girlfriend that he was “intoxicado” before fainting. When his girlfriend called the paramedics, they understood the word to denote “intoxicated”, while the intended meaning was “nauseated.” As a result, the patient was treated for drug overdose before being re-diagnosed with intracerebral hematoma with brain stem compression and a subdural hematoma secondary to a ruptured artery. (p. 7)

With the translation of European languages, “false friends” such as “intoxicado” are a common problem. As another example, the German word “das Gift” means poison. This case specifies how dangerous mistranslation can be; professional human translation produces results that are more accurate and is vital in high-risk situations. Since professional human translation is more accurate than MT, MT cannot be trusted when people’s lives are involved.

Translation is certainly an important factor in intercultural communication. As Ye and Shi (2009) explain, translation is a process of conveying meanings between different languages and cultures. MT has been used in a broad number of fields; however, a machine translates word-for-word, which produces poor translation quality compared to human translation.

Buden and Nowotny (2009) note that translation applies not only to the words of different languages, but also from one culture to another. Sun (2003) indicates that translators must be attentive to the target culture's expectations. Information or practices that are valuable in one culture could be regarded as offensive in another culture. In some Asian cultures, consuming dog meat is acceptable, but this practice is considered bizarre and culturally unacceptable in America. In this case, showing respect and consideration for the target culture is vital. A good translation emphasizes both the target language and culture so that when foreigners read the translation, it appears to be natural and understandable to them. Identifying the cultural sensitivity of a language can improve the overall translation quality. If the cultural context is mistranslated, potential misunderstandings and even offense can result.

Zhao, Ma, & Du (2015) state that translation reflects the value of a society of a culture. For example, "He who travels far know much," when translated in Chinese, means "行万里者, 见多识广 (xíng wàn lǐ zhě, jiàn duō shì guǎng), which does not identify "he" at the beginning of the sentence, this reflects the collective value in Chinese culture as opposed to the individual value in American culture. From Yu's perspective (2013), translation does not only apply to the languages but also to the cultures.

Understanding the cultural differences can help minimize communication gaps. Li (1998) states that "寒舍 (hán shè)," when literally translated to "my humble home," can be difficult for English-speaking people to understand because there is no such expression in English. When translating from Chinese to English, cultural factors need to be taken into consideration. For example, "太极拳 (tài jí quán)" should not be translated to "shadow boxing" because the target audience will not be able to understand this is a Chinese sport without understanding the Chinese cultural input.

However, since it is impossible to find all the equivalent translations between Chinese and English languages, professional translators must know how to handle the issue of untranslatable words. Blenkinsopp and Shademan Pajouh (2010) concentrate on the significance of “untranslatable” words and the vital role of translators and interpreters in international business and communication. For instance, the Chinese expression “guan xi” is culturally sensitive; therefore, it is difficult to translate the term in Western culture. Even though “关系 (guān xì)” might be directly translated as “relationship” in English, this specific form of “relationship” makes no sense to Westerners without the cultural input. According to Gold (2002), guan xi is a system of ren qing (favors) in which obligations are manufactured, and in which there is no time limit for repayment. In this case, most translators would try to find the closest approximate and accurate meaning of the untranslatable word in the target language.

Integrating cultural awareness can improve Chinese to English translation quality. According to the famous linguist and translator Eugene A. Nida (1991), a language represents aspects of a culture. Sun (2003) emphasizes the importance of cultural sensitivity when translating a language. An exploratory study by Lang, Wang, Xie, & Chen (2014) shows cultural differences through the authors’ vivid examination of the phrase “I love you” in English. This study was intended to help people to understand the importance of cultural context, by showing that learning about a culture is the key to determining in what situation, to whom, and how to say, “I love you.” Americans use “I love you” so often that foreigners can get confused with the emotion; therefore, using equivalent love expressions in the Chinese language is vital. For instance, in China, people rarely directly use “I love you.” If you say “我爱你 (wǒ ài nǐ),” which often means “I love you” in China, it can be considered shallow and frivolous. In contrast, Chinese express “I love you” in indirect approaches, which means to do things for the person

that you love rather than tell them. Therefore, we should not simply translate “I love you” to Chinese culture directly since the expressions of love are more indirect in China.

Cui and Zhao (2013) explain another example of cultural awareness. If someone is praised in China, the person tries to be modest by saying “哪里哪里 (nǎ lǐ nǎ lǐ),” which means he or she is not good enough; in English, one would just simply accept the compliment by saying “thank you.” Similarly, He (2009) observes that “sexy” is a positive term in Western culture; however, when “sexy” is directly translated into Chinese, “性感 xìng gǎn (sexy)” indicates loose sexual morality, a negative term in Chinese culture. Therefore, if a foreigner travels to China and says that someone was attractive or “sexy,” it could be perceived as insulting, outrageous, and inappropriate. Understanding these cultural differences can help minimize communication gaps.

Lack of awareness of cultural differences can cause serious mistranslation. With cultural awareness in mind, one should not translate word-for-word; instead, one should pay attention to the impact of cultural differences. Professional translators of Chinese and American English should have a deep understanding of both Chinese and American cultures.

According to the literature, mistranslations occur due to several reasons. Specifically, differences between Chinese and English grammatical rules, lack of cultural awareness, and use of MT tools without professional translator edits create mistranslations, cause confusion, and cause misunderstanding. As a gap in the literature, there is a lack of quantitative data in Chinese to English translation research, something this study aims to help remedy. Another gap is the lack of semiotic analysis of Chinese to English translation. The biggest weakness of previous Chinese to English research is the development of an ethical code for properly using MT. The researcher has the opportunity to fill these gaps and strengthen the weakness by conducting original research in this study.

3. Methodology

The researcher's objectives were to understand common Chinese to English mistranslation issues, identify causes and develop solutions for reducing Chinglish, and create awareness for the translator's responsibility to provide quality translations. By referring back to the research questions and building on the literature review, the researcher explored methods to improve Chinese to English translation quality.

The methodologies used in this thesis include both qualitative and quantitative research methods. For the qualitative methods, interviews were conducted with professional translators and language professors. To develop ideas about cultural awareness, the researcher also found semiotic analysis a useful tool. For the quantitative methods, surveys and a quasi-experiment with Chinese university students were conducted. The researcher chose to complement surveys (quantitative methods) with interviews (qualitative methods), since it allowed the researcher to ask more questions and collect a large sample of data. The interview methodology provided an in-depth understanding of some best practices in translating. The quasi-experiment supported an approach for integrating humans and MT tools. The survey determined translation problems, the role of cultural sensitivity, editing MT, and translation profession.

The research questions were:

1. Can common Chinese to English translation mistakes be classified into some sort of pattern or typology?
2. What are some ways we can improve Chinese to English translation quality?

The study will also address the following secondary research questions:

1. How does cultural sensitivity affect Chinese to English translation quality?
2. How are MT tools used by translators?

3. What qualities do translators have?

The primary hypothesis is:

1. Increased human translator involvement in the translation process would enhance Chinese to English translation quality.

The two derivative hypotheses are:

1. Human awareness and understanding of common translation problems can minimize translation problems.

2. With an increased understanding of cultural differences, human translators can more effectively use MT tools and avoid mistranslations.

This study was designed to examine professional translation, including native Chinese college students who are learning English and translation, Chinese university professors, and professional translators in China. It focused on a few particular problems that preliminary research and the literature identify as problems in translation quality. These problems included Chinglish, a lack of cultural sensitivity, overreliance on MT without human editing, and a need for greater professional responsibility.

After conducting secondary research and conducting a literature review, the researcher designed four categories of interview and survey questions. These categories derived from major issues defined in the literature review, including translation problems, culture and translation quality, MT tools, and translation professions. Based on the literature review, the researcher believes that these categories are vital to the thesis topic; therefore, the researcher framed both the interview and survey methods based on these four categories, with questions designed to fit into each category.

3.1. Research Design and Location of the Study

Research was conducted at seven different universities in Zhaoqing, Guangzhou, Beijing, and Shanghai. The research consisted of interviewing participants from six different locations and surveying participants from four diverse universities. Please refer to Table I and Table II for detailed information about survey and interview participant groups.

The researcher interviewed translators and distinguished professors from Tsinghua University, China University of Mining and Technology, Sun Yat-sen University, Zhaoqing University, and Guangdong College of Business and Technology.

The researcher surveyed graduate students from Southern Medical University in Guangzhou, China. Southern Medical University is one of the top universities in China. Students are highly proficient and motivated in learning English and other foreign languages. In addition, students who major in English have won many English speech competition prizes nation-wide, published articles in Chinese journals that were translated overseas, and translated medical documents. The university also attracts foreign students from all around the world.

Likewise, a survey was distributed to students from Shanghai International Studies University (SISU), a leading academic institution in China. The Graduate Institute of Interpretation and Translation (GIIT) of SISU is ranked highly by the International Association of Conference Interpreters.

Table I: Planned Interview Participant Groups

Interview	Number
Professors from Guangdong College of Business and Technology	2
Professors from Zhaoqing University	6
Professional Translators	2
Professors from Tsinghua University	2
Professors from China University of Mining and Technology	3
Professors from Sun Yat-sen University	5
Total	20

Table II: Planned Survey Participant Groups

Survey	Number
Zhaoqing University Junior English Teaching Major	42
Zhaoqing University Sophomore English Teaching Major	45
Zhaoqing University Sophomore English Foreign Trade Major	40
Zhaoqing University Sophomore Translation Major	39
Zhaoqing University Sophomore English Major	30
Guangdong College of Business and Technology	100
Southern Medical University	25
Shanghai International Studies University	40
Total	361

3.2. Interview

Data was collected by conducting interviews with 20 Chinese professors and professional translators. An interview method was chosen because the interviewees have experience with Chinese to English translation. By tapping into their experience, they could have more in-depth knowledge of translation issues and solutions, which should illuminate the research questions. This would help develop a more persuasive and comprehensive thesis.

According to Rowley (2012), from a theoretical perspective, the duration of the interview will be determined by the research questions and research strategies. From the pragmatic view, the duration will depend largely on the availability of the interviewees. The author suggests that, in general, 12 interviews of about a half-hour each would generate sufficient results for novice researchers. Follow-up interviews can be added at a later phase if necessary. This perspective was used to develop the number and duration of interviews. The 20 interviews were approximately 30 minutes each.

3.2.1. Interview Purpose and Goals

Rowley (2012) points out that when interviews are well designed and the interview participants are appropriately selected, they will generate insights, understandings, and detailed information that are useful and may be difficult to obtain through other research methods. An

interview was a helpful method for developing an understanding of translation problems and solutions for improving Chinese to English translation quality. The interview goals are:

1. To understand the translation profession in China.
2. To gather information on common problems of Chinese—English translation.
3. To develop solutions on how to assess and improve translation quality.

Ultimately, the goal was to develop a deeper understanding of the translation profession.

3.2.2. Interview Structure

There are three categories of interviews—structured, semi-structured, and unstructured.³

A structured interview refers to an interview that exactly follows a list of prepared close-ended questions. Unstructured interviews are the opposite of structured interviews, where the interviewer uses a list of open-ended questions to guide the interviewees. Unstructured interviews are more flexible and casual, a process that often leads to new questions. Semi-structured interviews lie somewhere between structured and unstructured.

A semi-structured interview was chosen for the research because the objective is clearly centered on understanding how to improve translation quality. Besides, the interview questions were presented equally to each interviewee so it kept the interview on topic and within the time constraint.

3.2.3. Interview Questions

Rowley (2012) provides helpful guidelines for asking informative interview questions. As Rowley points out, interview questions should be designed to generalize data that is intended for answering the research questions. However, the interview questions need not be the same as the research questions, because the interviewees may be more motivated and willing to share

³ Please refer to <http://www.qualres.org/HomeInte-3595.html> for more details about interview structure.

their ideas when the interview questions are framed in friendly, informal, and comprehensible ways.

Rowley (2012) states that a semi-structured interview often consists of 6-12 well-designed main questions in a particular order. The 11 interview questions for this study can be divided into the following four categories:

1. Translation problems investigation.
2. Translation quality assessment.
3. MT tools.
4. Translation profession.

These categories were chosen because they were related to the research questions and literature review. The order of the categories and interview questions were designed so that earlier questions build the context and background for later questions. The order of the questions helped the interviewees to be more comfortable in sharing their opinions and led to more in depth results. The interview categories and questions were as follows based on logical orders:

1. Translation problems investigation:
 - a. What are some difficulties when you translate Chinese to English and what is the biggest difficulty?
 - b. What are the reasons for Chinglish?
 - c. How can the Chinglish problem be resolved?
2. Translation quality assessment:
 - a. What is the relationship between culture sensitivity and translation quality?
 - b. Do you feel there are problems with the quality of some translators' work, and what are your suggestions for improving if so?

3. MT tools
 - a. Do you use MT tools?
 - b. If so, which MT tools do you use?
 - c. If so, under what situation do you use MT tools?
4. Translation profession
 - a. What is your translation process?
 - b. What do you consider the most important step in your translation process?
 - c. How would you define a qualified professional translator?

The interview data was used to evaluate the hypothesis. The interview questions were prepared in English and then translated into Chinese by the researcher. The interview results were translated back to English. The interview questions and answers were asked in Chinese to make sure that all questions are understandable and clear to interviewees, which may avoid any mistranslation or misinterpretation of the interview questions.

3.2.4. Interview Technique

All interviews were conducted face-to-face instead of through email or Skype because Chinese students and professors generally do not use email for professional purposes, they prefer face-to-face communication. Unlike American institutions, Chinese students typically do not use email or Skype for formal communication; therefore, it would be difficult to get a large sample in a short time frame. More importantly, although some people might participate through email or Skype, they may be more open to answering questions face-to-face. Interviewees were provided with a hard copy of the interview questions in writing so that they could follow along in the interview.

Rowley (2012) provides a list of interview details for completing successful interviews.

Some of the useful details are summarized below:

1. Inform the interviewees about why the research and interview is necessary.
2. Share the interview schedule with the interviewee.
3. Be honest about the length of the interview time.
4. Ask for interviewee's permission for recording.
5. Make sure that the interviewee's confidentiality is protected.
6. Share research results with interviewees if requested.
7. Provide the researcher's contact information.
8. Know the interviewee's schedule of availability if follow-up interviews will be conducted.

3.2.5. Interview Pretesting

In order to confirm that all interview questions could be completed within the allotted time and that they were comprehensible, the researcher conducted a pre-test. The researcher chose three Chinese native speakers who were capable of translating Chinese to English as the pre-test interviewees. Neither of the pre-test interviewees participated in the formal interviews.

Both the pre-tests were piloted through phone calls due to the travel expense and time constraints. The pretest interviewees were respondents who have characteristics similar to the actual study respondents. The pretest was aimed to ensure the translation questions were understood by interviewees, that there were no redundant questions, and that the interview could be completed in the allotted time. After the pre-test was completed, the researcher modified any questions that were difficult to understand, too broad, and respective to improve future interview quality and validity. All the interview questions were comprehensible when translated into

Chinese for the interviewees. Please see Appendix A for the Chinese and English versions of the interview questions.

3.2.6. Interview Coding

The researcher replayed the interview recording after each interview and transcribed each into a memo for data analysis. The interview data was backed up with both electronic and print copies. According to Rowley (2012), completion of earlier interview transcripts will help the researcher to become familiar with following interviewees' perspectives. In addition, the researcher may share transcripts with the interviewee for fact checking purposes.

Excel was used to generalize the interview data. All interview responses were entered into a codebook based on the question categories. The researcher chose to code responses by categories rather than by individual question numbers as it would be easier to see patterns and themes.

3.2.7. Interview Limitations

The interview sample was diverse but there were biases associated with the sample. All the interviewees were Chinese, which excludes translators from other countries, including American translators of Chinese. Translation into languages other than Chinese to English were not represented in this study.

3.3. Survey

The quantitative research consisted of surveying more than 300 students who are native Chinese speakers from diverse universities from Guangzhou, Shanghai, Beijing, and Zhaoqing. The students, who have variable levels of English proficiency, are from different universities and have a minimum of 12 years of English language experience. These students were selected because they are from different Chinese universities with different cultural backgrounds. They

are learning about Chinese to English translation and are more likely to provide opinions and information about the translation profession. Additionally, a larger sample of data, representing a diverse population, can be gathered in a relatively short amount of time.

3.3.1. Survey Design

According to Berger (2014), surveys have many advantages for gathering data as listed below:

1. Inexpensive to conduct.
2. Allow researcher to gather a large sample.
3. Obtain up-to-date information.
4. Obtain several data at one time to save time and money.
5. Provide data for quantitative analysis.

The survey focused on translation problems, cultural sensitivity and translation quality, MT tools, and the translation profession. Each subject were given 15 minutes to finish the 19 survey questions.

Survey questions were divided into four categories.

1. Translation problems investigation.
2. Translation quality assessment.
3. MT tools.
4. Translation profession.

The survey questions were divided into the same categories as the interview questions.

The survey was developed based on the research questions, literature review, and interview questions. The survey was distributed to a large sample of people in China. These subjects were

college students who write and speak English as a second language or who were majoring in translation studies.

The survey questions were distributed in English. Distributing the questions in English would reduce translation errors and would be simpler for the individuals completing the survey. The subjects only needed to select the answers that apply to the questions, whereas when being interviewed the answers are more complex. Based on a previous pilot study, the questions were simple and straightforward enough that students at this level would readily understand them. Survey questions asked specifically for investigating the first and second research questions and hypotheses. Some of the survey questions were arranged using the Likert scale, and a range of 1-10. One represents negative and ten represents positive. The researcher chose the 1-10 scale because it incentivized participants to not select a neutral position, which means they were more likely to provide answers about their attitude one way or the other.

The survey was conducted in person to achieve maximum validity, to ensure a higher response rate, and ensure higher quality of the data, as meeting in person with each survey group may mean the subjects would be more willing to complete the questionnaire with better results.

3.3.2. Survey Pretesting

In order to make sure that all the survey questions were comprehensible, a survey pre-test was completed. Below are the criteria for the pre-test:

1. Three Chinese native speakers were capable of translating Chinese to English.
2. Conducted through social media due to the travel expense and time constraints.
3. Pre-test surveys were not included in the formal survey.
4. Necessary changes were made to the survey questions after the pre-test.

3.3.3. Survey Limitations

The survey participants were college students, most of whom majored in English and translation. This may skew towards students' perceptions on these questions rather than professional translators. Because most students in these fields are women, the sample size for females is larger than males, which may create bias in the study. Semiotic Analysis

Semiotic analysis was used to explore the meaning of the survey and interview data from this study. Semiotics is the study of how meaning is created and communicated through signs and symbols. Translation focuses on the study of meanings from a source to a target language. Ping (1996) states that translators need to have the ability to choose the most important, accurate, and faithful meanings of a sign, even though there are no complete equivalences between signs in Chinese and English. Ping (1996, p. 80) recaps described a social-semiotic model of meaning in translation, as shown in Figure 6. Jakobson (1959, p. 233) points out that translating is a process of converting a sign or message into a more or less equivalent signs or messages in a different code.

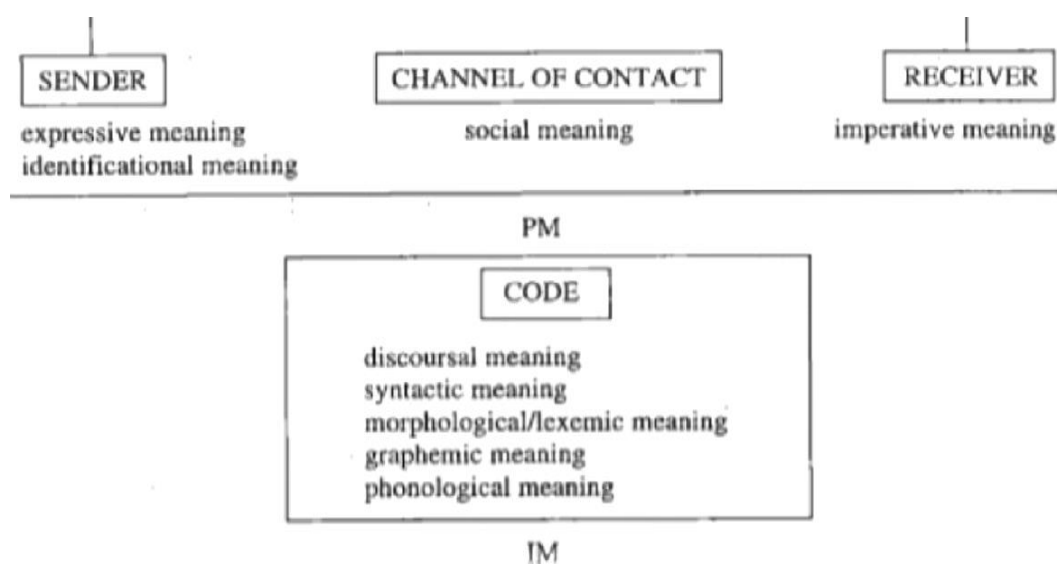


Figure 6: Social-semiotic Model of Meaning in Translation

Sun (2003) concludes that translation is a semiotic reproduction of the source text and cross-cultural system of signification. Cultures are complex systems of signification where particular signs exist as elements within a greater cultural code. This means that a sign without its cultural context may be difficult or impossible to understand. Petrilli (2007) states that signs do not exist without interpretation and “translation is constitutive of the sign” (p. 17). Thus, translation is a reflection of signs (words) and significations (meanings). The translation process is not just a substitution of one sign for another, and much of the difficulty is translating elements from one cultural code to another cultural code. This is one reason that MT produces low quality translation, because it fails to translate from a cultural perspective. Human translation takes into consideration the semiotic dimensions of translation practices, whereby a sign’s meaning is context-dependent. Semiotic analysis was incorporated to evaluate how Chinese and American cultures interpret signs differently and how that affects the translation accuracy. As the researcher has pointed out, mistranslation could create significant problems in international business communication and in other aspects of intercultural communication.

3.4. Pilot Study⁴

The pilot study quasi-experiment was used to develop the hypotheses and refine survey methods. The pilot study demonstrated that professional human translators are more accurate and more culturally sensitive than machines. The researcher developed a Chinese to English translation test for a group of translators who rely on MT as a major method in translation and ten free online MT applications. The tests included translating 15 vocabulary words and 10 sentences from Chinese to English.

⁴ Please refer to Appendix D for results, discussion, and conclusion of the Pilot Study.

3.4.1. Sample and Procedure

The total sample included 10 different freely available MT applications and 133 human translators. The researcher conducted the MT tests with the expectation that MT would be useful for basic translation or gisting. A basic translation would present the overall meaning, but the word order, sentences structures, etc. might be incorrect. The students translated Chinese to English without using MT tools. The translated sentences came from the domain of educational textbooks, ranged in length from two to eight words, and comprised ordinary vocabulary from everyday life.

Additionally, a more complex Chinese sentence was tested from the domain “Idiom and Culture”. The sentence “虚心使人进步，骄傲使人落后 (Modesty helps a person to make progress whereas conceit makes a person lag behind)” was entered into each of the 10 MT sites listed in Appendix C in order to test the accuracy of each MT engine. This complex sentence is from a Chinese idiomatic expression or set phrase, which consists of 12 words without using any specific terminology. The webpage information and results indicate that <https://www.translate.com/> and <http://www.bing.com/translator/> use Microsoft translator as an engine. The application <http://www.freetranslation.com/en/translate-english-chinese> uses SDL as an engine; <http://www.netat.net/> is powered by Discuz; and www.dict.cn, fanyi.youdao.com, <http://tran.httpcn.com/> and fanyi.baidu.com/translate appear to use their own proprietary translation engines because they produce different results than either the Google or Bing engines; fy.iciba.com uses Kingsoft Corp as an engine. This test of the different machine translators used in the study and the variable translation output generated by them indicates that although some of the MT tools use the same engine, they appear to have tweaked their specific algorithms, as each machine produced different numbers of errors despite some of them sharing a common engine.

The human translator group included both males (30) and females (102) who are native Chinese speakers and who had studied English for at least 15 years. These subjects' ages ranged from 19 to 45, and included individuals with variable levels of proficiency beyond the minimum 15 years of English language experience (Table III).

Table III: Quasi-experiment Participant Groups

Group	Number
Students of second-year English audio/visual studies from a college in China	23
Students of third-year English majors from a university in China	40
Students of third-year English translation majors from a university in China	36
Native Chinese speakers participating through social media	28
Professional translators from China	3
English teachers from China	3
Free online MT applications	10

3.4.2. Data Collection

Data collection for the current study utilized the following instruments:

1. Chinese to English language proficiency structure test for human subjects

The test was used to examine different participants' English proficiency and to divide them into five levels of Chinese-to-English translation skills for the study. The researcher compared the individuals' English language levels to their stated translation levels. This reliable and valid test consisted of 25 vocabulary word translations that evaluated the translators' levels of English language proficiency.

The test included five sections and each section included five words. The first section was selected from first-grade vocabulary words. The second section was selected from third-grade vocabulary words. The third section was selected from fifth-grade vocabulary words. The fourth section was selected from seventh-grade vocabulary words. Finally, the last section was selected from ninth-grade vocabulary words.

2. Chinese to English phrase and sentence translation test for human subjects

To identify the translators' translation ability, a phrase and sentence translation task was administered. The translation task was divided into three categories. The first category included four beginner phrases, which are commonly used in both the Chinese and English languages. The second category included six intermediate sentences. These sentences are also common expressions. The third category included five advanced Chinese-to-English translations, which require the participants to have a solid English language foundation, as well as knowledge of both cultures.

3. Chinese to English language proficiency structure test for machine translators

The investigator used the vocabulary word test to determine different machine tools' accuracy in translating vocabulary words.

4. Chinese to English phrase and sentence translation test for machine translators

The same phrase and sentence translation test was used to measure different machine tools' accuracy in translation.

3.4.3. Methodology for Data Analysis

This study classifies as a quasi-experiment because individuals were actively recruited to participate in the study, rather than being randomly selected from the population. Additionally, because a certain minimum level of English language proficiency was required to be considered for the study, this further limited the ability of the researchers to randomly draw from a larger sample of native Chinese speakers.

To assess the accuracy of responses to the Chinese-to-English language proficiency structure test, the number of mistakes made by each human and machine in the sample were simply counted by the examiner, who had the correct answers prepared before the tests were

distributed. For the Chinese-to-English phrase and sentence translation test, the examiner counted the number of mistakes in each sentence and then summed the total number of mistakes in each category.

Analysis of mean differences in Chinese-to-English phrase and sentence translation accuracy between the human and machine groups was carried out using Analysis of Variance (ANOVA). Two-sample t-tests were used to evaluate the primary research question relating to overall differences in translation error between the broader human and machine groups, as well as to test for individual differences between specific groups of translators. Generalized linear regression analysis was also used to examine whether age, years of education, and group affiliation were related to the number of translation mistakes in sentences, as well as to control for these variables in assessing differences in translation errors between the sexes.

3.4.4. Limitations

First, the number of languages examined was obviously limited in the current study. Here, only mistakes made by MT tools and native speakers of Chinese were recorded for words, phrases, and sentences that were translated from Chinese to English. It is possible that if this same study was carried out translating Spanish to English, or French to Chinese, that the results may be different. However, given the marked number of mistakes made by the machine translators, and consistently significant differences between this and each of the human groups, it is expected that similar results would be found regardless of the languages used.

Secondly, the researchers did not examine patterns of mistranslation made by machines and humans. For example, common errors were not investigated across the sample in order to identify which words or groups of words may have been consistently translated in error, which could potentially add to a better understanding of why some mistakes are made for both humans

and machines. Lastly, the sample size for males and females was not balanced, where there were 103 female subjects, but only 30 males in this study. However, because sex was not found to be correlated with mean translation error after controlling for age, years of education, and translation category, this sex disparity is not expected to have affected the results of the study in any way.

The interviews and survey complements the quasi experiment by exploring more aspects of translation quality. In addition to MT, the research gathered in this thesis explored how Chinglish, cultural sensitivity, and the translation profession also affect translation quality.

3.5. Summary

With a well-designed study of Chinese to English translation, incorporating both quantitative and qualitative methods, the researcher set out to identify some common translation issues and provide effective solutions for solving these problems. In the next section, the interview and survey results are described. The researcher believes this thesis will contribute to improving Chinese to English translation quality and enhance intercultural communication by presenting, analyzing, and discussing the interview, survey, and experiment data.

4. Interview Findings and Survey Results

This chapter presents the findings and results obtained from 20 interviews (2 professional translators and 18 professors from 5 different universities) and a survey of 333 students from 4 different universities. Please refer to Table IV and Table V for detailed information about actual survey and interview participant groups. This chapter discusses the most frequent answers from the interview and the survey participants. As discussed in Chapter 3, the following four categories were used to categorize the interview questions.

1. Translation problems investigation.
2. Translation quality assessment.
3. MT tools.
4. Translation profession.

These categories were developed to answer the research questions described in Chapter 3.

Table IV: Interview Participant Groups

Interview	Number
Professors from Guangdong College of Business and Technology	2
Professors from Zhaoqing University	6
Professional Translators	2
Professors from Tsinghua University	2
Professors from China University of Mining and Technology	3
Professors from Sun Yat-sen University	5
Total	20

Table V: Survey Participant Groups

Students Surveyed	Number
Zhaoqing University Junior English Teaching Major	37
Zhaoqing University Sophomore English Education Major	37
Zhaoqing University Sophomore English Foreign Trade Major	35
Zhaoqing University Sophomore English Translation Major	35
Zhaoqing University Sophomore English Education Major	29
Zhaoqing University Sophomore International Economic and Trade Major	33
Mixed Grades and Majors of Guangdong College of Business and Technology	67
Mixed Grades and Majors of Southern Medical University	18
Mixed Grades and Majors of Shanghai International Studies University	39
Total	333

4.1. Background of the Interview and Survey Sample

Eighteen interviews were conducted with professors from Tsinghua University, China University of Mining and Technology, Sun Yat-sen University, Zhaoqing University, Guangdong College of Business and Technology, plus two professional translators. All the interviews were conducted between December 10, 2015 and December 28, 2015 in Beijing, Guangzhou, and Zhaoqing. The researcher chose these interviewees because she met some of them through her volunteer work with Montana Tech in the summer of 2015. The other interviewees were from her personal contacts. In addition, all the interviewees were very interested in the work and were willing to participate and provide insight.

Among the 20 interviewees, 18 of them were university professors from universities of different ranking, size, major, and geography. Tsinghua University and China University of Mining and Technology are located in northern China in Beijing. Sun Yat-sen University, Zhaoqing University, and Guangdong Business and Technology University are located in Guangzhou and Zhaoqing, which are found in southern China. Tsinghua University ranks the first among the science and engineering universities in China. Sun Yat-sen University (SYSU) is ranked fourteenth.

The age of the interviewees in the sample ranged from 25 to 66 years old. Thirteen of the interviewees were female and seven were male. The 18 interviewees had a range of experience, including both novice and experienced professors who actively translate Chinese-to-English for publications or conferences. All the interviewees have intercultural communication and translation experience, and five of the professors are department heads. These professors have

taught or are teaching English, Geography, and new energy technology. The other two interviewees are familiar with Chinese-to-English translation.

The student surveys were conducted at Southern Medical School, Shanghai International Studies University, Guangdong College of Business and Technology, and Zhaoqing University. These universities have a wide range of studies and majors and the students have variable levels of English proficiency and had a minimum of 12 years of English language experience. The students who participated in this study included the following majors: English Teaching, English Foreign Trade, English Translation, English Education, International Economic and Trade, Clinical Medicine, Biomedical Engineering, Orthopedic Surgery, Teaching Chinese as a Second Language, Tourism English, Business, and Bilingual.

4.2. Interview Coding

First, the researcher read through all the collected interview data, including the interview transcripts, and listened to the audio recordings. Second, the researcher translated all interview transcripts from Chinese to English. Then, the researcher shared the transcripts with the interviewees and asked them for a review when more information or clarification are needed. Third, the researcher coded the interviews in Excel by assigning an interview number, question number, answers, and keyword for each interviewee. The researcher then placed each answer into a specific code category based on the actual words and meanings of the answer. Afterwards, the researcher sorted similar specific code words into a more general code category. The researcher then placed the generalized code into one of five even broader code categories. These five broad codes are language, culture, MT, translation process, and other. The language code includes language styles, language and translation skill, vocabulary, subject knowledge, expressions, grammar, and idioms. The culture code refers to cultural thinking differences. The

MT code was about the interviewee's use of MT tools, what tools they use, and when they use the tools. The translation process code includes the interviewee's process or steps to complete a translation project and which step they consider the most important. The other code is a miscellaneous category for answers that were unlike other interviewees' answers and did not fit into one of the other four categories. For example, one interviewee stated having political literacy was a factor for being a qualified translator; this answer was placed under the other code. As an example of the overall coding, one interviewer stated that their limited vocabulary was a difficulty when translating. The researcher used the specific code of "word meanings" for this answer. A more general code for this is vocabulary, and even a more general code of this is language. An illustration of this example is shown below in Figure 7.

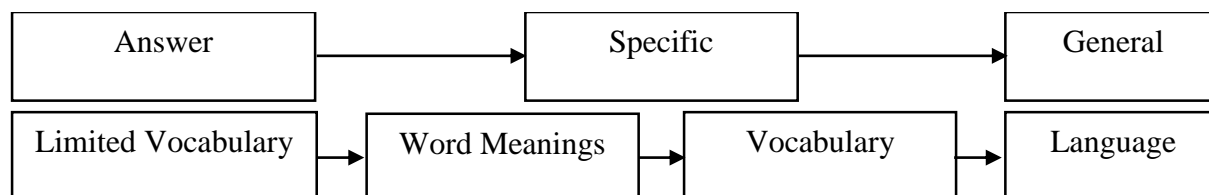


Figure 7: Interview Coding Illustration

These general codes were chosen because they cover the various responses from the interviewees. After the coding, the researcher compared how all interviewees answered each question and identified relationships within the coding to determine qualitative patterns in the interviewees answers.

The researcher arranged interview questions into the four categories from above.

4.3. Interview Category One: Translation Problems Investigation

For category one, the researcher included the following four questions to understand Chinese to English translation problems.

Question 1 Part A: What are some difficulties when you translate Chinese to English?

The results indicated that knowledge of both Chinese and English language and the culture difference are equally difficult for 18 interviewees. The other two interviewees considered other difficulties when translating Chinese to English, which included time constraints, lack of good translation habits and a bad English learning environment, and little translation interest.

For the language difficulty, half of the interviewees stated that they had difficulties with vocabulary, including word meanings, word choice, spellings, English usage, and inadequate vocabulary. Several interviewees considered the differences in Chinese and English expression the main difficulty they encountered when translating. One interviewee gave an example of the expression “beast”, which has a very different meaning between Chinese and English. In Chinese, it is very offensive to say you are a “beast (兽 shòu)”, but in English, it can mean you are wild and strong. Two interviewees thought idioms are particularly difficult to translate, and they gave an example of “三人成虎 (sān rén chéng hǔ)”, which literally translates to “Three people can make up a tiger”. The correct translation should be “If an unfounded premise or urban legend is mentioned and repeated by many individuals, the premise will be erroneously accepted as the truth”. Other interviewees believed it is challenging to retain the language style, master language and translation skills, be knowledgeable about the subject, and distinguish grammatical differences between Chinese and English. For instance, one of the interviewees indicated that translators would encounter different obstacles based on a hierarchy of experience. For novice translators, grammar is difficult. Senior translators will find that subject knowledge and knowledge of other disciplines to be difficult, because more experienced translators are required to translate material that is more difficult.

Nine interviewees considered cultural thinking differences to be difficult, which include the lack of understanding of the cultural differences, cultural connotation, and different thinking patterns.

Question 1 Part B: What is the biggest difficulty when you translate Chinese to English?

The results indicate the differences between Chinese and English language is the biggest difficulty according to most interviewees, followed by the difficulty of cultural differences.

The biggest difficulty linguistically includes a lack of understanding of differences in Chinese and English expression, language proficiencies, translation skills, grammar, subject knowledge, idioms, and vocabulary. The biggest difficulty culturally includes a lack of cultural awareness and different thinking patterns.

Question 2: What are the reasons for Chinglish?

The majority of interviewees specified cultural and language differences, misuse of MT, and the English educational system in China were the main reasons for Chinglish.

Twelve interviewees said that cultural thinking differences between Chinese and English cause Chinglish. Translating according to the Chinese way of thinking will naturally produce "Chinglish", negatively influencing the quality of translation.

Some interviewees identified that the language system discrepancies between Chinese and English lead to Chinglish. Without the translator accounting for these discrepancies, it may create a negative influence when translating from Chinese to English, for example, using Chinese grammatical sentence structures for writing English sentences will produce Chinglish. The different language structures also produce some untranslatable words. In addition, improper translation skills, such as translating word for word, leads to Chinglish issues.

One interviewee stated bad habits of relying on cheap (unskilled) translators or online translation software usually delivers incorrect translation. Some interviewees believed problems within the Chinese educational system when teaching English causes Chinglish. For instance, English textbooks are written by Chinese people, English teachers are native Chinese, and English learning is only limited to English courses, but physics, math, chemistry, and other courses are taught using Chinese.

Question 3: How can Chinglish problems be resolved?

Interviewees believed that the following solutions could help resolve Chinglish problems. These responses can be grouped into the following set of recommendations:

From a cultural aspect:

1. Understand Chinese and English cultural differences.
2. Use English thinking and grammatical patterns when translating English.

From a linguistic aspect:

1. Understand both Chinese and English language.
2. Improve translation skills and do not translate literally.

From an educational aspect:

1. Learn authentic English expressions through reading academic journals.
2. Provide a bilingual teaching environment for students.
3. Employ only experienced translators who are exposed to Native-English environments.

4.4. Interview Category Two: Translation Profession

For category two, the researcher included the following three questions to understand Chinese to English translation profession.

Question 4 Part A: What is your translation process?

The majority of interviewees followed the translation process of “comprehend, translate, and revise”. “Comprehend” refers to understanding the specific meaning of the Chinese materials and the Chinese logical order. “Translate” refers to translating using English grammar and expression. “Revise” refers to checking if the translation in English is faithful to the Chinese meanings.

Other interviewees focused on looking up difficult vocabulary, identifying sentence structure, selecting the correct word and word order, and paying attention to cultural meanings and untranslatable words.

Question 4 Part B: What do you consider the most important step in your translation process?

The majority of the interviewees ranked the last step “revise” as the most important step in order to produce an accurate translation. Some interviewees considered the first step “comprehend” to be the most important for understanding the original meaning of the source texts. Last but not least, two interviewees assumed that every step is important.

Question 5: How would you define a qualified professional translator?

Most interviewees considered high professional language levels in both the source and target languages to be the most important quality for a professional translator. A high professional language level includes being proficient in both vocabularies and having an understanding of the target language expressions. This was followed by interdisciplinary knowledge in different fields and in-depth understanding of Chinese culture and English culture. Several interviewees stated that a qualified professional translator also needs to have a good

work ethic and be professional. Other interviewees thought having a good memory and the desire to continue learning are also important.

4.5. Interview Category Three: MT Tools

For category three, the researcher included the following three questions to understand the use of MT.

Question 6: Do you use MT tools?

Thirteen interviewees use MT tools and seven do not.

Question 7: If so, which MT tools do you use?

Of the interviewees who used a free online dictionary, the most popular ones were Baidu, Youdao, and Iciba. Other free online dictionary used included Dict, Kingsoft translation, Google, Lingoes, and paid MT tool Trados.

Question 8: If so, under what situation do you use MT tools?

All interviewees used MT tools to look up specialized vocabulary and some difficult word meanings.

4.6. Interview Category Four: Translation Quality Assessment

For category four, the researcher included the following two questions to understand the relationship between cultural sensitivity and translation quality as well as different ways of improving Chinese to English translation quality.

Question 9: Does culture sensitivity affect translation quality? If so, how?

All interviewees believed that culture sensitivity affects translation quality. Four interviewees believed cultural sensitivity had great influence on the liberal arts and literature, but had little impact on science and engineering. Cultural sensitivity is very important for fully understanding the original meaning.

Interviewees provided some vivid examples of how cultural sensitivity affects Chinese to English translation quality regarding the use of animals. One interviewee gave an example of the word "goose (鹅 é)" in the Chinese context, is a neutral term, which means the animal itself. In English, it can be expressed in negative context, meaning "silly." If a translation is not sensitive to the target culture, the author's intention or meaning would be lost, thus affecting the quality of translation. An interviewee provided another example, the word "dog (狗 gǒu)" in the Chinese context, is a derogatory word. In English, it can be a commendatory word, such as "a lucky dog" or a word implying loyalty or hard-working virtue. Without being culturally sensitive, the original meaning is easily misinterpreted. Another interesting example is the word "dragon" which has been hailed as a symbol of the Chinese nation. According to Chinese culture, "dragon (龙 lóng)" is an auspicious animal, which can bring light and hope. Many Chinese idioms include the word "dragon"; however, in English, "dragon" refers to a fire-breathing beast, which often refers to a heartless person.

Another interesting example: In Western culture, many historical allusions come from ancient Greek and Roman mythology and the Bible. A "doubting Thomas" refers to Christ's disciple Thomas and indicates a skeptical person. If a translator does not understand cultural connotation, it may be translated inaccurately.

In addition, one interviewee stated, "A word in Chinese could be derogatory, but in English could be a compliment or neutral, such as a color." For instance, in Chinese culture, the color white is used for funerals, but in English culture, the color white is worn at weddings. If you ignore cultural differences between the two cultures, the consequences can be serious.

Interviewees emphasized that some words are untranslatable or cannot be translated literally, such as "坐月子 zuò yuè zi" (sitting the month), which in English would be known as

“maternity leave” and “做菜 zuò cài” (cook vegetables), which in English would be known simply as “cooking”. In addition, “红茶 hóng chá ” could easily be mistranslated literally into red tea, but it should be translated as black tea. One interviewee illustrated some daily life occurrences. For example, Chinese often say “看病 kàn bìng” (check the illness), but English would say, “see a doctor”. In addition, Chinese use “慢走 màn zǒu” (walk slow) when saying goodbye to each other. Likewise, when Chinese greet each other, they often say, “Did you eat?” English speakers usually would say “hello”.⁵ Therefore, when translating, one should be familiar with both cultures in order to obtain an authentic translation.

Question 10: What are your suggestions for improving Chinese to English translation quality?

Translators should have a deep understanding of both the Chinese and English language. In addition, they should be continually learning, practicing, and experiencing both cultures. For instance, translators should visit English-speaking countries to learn authentic English expressions and culture. Moreover, as an improvement in the translation process, translators should proofread the final product before it is given to the client. What is more, MT tools should be used appropriately to increase the vocabulary but not used to express nuanced meaning. Finally, translators need to increase their culture awareness, develop their expertise and professionalism, and improve their translation skills.

⁵ In Butte, Montana, “J’ eat yet?” (Did you eat yet?) is a traditional greeting. Perhaps this stem from Butte’s historically large Chinese population.

4.7. Survey Data Collection

The survey was developed based on the research questions, literature review, and interview questions. Each subject was given 15 minutes to finish the 19 survey questions. The survey questions were divided into the same four categories below as the interview questions.

1. Translation problems investigation.
2. Translation quality assessment.
3. MT tools.
4. Translation profession.

The survey was conducted in person to achieve maximum validity, to ensure a higher response rate, and ensure higher quality data, as meeting in person with each survey group may mean the subjects were more willing to complete the questionnaire with better results. The researcher did not include survey forms where the respondent answered scale 5 for all survey questions or where responses that were incomplete.

4.8. Survey Data Analysis

Specific survey questions were developed to investigate the main and secondary research questions and hypotheses. The researcher entered the survey data into an Excel spreadsheet with the university name, age, sex, degree, major, English education years, certification, and answers to each question.

Main research question #1: Is a pattern or typology identifiable regarding people's perception of problems in mistranslation?

- a. Do people that think mistranslation is a problem see more instances of mistranslation?

Before addressing the primary research question, an analysis was conducted to see whether people who think mistranslation is a problem see more instances of mistranslation, and vice versa, which was carried out using a linear regression analysis. Results of the regression model clearly indicate that people concerned about mistranslation tend to see a higher rate of mistranslation and vice versa, $F(1, 325) = 61.4, p < 0.000$. See Figure 8.

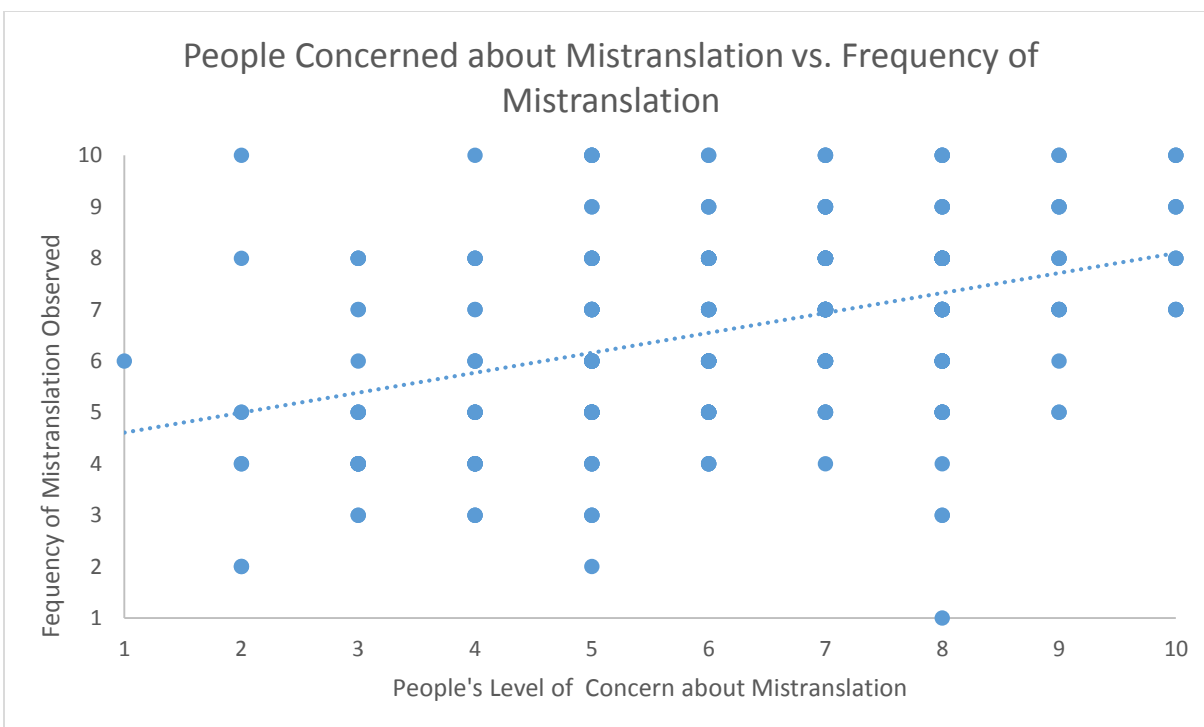


Figure 8: People Concerned about Mistranslation vs. Frequency of Mistranslation

b. What do people feel are the main reasons for poor quality translation between Chinese to English?

This survey question was asked to address the main research question #1 because it helped frame common Chinese to English translation problems. As Figure 9 indicates grammatical differences between Chinese and English was listed most frequently as the biggest reason for mistranslation problems, followed by lack of cultural awareness and using MT tools without professional translator editing. Only 25 people (4%) answered other, which included,

“lack of translation skills, lack of subject knowledge, negative influence of native language, different thinking patterns, untranslatable words, and do not have the opportunity to experience the local English culture”.

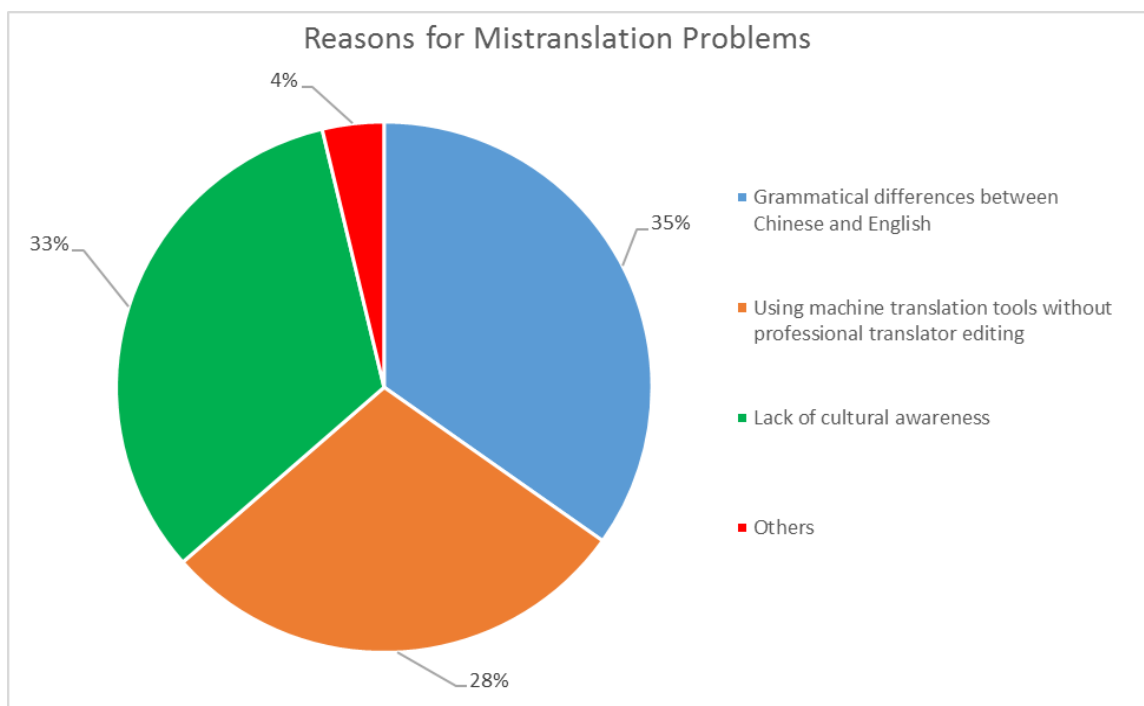


Figure 9: Main Causes of Chinese to English Mistranslation

c. What are the biggest challenges faced by translators in delivering accurate translations?

This survey question helped answer the primary research question in that it provides an understanding of what the biggest factors are that affect an individual’s ability to translate, which adds further clarity to the above question regarding problems contributing to mistranslation. Figure 10 showed that 155 people (46.7%) considered cultural differences the biggest challenge associated with the translation process, followed by vocabulary (59, 18.3%) and grammar differences (54, 16.8%).

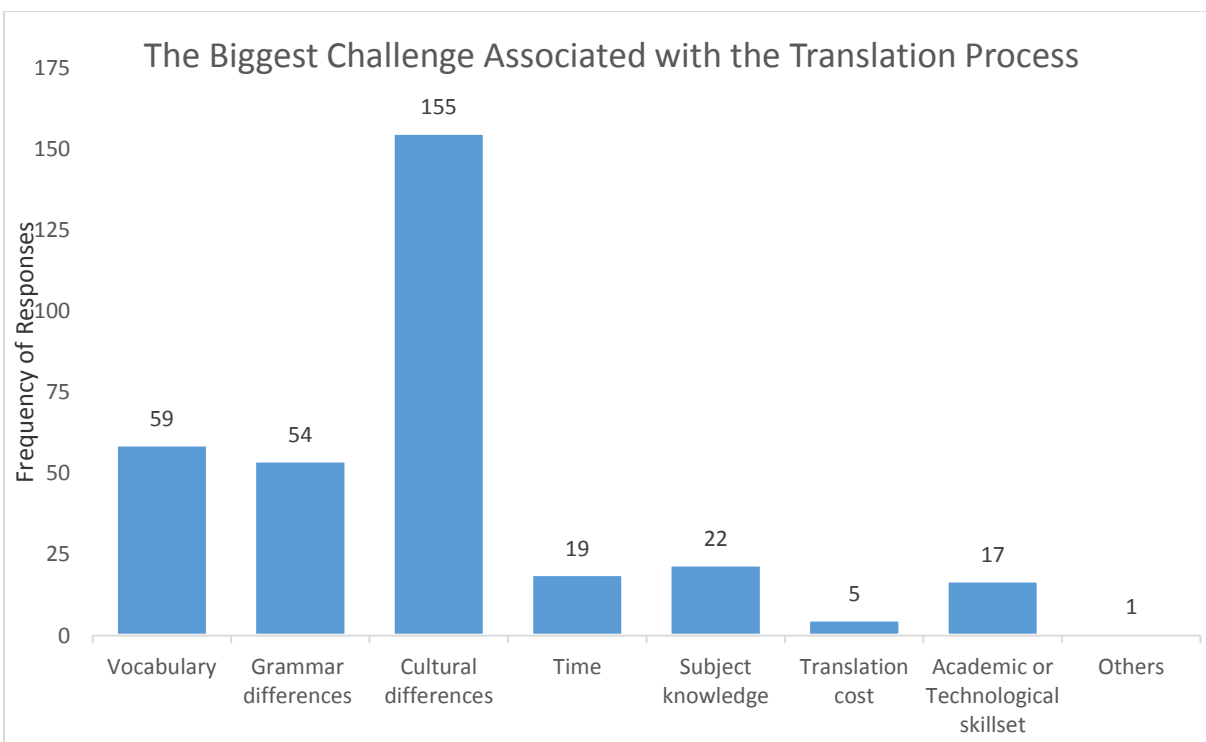


Figure 10: Biggest Challenges Faced by Translators in Delivering Accurate Translations

d. What are the deficiencies in the Chinese translation industry?

This survey question helped answer the primary research question because it indicated where the industry needs to improve, which will affect the translation quality. As Figure 11 shows, 113 people (34.4%) ranked professional training as the number one area that the Chinese translation industry is lacking, followed by translation accuracy (85, 25.9%) and number of qualified translators (70, 21.3%). Only 10 people (3%) considered the translation industry to be fine.

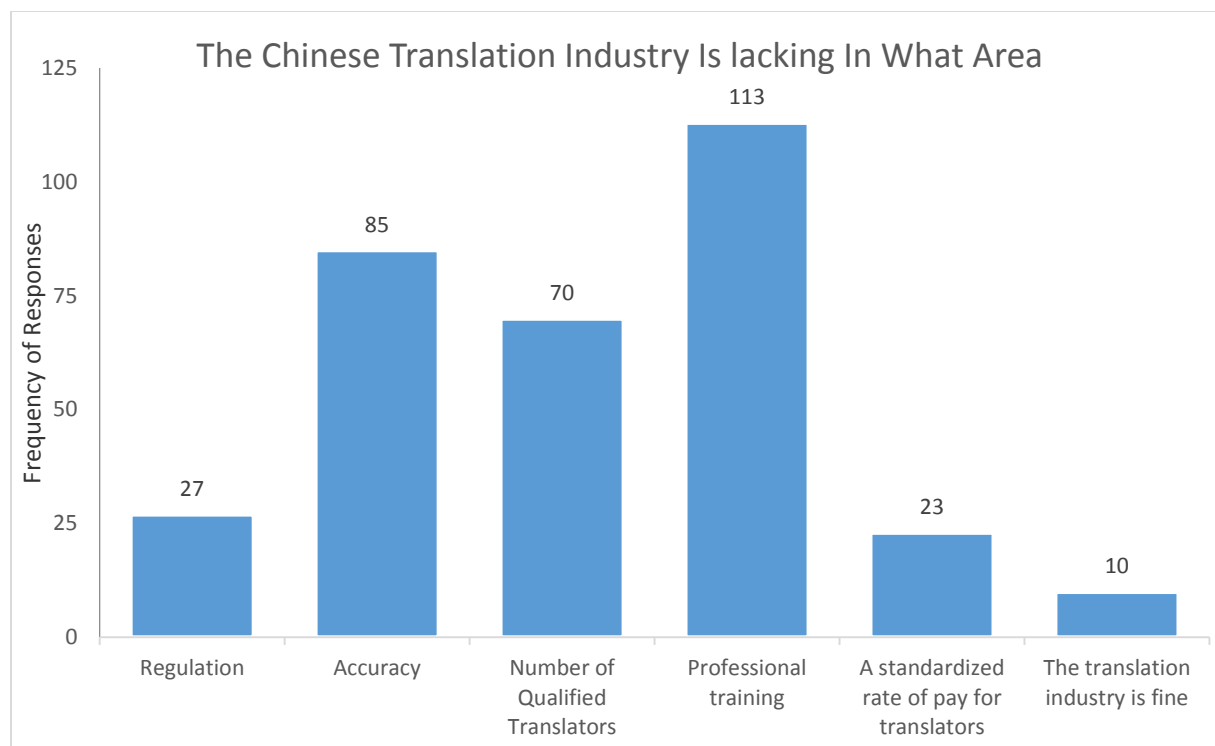


Figure 11: Areas where Chinese Translation Industry is Lacking

Main research question #2: How do students who are planning to become translators feel about translation quality?

e. Is there a difference between future translation professionals and those not seeking a career in professional translation in how concerned they are about translation quality?

A two-sample t-test was conducted to test the main research question #2. Survey respondents were split into two groups based on if the individual considered becoming a professional translator, with 1-5 being unlikely, and 6-10 being likely. Results of the test indicate that the students who are planning to become a translator ($\bar{x}=8.4$, $SD=1.25$, $n=283$) are significantly more concerned about the translation accuracy than those who are not planning to become translators ($\bar{x}=7.7$, $SD=0.85$, $n=45$), $F(1, 328) = -73.0$, $p < 0.000$. See Figure 12.

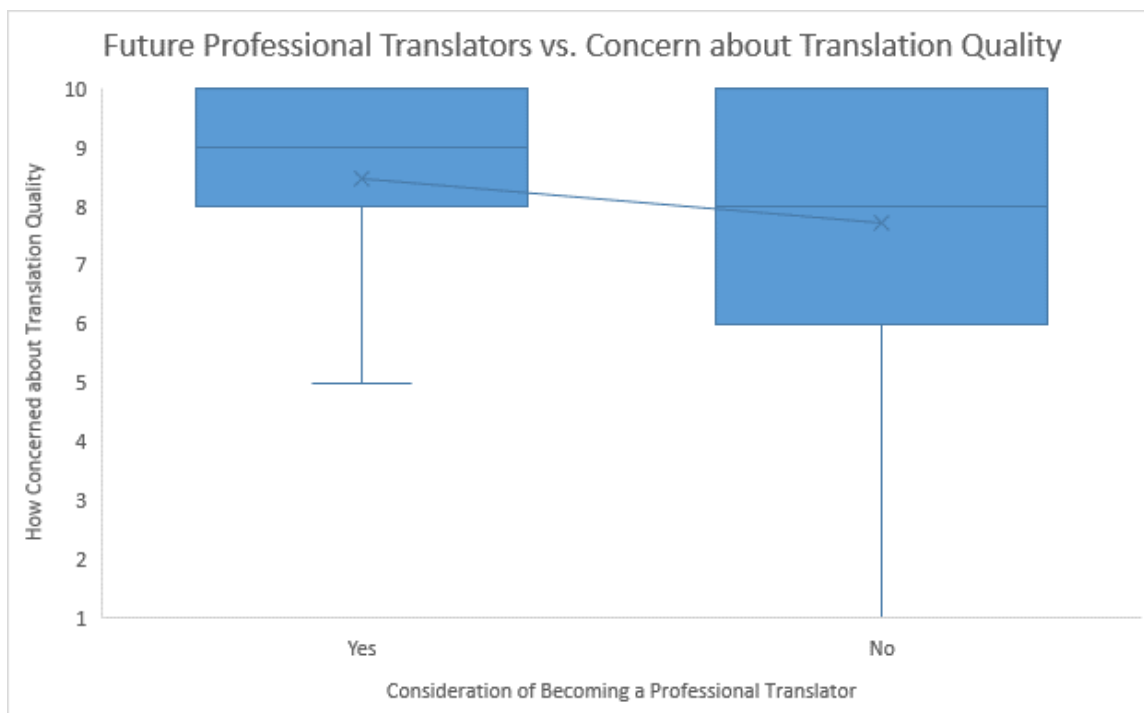


Figure 12: Future Professional Translators vs. Concern about Translation Quality

Secondary research question #1: How important is cultural sensitivity to Chinese to English translation quality?

f. Do people feel that cultural awareness is an important component of accurately translating meaning?

Results of a linear regression analysis indicated that people feel that cultural awareness is highly important to the quality of translating meaning $F(1, 328) = 153, p < 0.000$. People's responses indicated that the importance of cultural awareness accounts for 31.9% of the variation in the importance of translation accuracy ($R^2 = 31.9\%$). See Figure 13.

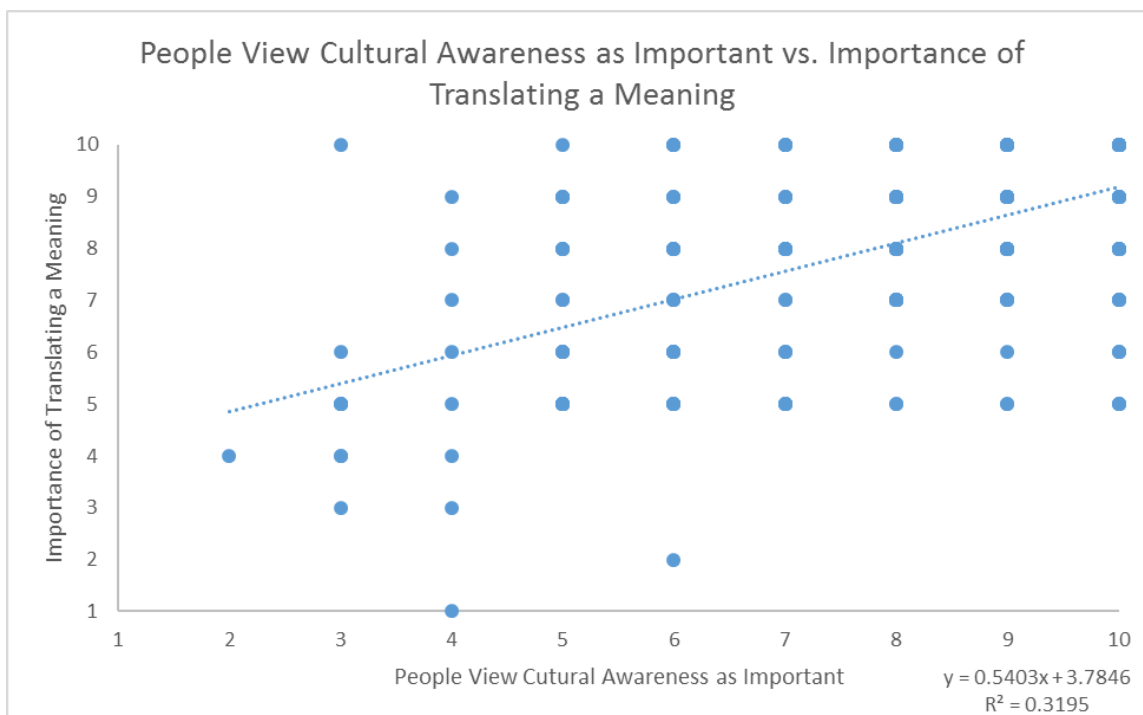


Figure 13: People View Cultural Awareness as Important vs. Importance of Translating a Meaning

Secondary research questions #2: What are the most important qualities of a good translator?

g. What are the most important factors that contribute to high quality and accurate translation?

Figure 14 shows that the most common response given for what people think is the most important quality of a good translator is that they are a native speaker in the source language (n=132, 40.2%), the second most important factor is that they have good experience in translating (n=119, 36.3%), and the third most important factor is that they are an expert in the specific field for which translation is taking place (exp. medical terminology, engineering etc.) (n=68, 20.7%).

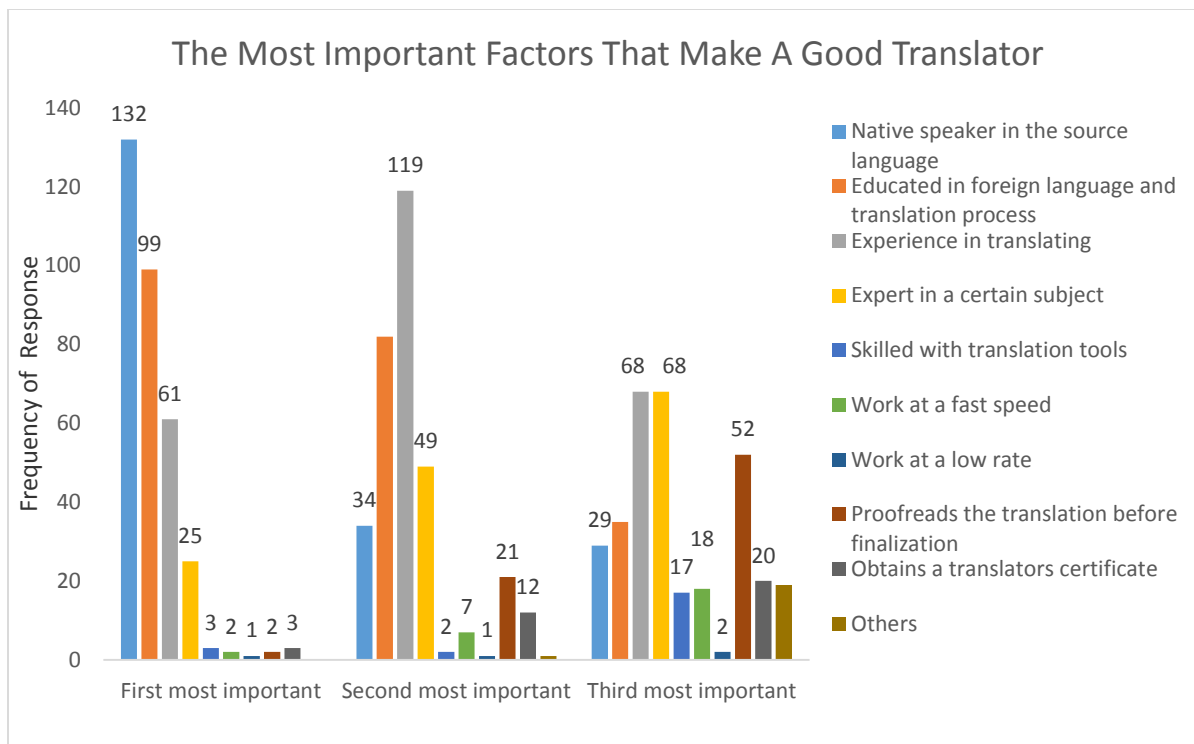


Figure 14: The Most Important Factors that Contribute to a Quality Translator

Secondary research questions #3: What is the preferred method for a quality translation when translating an important document?

h. Would you pay for a professional translator or use a free translator when translating an important document?

This question helped answer the secondary research question #2 because it developed how people perceive the importance of having a professional translator when translating important documents. Figure 15 shows that more people prefer a professional translator over someone who is not a professional with 231 (72.1%) people stating that they would pay for a professional translator, while only 89 (27.9%) people will use free translators to translate important documents.



Figure 15: Would People Rather Pay for a Professional Translator or Use a Free Translator When Translating an Important Document

Secondary research questions #4: How are MT tools used by translators?

i. What is your favorite free online translator?

This question helped answer the secondary research question #4 because it indicated which free online translators are the most popular. Figure 16 shows that 190 people (54.2%) used Youdao Dictionary, followed by Baidu Dictionary (61, 17.4%), and Google Translate (44, 12.5%). Only three people (0.08%) said they did not use any free online translators. The other free online translators that were listed by the survey responses are Iciba, Kingsoft PowerWord, Lingo, Dict, and dict.hjenglish.

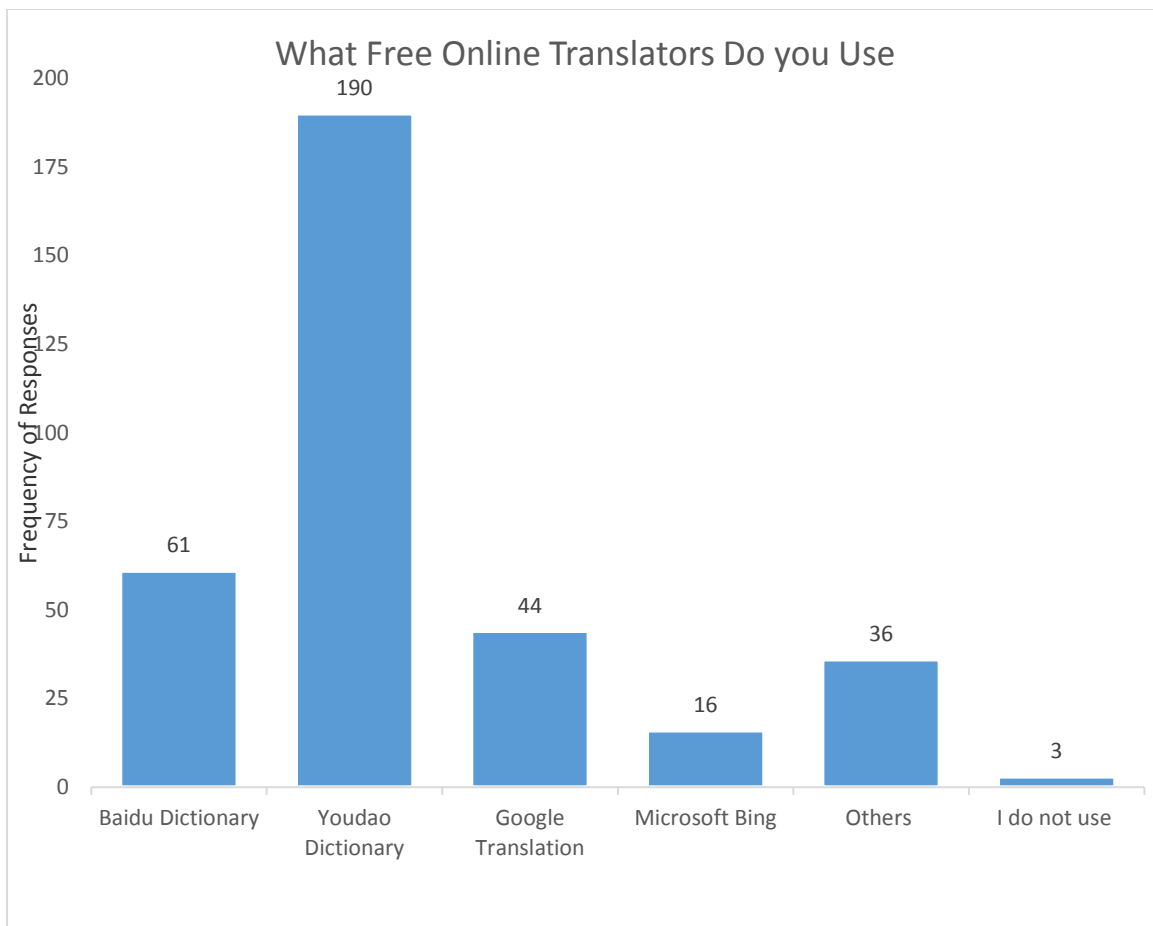


Figure 16: Participants' Choices Regarding their Favorite Free Online Translators

j. How often do you use free online translators?

This question helped answer the secondary research question #4 because it indicated the frequency of free online translators in use when translating. As Figure 17 shows, the majority of people (n=161, 49.0%) use free online translators daily.

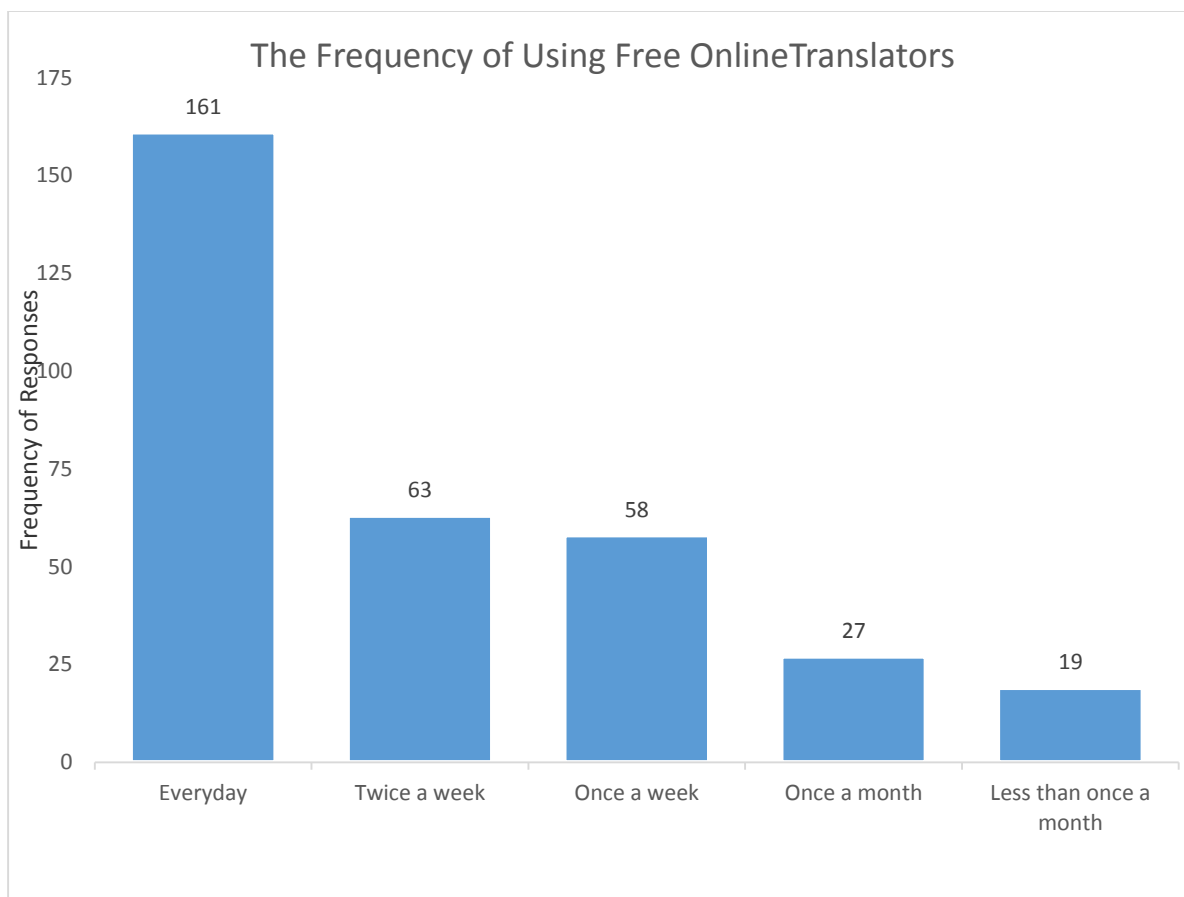


Figure 17: The Frequency of Participants Using Free Online Translators

k. How accurate would you rank your preferred online translator?

Responses for survey question #11 were compared to question #9, (preferred free online translator). Figure 18 indicated that people have a natural belief that their translator is accurate. Youdao, Microsoft Bing, and Baidu were believed to be somewhat more accurate than Google Translate. The participants who do not use free online translators stated that they are inaccurate, this may be because these participants believe free online translators are inaccurate so they do not use them.

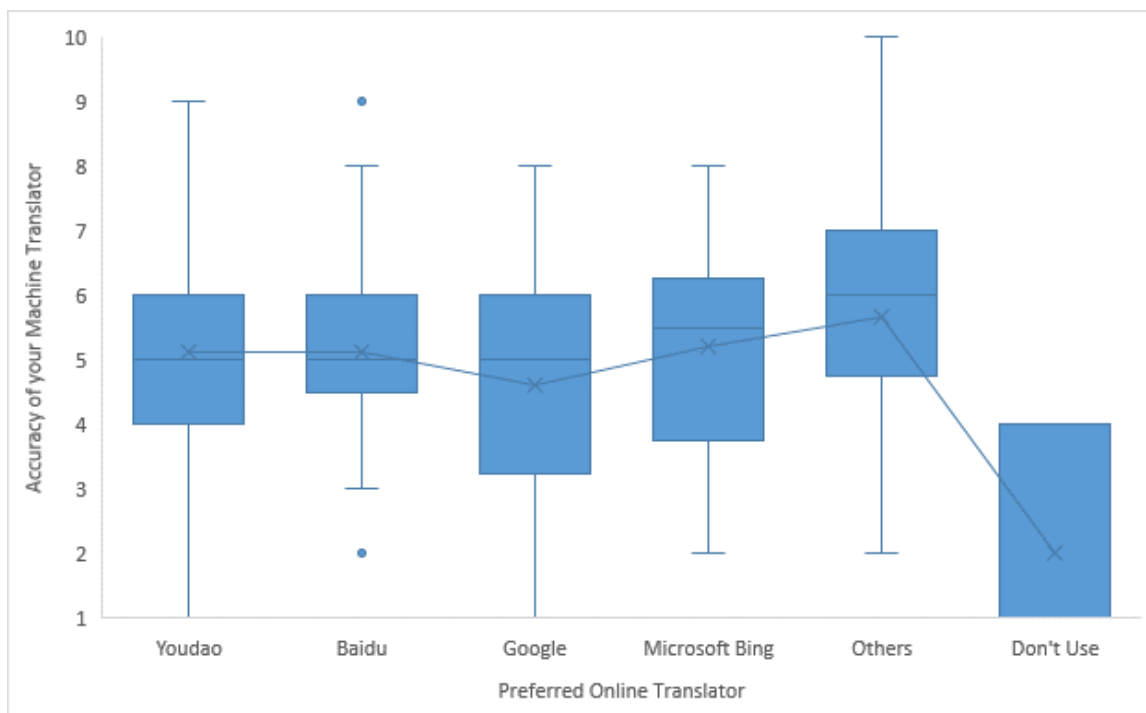


Figure 18: Preferred Online Translator Accuracy Ranked by Participants

1. Do you think that paid machine translators are more effective than free machine translators?

This question helped answer the secondary research question #4 because it indicated whether people think there is a difference between the quality of paid machine translators and free online translators. Figure 19 shows that the majority of people (n=184, 56.2%) did not consider paid machine translators to be more effective than free machine translators.

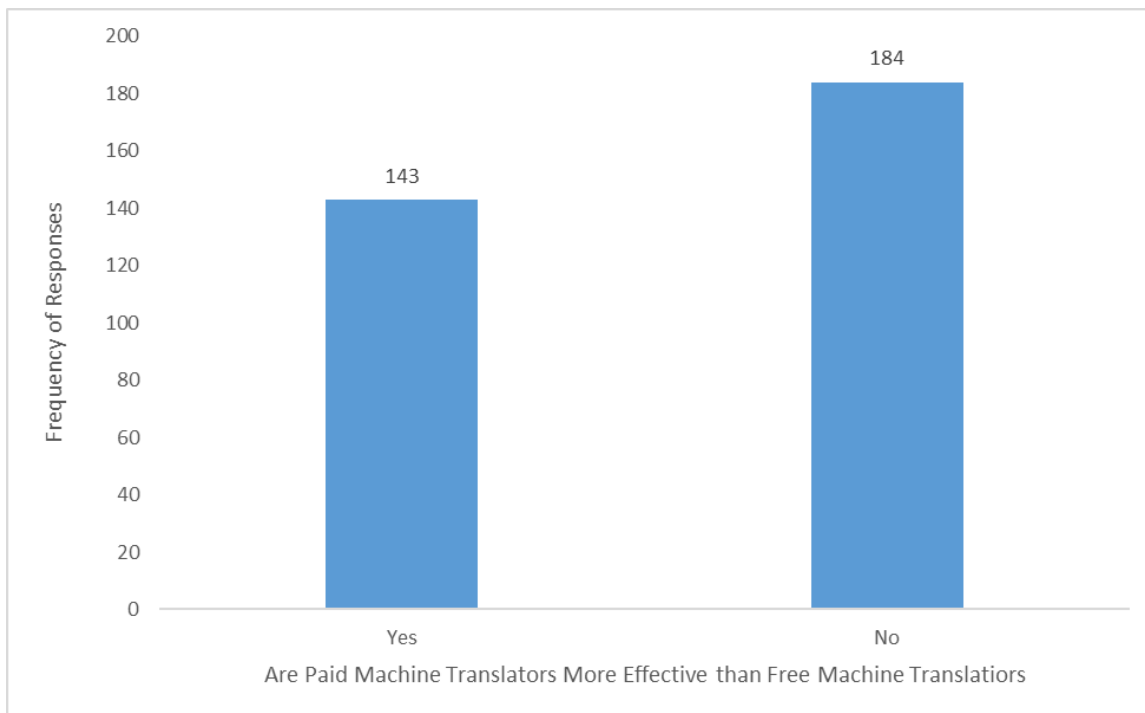


Figure 19: Participants' Attitudes towards the Effectiveness of Paid Machine Translators and Free Machine Translators

m. Would you consider paying for a machine translator?

This question helped answer the secondary research question #4 because it indicated whether people were willing to pay for a more sophisticated tool for a better translation. Figure 20 shows that the majority of people (n=241, 73.7%) will not pay for any machine translator.

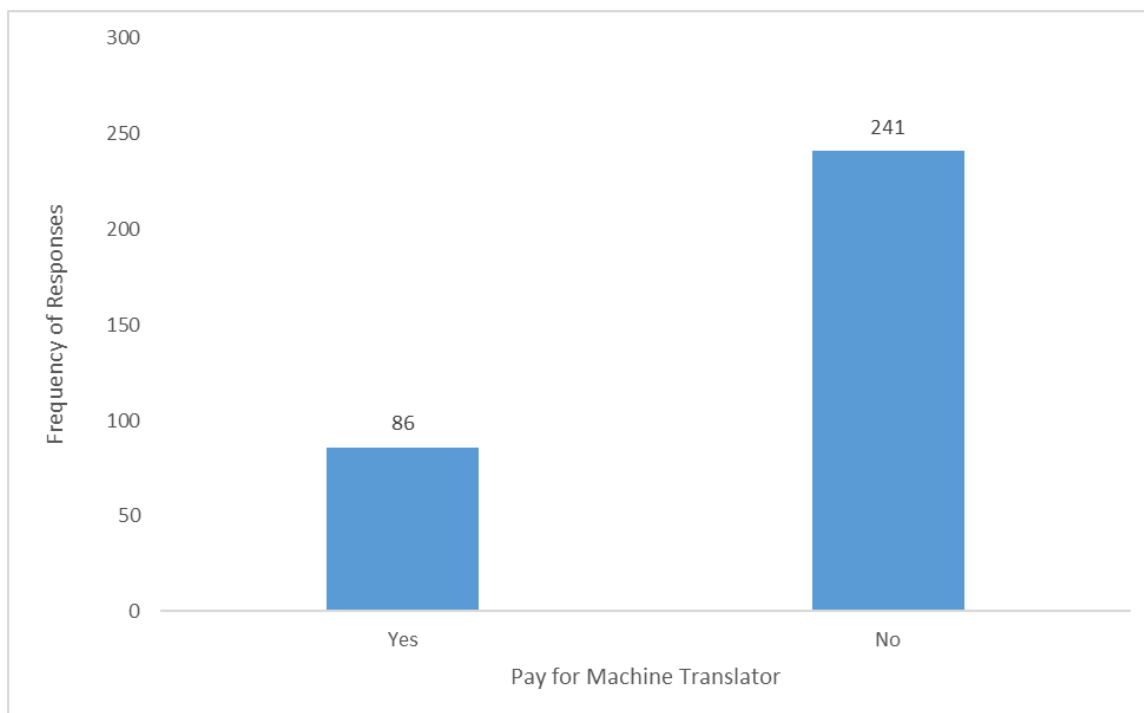


Figure 20: Participants' Choices of Paying for a Machine Translator

By completing the interviews and survey, it showed how Chinese professors and students feel about translation and the Chinese translation industry. They feel that the industry can be improved by providing more culture targeted training, educating future translators in the target language and culture, and improving the translation process. Many of the interviewees and survey participants use free online MT tools for translating unknown vocabulary, but they are not willing to pay for a MT tool. They all agree when translating important documents, a professional translator should be hired. Surprisingly, there was a percentage increase in the use of MT from the students surveyed compared to the interviewees. Chapter 5 will discuss in detail the results collected in the interviews and survey.

5. Discussion and Analysis

This study “Chinese to English translation: identifying problems and suggesting solutions” was designed to identify problems with and to explore ways to improve Chinese to English translation quality. The objective of this chapter is to evaluate the research findings (Chapter 4) and to interpret, analyze, and discuss the interview and survey results. This chapter fits into the overall dissertation by examining the results in the light of the original research questions and linking the results with what was learned from the literature review. In general, analysis shows that the results answer the research questions and support the stated hypotheses. This chapter also expands the original focus of the thesis by developing a semiotic analysis, with an emphasis on using socio-semiotic theory to explore the cultural code for Chinese to English translation. The semiotic analysis was added in order to more fully develop, understand, and interpret the research results, and also to address a gap in the literature on Chinese to English translation. Because the semiotic analysis was added at this point, a brief introduction to semiotics and its relationship to translation is in order.

Semiotics is the study of signs; a sign is something which stands for something other than itself, thus translation refers to reading (i.e. decoding or deconstructing) the meaning of a source text in one language and writing (socially constructing or encoding) the meaning in a target text. Interpretation or translation from Chinese to English is a process of semiosis. Using Charles Sanders Peirce’s semiotic triangle (signified, signifier, and object), the translator’s job is to accurately decode and newly encode the meaning of the source text, connecting the original author and the audience. *Signifier* refers to the written or spoken word itself, *signified* refers to the mental concept that is evoked by the signifier, and *object* refers to either a physical object or

an object of thought that embodies the sign. Figure 21 shows the relationship among signifier, signified, and object.

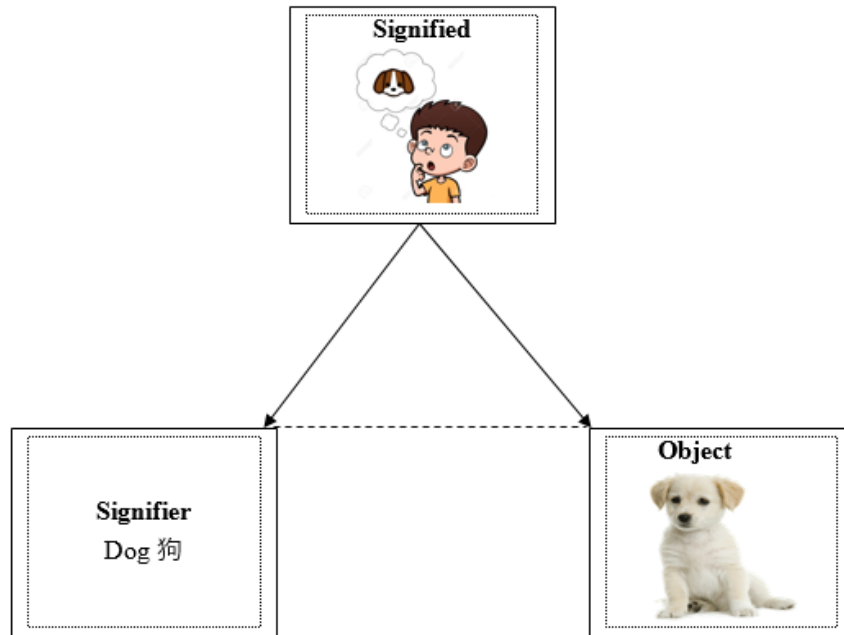


Figure 21: The Semiotics of Peirce's Triadic Model

Translation means bridges the gaps between two different languages and cultures, and semiosis is the process of translating meanings from the source text to the target text. As Peirce noted, there are three modes of signs, which include symbol, icon, and index. Signs in the symbolic (arbitrary) mode have a relationship between signifier and signified that is purely conventional, historical, and/or culturally specific; most signs are symbolic, such as the word cheese. Signs in the iconic mode are where the signifier resembles the signified in some recognizable way, e.g., a photograph or the symbol for a file folder on a desktop computer. Signs in the indexical mode have a causal relationship between the signifier and the signified, e.g., smoke is indexed to fire. Figure 22 shows the triadic relationship among the symbolic, iconic, and indexical modes, and where these modes fall on the convention/causation/continuum.

Translation could be viewed as interpreting these modes for a particular sign from one culture to another, even though some signs might be untranslatable.

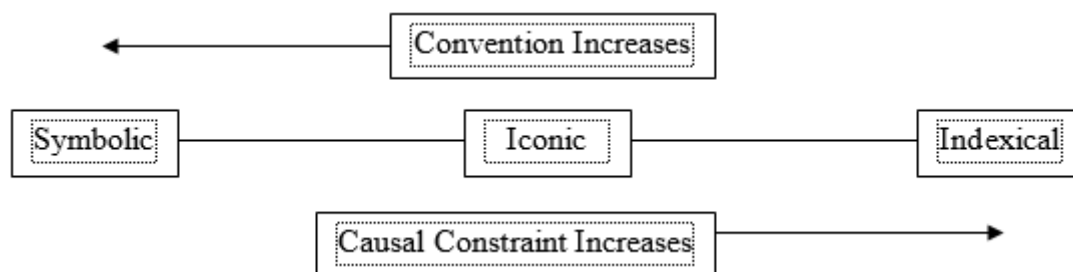


Figure 22: Three Modes of Signs⁶

Moving beyond the introduction to semiotics, the main sections of this chapter are organized in parallel with Chapter 4, where the researcher described the main themes of the interview findings and survey results. This chapter is the researcher's interpretation and analysis of the results, supplemented by supporting literature. The discussion is divided into four sections. The first section, "An Investigation of Translation Problems," discusses the difficulties of translating Chinese to English. Furthermore, this section includes reasons and solutions for the Chinglish problem. The second section, "The Translation Profession," interrogates the translation process and the definition of a quality translator. The third section, "MT Tools", discusses the use of MT. The last section, "Cultural Sensitivity and Translation Quality", is about the relationship between cultural sensitivity and translation quality.

5.1. Translation Problems Investigation

5.1.1. Difficulties of Understanding Chinese and English Languages and Cultures

Surprisingly, 18 interviewees identified language and cultural differences to be equally difficult when translating Chinese to English. The researcher expected that more people would

⁶ Adapted from <http://www.culture-at-work.com/sign2.html>

find the cultural aspect to be more difficult than differences in language for the following reasons. The cultural meaning is more complex compared to purely linguistic matters. As explained in Chapter 4, the interviewees are university professors who know English well and some of them teach English. As native Chinese speakers, it is understandable that they have difficulties with the cultural differences since English is not their mother language and they might not have lived abroad for extended periods in Western culture.

Learning vocabulary is an enormous part of mastering any language. Expectedly, vocabulary was found to be challenging for some interviewees as they encountered difficulties with word meanings (both connotation and denotation), word choice, spellings, English usage, and their own limited vocabulary. The interviewees were familiar with the translation of the Chinese vocabulary to English within their own fields or domains, but complex vocabulary in other disciplines (domains) is problematic as they are not often exposed to other disciplines. Becoming proficient with language and translation skills, being knowledgeable about a subject (domain), and distinguishing grammatical differences between Chinese and English were viewed as difficulties by some interviewees. This class of difficulties was also supported by the literature review that address the problem of specialized vocabulary.

Differences in Chinese and English expression (connotation) were ranked as one of the difficulties when translating. The example about the “beast” provided in Chapter 4 proved that the cultural codes for the symbol “beast” are divergent for the two cultures. The symbol “beast (兽 shòu)” signifies as being offensive and negative in Chinese culture at all times, but may signify either a positive or negative meanings in Western culture. For instance, the Chinese

idiomatic expression “人面兽心 (rén miàn shòu xīn),” meaning “human face with beast’s heart”, represents someone who is malicious and duplicitous. Another Chinese idiom about “beast” is “禽兽不如 (qín shòu bù rú),” meaning “a person is worse than a beast because of his immoral behaviors”. In English slang “He is a beast on the football field”, carries a positive connotation of a person who is exceptionally good at something. If a translator failed to distinguish the cultural characteristics of “beast” in Western culture, a mistranslation might occur.

Idioms are culturally sensitive. The connotations of idioms do not allow us to translate literally, and interviewees found idioms hard to translate. The example presented in Chapter 4 “三人成虎 (sān rén chéng hǔ),” when translated word-for-word, becomes “Three people can make up a tiger” is a good example of the challenge in translating idioms. If translated literally, the meaning will not be understood by Westerners. This is also true for English to Chinese translation. For instance, the Western idiom “under the gun” refers to being under a deadline or other constraint. When translated literally, it becomes problematic. Another example of what not to translate literally is “the elephant in the room,” which means an obvious problem or difficult situation that is being intentionally ignored. It would be hilarious to translate literally to Chinese that the actual animal “elephant” is in the room. First and foremost, a good translator must be able to identify idioms from the source language and translate them to the target culture’s audience. What’s more, it is a translator’s job to decode the meanings of a source idiom and encode it to make it readable and understandable for the target audience. Idiomatic expressions are highly cultural-bounded, and therefore a particularly difficult problem for MT. The domain of cultural meaning is far more problematical than purely linguistic meaning. Translators with

both linguistic and cultural competence can, however, produce precise translation that accounts for cultural context in both the source and target languages.

Some Chinese idiomatic expressions have equivalent conventional expressions in English, for example, the Chinese idiom “一箭双雕 (yī jiàn shuāng diāo)” is the same as the English idiom “Kill two birds with one stone.” The phrase “己所不欲, 勿施于人 (jǐ suǒ bù yù, wù shī yú rén)” is equivalent with the English saying, “Do unto others as you would have done unto you.” For idioms that have conventional expressions in English, the translator should follow that convention when translating from Chinese. Animal idioms can be especially difficult to translate because of the semiotic differences in how the two cultures symbolize particular animals. It is important to understand the connotative meanings of animals in Chinese and in Western culture. Translating idioms can aid the target audience to better understand Chinese culture. Some animal idioms carry similar symbolic meanings in both Chinese and English languages and culture, such as the expression for overeating, “pig out.” Nida’s functional equivalence (see Chapter 2) would be an adequate translation method when translating Chinese idioms that are similar to English idioms. For idiomatic expressions that do not have similar equivalences, word-for-word translation will cause confusion. For instance, “对牛弹琴 (duì niú tán qín)” when translated word-for-word, becomes “to play piano for a cow,” makes no sense in English. A correct translation is, “To cast pearls before swine.” To cast pearls before swine, an idiomatic expression phrase from the Christian Bible, is to waste your time on someone who cannot or does not want to understand you.

As described in the literature (Chapter 2), cultural awareness affects the translation quality and the interviewees agreed that a lack of understanding of cultural differences, cultural connotation, and different cultural thinking patterns cause mistranslation. For example, the

cultural code for colors differs between China and Western countries. As shown in the interview results, the color “white (白色 bái sè)” has a different identity in Chinese culture compared to Western culture. Even though, contemporary young Chinese woman may wear white wedding dresses (thanks to Western influences), the color “red (红色 hóng sè)” is still the color of luck and the primary wedding dress color in China. The cultural connotations of “red” are significantly different from Western cultures. As we all know, the denotative meaning of “red” is simply a color, or perhaps even a particular wavelength of light. However, the connotative meaning of “red” in Chinese culture is luck and fortune. Qiang (2001) further explains the Chinese color “red”. The signifier “red” has many connotations in Chinese culture, including a symbol of happy and lucky events (e.g. red couplets and red envelopes for Chinese weddings or Spring Festival), a symbol of social evolution and communism (e.g. red flag), an indexical sign of certain emotion (e.g. when feeling angry, embarrassed or excited, a person’s face turns red) which is similar to English culture, a symbol of youth, health, and beauty (e.g. “红颜 hóng yán” or “red face” signified a young, healthy, and beautiful woman in China), and a symbol of fortune, fame, and power (e.g. “走红 zǒu hóng” or “go red”, refers to someone who is becoming famous and successful in his or her career; red is also a sign for power, for example, a high-ranking government official in Qing Dynasty would wear a “red hat”). Clearly, the cultural code for “red” in China is very different compared to Western culture; therefore, when translating “红颜 hóng yán” to English, the literal translation “red face” would make no sense to English-speaking people unless it is translated correctly as “apple cheeked girl” according to the connotative meaning to the target culture. Translation should respect the different thinking patterns in both cultures. A translator should not assume that all Westerners are familiar with the

connotation of “red” in Chinese culture. In English, the word “red” has a different set of connotations, e.g. it often signifies danger.

Cultural thinking differences cause Chinglish because the Chinese way of thinking negatively affect English translation. Thus another recommendation is to avoid imposing Chinese thought patterns on English translations. Several interviewees stated “Chinese and English are the reflection of different thinking patterns.” For example, one interviewee stated that “First, English expressions are usually more general and simple and Chinese language pays more attention to detailed descriptions; therefore, when literally translating from Chinese to English, it is difficult for Westerners to understand the meanings.” Another interviewee responded that “heavy rain” should be translated as “raining cats and dogs.” Translating Chinese people's thinking patterns mechanically into English will produce “Chinglish.” As identified in Chapter 2, and as part of the Chinese cultural code, Chinese tend to use circular thinking whereas Westerners tend to use linear thinking. Culture codes affect language expressions, for example, “关系 (guān xi)” means someone performs a favor for someone else and the favor needs to be returned and perpetuated circularly. It does not carry the linear denotation of an English phrase such as “Tit for tat” or the Latin phrase “Quid pro quo”. Steelcase (2011) stated “Notable businesses in China must spend a significant amount of front-end time cultivating “关系 (guān xi)” with clients. Cultivating “关系 (guān xi)” is more complex than relationship building as practiced in the West. “关系 (guān xi)” is about understanding the responsibilities intrinsic to each role within a relationship, and it can take years to develop. Without “关系 (guān xi)”, a business can't be successful in China” (p.20).

Even though Saussure argued that signs are arbitrary, human beings do not create meaning by themselves. History matters: society and cultural conventions shape our values and

create meaning. Social forces can cause a word to change its meaning over time. As Chandler (1994) stated “what is signified by a word is subject to historical change (p.62).” For example, the word “小姐 xiǎo jiě” once referred to a girl born in a rich family with a high social class status in ancient China; in modern China, however, the phrase “小姐 xiǎo jiě” can connote a prostitute and is thus offensive. In modern China, we call girls “美女 měi nǚ” when greeting, which means “beautiful girl”.

A qualified translator needs to know both languages and both cultures. Cultural errors in translation will negatively affect intercultural communication and may offend the target audience. Most English speakers do not understand Chinese language and culture; therefore, it is difficult for them to comprehend what an inaccurate translation is trying to convey.

Mistranslation, in this case, fails to communicate the message to the target audience.

Many of the survey results correlated with the answers given in the interviews. For instance, both the survey and interview participants found that language, specifically grammar, and cultural differences are the main reasons for mistranslations. As with the interviews, the percentage of both categories in the surveys were about equal at 35% and 33% respectively. At 28%, using MT tools without professional translator editing was identified as the third leading cause of mistranslation.

A slight difference between the survey and interview results is the interviews (65%) state that language is the biggest challenge faced by translators and the survey results (46.7%) show that the cultural differences are the biggest difficulty. The researcher believes that this was because the survey was completed by college students who may not have directly experienced Western culture. The students have also been taught that, in order to become a good translator, one must be knowledgeable of the target culture. Another reason the survey respondents

identified cultural differences as the biggest concern is that students desire to learn about Western culture in order to improve their social status. They are generally much more interested in Western culture than previous generations, and their limited exposure to Western music and movies etc. probably helps them appreciate how much they don't know (O'Reilly 2016).

5.1.2. Reasons and Solutions for Chinglish

From the socio-semiotic perspective, mastering English will make someone more competitive in China because the skill is viewed as a status signifier. Chinese people who write and speak English consider themselves culturally superior to those who do not. Symbolically, knowing English means someone is fashionable, modern, and competitive in the international job market. English and Western cultures have influenced the Chinese millennials and their worldview and their self-image. According to O'Reilly (2016), Chinese millennials are the “八零后 bā líng hòu” (after 1980) cohort, born in the years from 1980-1989 and the “九零后 jiǔ líng hòu” (born in the 1990s) group. Millennials perform Western culture by eating at KFC or McDonalds, celebrating Western holidays such as Christmas and Valentine's Day, wearing Western brands, watching Western TV shows and movies, and listening to Western pop music. These behaviors signify being international and processing intellectual capital. Similarly, many Chinese students and professors have English names that are easier for Westerners to remember and pronounce. Chinese names are rather complicated for Westerners, especially when written in Mandarin, and even with Anglicized (pinyin) spelling, they do not translate well into English.

Xie (2008) uses semiotic analysis to decode and explain the way contemporary Chinese citizens regard images of globalization. Xie argues that these images of globalization signify a

“Chinese Anxiety for Modernity” (CAM).⁷ Modern China is filled with transnational capital, localized transnational spaces, and modernity—all defined primarily as Western phenomena. Thus modernity embodies a capitalist high-tech lifestyle, Western consumerism, individualism, Western social relationships, and English skills as social capital. Good English and translation skills are symbolic cultural values used to overcome CAM. Being modern means being Western. CAM applies particularly to this study because having English or translation certifications, publishing in international English-language journals, attending international conferences, and studying abroad signify status, globalism and modernity. Xie characterized CAM through a four-level semiotic analysis, including informational, consumerism-symbolic, trans-national capital symbolic, and CAM-symbolic. At the informational and consumerism-symbolic levels, Chinese Millennials want to engage with the English ad campaigns of McDonald’s and other Western companies in China. For this purpose, no extensive training in translation is necessary. For instance, many Chinese students use MT to translate website information or to look up vocabulary for their educational materials and English entertainment, this confusion is also supported by the survey results. At the trans-national capital symbolic level, we see the acceptance of Western forms of intellectual capital such as publishing in an American professional journal or attending an American university. Harvard, MIT, and other prestigious universities have become a sort of icon that “implicitly signifies the globality of something larger, a U.S.-centered global empire of capitalism characterized by transnational or transterritorial flows of capital, commodity, ideology, values, technology, and cultural values and

⁷ This “anguished desire for modernity” runs very deep in modern China, beginning with the revolution led by Sun Yat-sen and others, “who called for a wholesale Westernization” in the early 20th century (Xie 2008, p. 154). The key difference is that for the May Fourth intellectuals, modernity was framed by social relationship and linguistic activity, whereas for contemporary Chinese it is framed more by capitalism and Western consumerism (Xie 2008, p. 155).

practices.” (Xie p. 159).⁸ Several interviewees expressed the importance of reading from native English sources such as journals, or other exposures to Western culture. For example, one interviewee stated that “Performing international academic exchanges, attending foreign guest lectures, talking to foreigners, and publishing in international journals will significantly improve Chinese to English translation quality”. Finally, at the CAM-symbolic level, we see Chinese Millennials performing American culture through speaking and writing English, and using these skills to demonstrate their modernity. The demand for native English speakers to teach classes at Chinese universities is one manifestation of this phenomena.⁹ Though the four levels designated by Xie play out in the personal lives of Chinese Millennials, they add up to a broader and deeper cultural movement—for example, publishing in U.S. academic journals is a way of demonstrating that China is a part of the modern, Western-dominated world.

In studying Chinglish as a stigmatized code, Henry (2010) demonstrates another facet of what Xie (2008) defined as CAM. Henry found that contemporary Chinese people are embarrassed or “lose face 丢脸 (diū liǎn)” when they produce Chinglish or when they were in the presence of Westerners where there was Chinglish signage or other text. Like Xie (2008), Henry identified Chinglish as a label for CAM, though in his words the “lose face 丢脸 (diū liǎn)” stems from a fear of embarrassment by worldly strangers or a fear that “foreigners are laughing at us.” (Henry p. 670). Again, using proper English or translating Chinese into standard English is a way of performing modernity—a sign of being educated and, in particular, an indexical sign that points to being international, foreign, and modern. “Chinglish is thus a kind of

⁸ Note that, though Xie applied semiotics primarily to Western consumer phenomena such as McDonald’s, the researcher has extended his analysis to help explain the growing demand for Chinese university programs in English translation and for professional translators.

⁹ For example, the researcher’s mentor and advisor, Dr. Pat Munday taught classes in English at Southwest University and at Sun Yat-sen University—there is a common and growing tendency of Chinese universities to host American scholars to teach domain-specific subjects.

failed modernity.” (Henry p. 685). In part, Chinglish stems from the syntagmatic structure of Chinese, which “tends to foreground topic information . . . rather than subject information. . .” (Henry p. 673). Chinese ESL learners often produce Chinglish when they code switch¹⁰ between Chinese and English using Chinese syntax or connotation. From the semiotic approach, translation is language code switching, we switch from one language to another when translating. According to Jakobson (1959), there are three kinds of code switching or translation, including intralingual translation or rewording, interlingual translation, and intersemiotic translation. Nöth (2012) explains that “in intralingual translation, an unknown word of the source language is mediated through its synonym or paraphrase” and “in intersemiotic translation, the teacher teaches new words by using nonverbal signs” (p.285). Henry finds that Chinese foreign language professionals (such as the group that the researcher interviewed) believe that Chinglish stems mainly from “the intrinsic way of thinking of the Chinese people and by China’s unique society and culture” (Wan 2005: 42, quoted by Henry at p. 678).

Even though Chinese people have made enormous efforts to master English for achieving an international identity, Chinglish is still inevitable in certain circumstances. In Chapter 4, interviewees identified cultural and language differences as causing Chinglish, just as in Henry’s (2010) analysis above. Using Chinese syntax (syntagmatic structures) to translate English sentences will certainly produce Chinglish. Differences between Chinese and English vocabulary means that some words are untranslatable; thus, low translation skills, such as translating word-for-word or over-reliance on MT, will produce Chinglish.

¹⁰ Code switching is switching back and forth between languages. Lin (1996) presents an example of code switching: when a Hong Kong Cantonese chooses to use the word “billiard” instead of the existing native equivalents, he or she is using the bilingual code to indicate his or her English-educated, Western quality while at the same time maintaining an informal, friendly atmosphere.

As with vocabulary or syntax, misuse of MT also generates Chinglish. The largest problem with students seems to be an overreliance on free online translation software, which usually delivers incorrect and ungrammatical translations, at least for professional purposes. As Aiken et al. (2006) points out, however, MT can be useful for “gisting”, i.e. getting the general meaning of a foreign text.

Last but not least, the Chinese educational system is also a main cause for Chinglish. As stated in Chapter 4, ESL textbooks are written by Chinese people, most English teachers are native Chinese speakers, and English education is largely limited to English courses taught using mainly Chinese, while other courses are taught using only Chinese. However, some top universities in China recognize this problem and are eager to have native English-speaking professors to teach English courses.

Thus, Chinglish will be minimized through higher educational standards, refined pedagogy, and becoming familiar with English culture. Henry’s conclusions were shared by some interview informants. One interviewee said “China's English education problem is the main cause for Chinglish. For example, Chinese textbooks are written by Chinese people and according to Chinese customs.” Another interviewee stated “China's English education using Chinese language to explain things. English is only limited to English courses, but not used in physics, math, and chemistry courses, which cause Chinglish.” Moreover, a third interviewee pointed out “A lack of understanding of Western culture will cause translation errors.” Lastly, one interviewee indicated “It is best to study in English-speaking countries for some time, experiencing local customs and understanding their ways of thinking and values, in order to obtain first-hand authentic English expression.” The survey indicates the students’ claims of

having concern and anxiety for acquiring cultural knowledge, which supports Henry's theory as well.

Despite the fact that ESL is a popular industry in China with a high consumer demand, many Chinese still produce Chinglish when translating. The researcher considers the education system in China is the root of Chinglish; most Chinese students study English in order to get good grades on their high school entrance examinations, college entrance examinations, CET 4 (College English Test-Band 4), CET 6 (College English Test-Band 6), TEM-4 (Test for English Majors-Band 4), TEM-8 (Test for English Majors-Band 8), and even graduate school examinations. It is a good example of a growing trend that is often criticized in the U.S.: teaching and studying only for the exam, and substituting test scores for more nuanced forms of learning. Chinese schools focus on English examinations and grades but neglect to teach using English immersion or other proven pedagogical methods. The CET 4 is required for all university students; however, students who pass the CET 4 exams are competent at neither writing nor speaking English. Chinese natives who teach ESL themselves often know little about Western culture, have not lived abroad, and often produce Chinglish themselves. Qiang and Wolff (2003) point out some reasons for Chinglish, which include using one single teaching method for all students in large classrooms settings, having Chinese ESL speakers without Western cultural experience to teach ESL, and allowing native English speakers with only a college degree (in any major) and without any teaching experience or teacher-training to teach ESL. Qiang and Wolff raise some good points regarding the ESL educational problem in China, and how it inevitably results in Chinglish. As an outcome of this study, the use of MT and free online translation software, and the acceptance of these shortcuts in the Chinese ESL educational system, also contributed to the Chinglish problem. The Chinese education system does not adequately prepare

professional translators for the global market. Most Chinese professors and students are handicapped by Chinglish and struggle with publishing their research in international journals. As a practical matter, Chinglish is perceived as a word-for-word translation that is grammatically incorrect. English journal editors often request authors to clarify the Chinglish in their manuscript before considering the work for publication. A deeper knowledge of cultural differences is one key to more accurate translations and intercultural communication.

The researcher agrees with interviewees that understanding both languages and cultural differences by learning authentic English expressions through academic journals and being exposed to a bilingual learning environment are crucial solutions for reducing Chinglish. The researcher recommends that ESL learners spend time learning English from watching American or British movies and TV shows, reading literature, listening to authentic radio and songs, and most importantly, experiencing the English language and culture by living abroad in Western countries. Through the learning process, ESL learners will be able to achieve more accurate translation by increasing their command of language and cultural knowledge. For example, ESL learners who have a limited proficiency will likely translate the set of related words – “pickpocket”, “stealing” “robbery”, “housebreaker”, “burglar”, and “shoplifter” – into the word “theft” without any cultural context and or further denotation. Vice versa, if ESL learners have to translate these vocabularies from Chinese to English, they might not be able to understand all the meanings because these words are not stored in their vocabulary memory bank. As a semiotically driven and practical technique, students should be taught to remember a word’s synonyms and antonyms.¹¹

¹¹ As semiotics has demonstrated, when we use a word we always (if silently) imply its opposite. Even if this only works as a matter of exclusion – e.g. “Who is the man in charge?” implies that women cannot be in charge – signs are meaningful only within a broader context of related signs.

The survey and interview results indicated that education or training needs to be improved in order to improve translation. According to the survey, standards for professional training is greatest challenge in Chinese translation industry. Other problems are ranked greatest to least as follows inaccurate translations, lack of qualified translators, regulations, and standardized pay rates. The researcher believes that if the educational system and training are improved, then the problem of inaccurate translation and the lack of qualified translators will be reduced.

As indicated by the interview and survey results, a possible solution for educating and training translators is to focus on the target culture by providing more classes in the target culture and classes that are taught in the target language. Studying abroad would also help with the student's cultural education. In addition, by living abroad, people are exposed to the thinking patterns, expressions, and values of the target culture.

5.2. Cultural Sensitivity and Translation Quality

Cultural sensitivity is very important for fully understanding the original meaning of a text. In Chapter 4, interviewees believed cultural sensitivity affects translation quality the most. The researcher agreed with the interviewees that cultural sensitivity has a great influence on liberal arts and literature translation, but has a lesser impact on science and engineering translation because science and engineering are more international and objective, and less culturally-specific.

According to Nöth (2012), a translation approach to the study of meaning is a semiotic approach to meaning. Nöth (2012) states that “Translators cannot convey the meaning of the words of a source language representing cultural idiosyncrasies unknown to an audience only acquainted with their own culture” (p. 283). Rapaille (2007) discusses culture codes for America

and other nations. Though Rapaille has little to say about the Chinese code, clearly it is vital for translators to understand the target country's culture code.¹² For example, the book describes Nestle's effort to sell coffee in Japan, where the culture code revolves around tea, not coffee. Nestle finally succeeded because they created a demand for coffee in Japan by imprinting children—the company infused the flavor of coffee (without caffeine) into children's desserts. Successfully translating a source text into a target language is a little like Nestle's campaign to sell coffee in Japan—it is fundamentally important that we understand (and respect!) the target culture. Without knowing the cultural differences,¹³ people can easily mistranslate and misinterpret the context, and thus fail in our translation.

Cultivating cultural knowledge is vital for accurate translation. The English idiomatic expression “cook someone's goose”, meaning “to ruin someone's chances or future”, can be used to explore the phenomenon that was pointed out by an interviewee about “goose” as a negative signifier in Western culture, but not in the Chinese context. If a translator understands this cultural phenomenon, he/she will be able to translate the meaning correctly. Emotional coloring is a particularly interesting aspect of cultural knowledge. Dict.cnki.net defines this phenomenon as “The use for color words by the two English-Chinese nations, from expression way, emotional coloring to category used, all reflect the cultural differences between the two nations”. Thus, emotional coloring (感情色彩 gǎn qíng sè cǎi) describes the cultural and connotative differences between a word or phrase in two different languages. Emotional coloring can be derogatory, commendatory, or neutral. Commendatory terms express positive meanings while derogatory

¹² See Rapaille's newer book, *The Global Code* (2015) where he describes China's culture code in passing.

¹³ In high context cultures, an understanding of unspoken rules of engagement and indirect implicit communication is required. For example, Chinese culture is high context and Chinese language is full of ambiguity. In low context cultures (e.g. Western culture), a direct and explicit approach is the key for communication between independent individuals. See <https://www.steelcase.com/content/uploads/2014/03/360Magazine-Issue65.pdf>

refers to negative meanings. MT does not recognize emotional coloring in a given context, which is another reason that MT, without human editing, can be inaccurate and unreadable.

An example pointed out by an interviewee is the word "dog" – in Chinese, “狗 gǒu” – which carries a derogatory emotional color in Chinese culture. In contrast, it is often used as a commendatory word in English cultural context, e.g.: “love me, love my dog (爱屋及乌 Ài wū jí wū),” “every dog has its day (风水轮流转 fēng shuǐ lún liú zhuàn),” or as a word implying loyalty. In Chinese translations of these two English commendatory expressions, the word “dog (狗 gǒu)” does not appear. A dog is treated as a family member in Western culture, but is considered as a dangerous or untrustworthy animal that could bite a person in Chinese culture. In Chinese, if you say “you are a lucky dog” to another person, you are insulting him or her. Emotional coloring and cultural connotation are difficult to translate correctly, i.e. with awareness and sensitivity.¹⁴

The commendatory meanings of certain Chinese words or phrases, as opposed to their derogatory meanings in Western culture, can also stem from the ideographic and rebus/phonetic nature of Chinese characters, whereby one character with a similar appearance or homophonic sound may substitute for another character. For example, both the character and the iconic image of “bat (蝠 fú)” is a signifier of luck and fortune in Chinese, as it is homophonic with the character “福 (fú, fortune or blessing).” In English, “bat” often carries a derogatory meaning as a feared animal that carries the rabies disease or is an evil consort of vampires. For Westerners

¹⁴ As another common example, once again consider the term “dragon” or “龙 lóng”—it has commendatory emotional coloring in Chinese culture but is regarded as derogatory in Western culture. Dragon is a sign of good fortune and auspicious power in China but a destructive and evil force in Western culture.

without a good grasp of Chinese culture, it is difficult to explain the way ideographic and homophonic similarities carry strong connotative meanings in Chinese culture.

With a given object that is familiar to both the source language culture and the target language culture, translation can be a relatively straightforward process of semiosis. For example, the object that we call “lion” as a signifier in English or “狮 shī” in Chinese is thought of (as interpretant or signification) as a specific (as denotation) species of large wild cat. Both cultures also attribute (as connotation) to the lion particular properties such as strength, nobility, and wisdom. It is relatively easy to translate “狮 shī” as lion. Participants in both cultures are likely to be familiar with the lion at many semiotic levels.

At the other extreme, there are objects known only to the source language culture. For example, dragon fruit (*Pitahaya blanca*) is a fruit originally introduced to Asia from Central America. Though virtually unknown in the United States, “dragon fruit” or “火龙果 huǒ lóng guǒ” is common in Chinese markets and is well known to Chinese consumers. The translation of “火龙果 huǒ lóng guǒ” into English is difficult because individual readers in the target language culture are likely to have no knowledge (interpretant or signification) of what a dragon fruit is. The effective translation of “火龙果 huǒ lóng guǒ” into English thus becomes a major exercise in interpretation that might require photographs, a detailed description, and comparisons with similar fruits known to Westerners. Consider the reverse of this situation, where a translator is seeking the meaning of a signifier in an ancient text from a long-extinct culture. With these examples, our sometimes careless regard for translation as a trivial process becomes a serious question for semiotics and brings home the challenge of untranslatability. How easy it would be

if, like Eve (source language) in a semiotic Garden of Eden, we could simply pluck a “火龙果 huǒ lóng guǒ” from the tree, toss it to our Adam (target language) and direct him to, “Eat this!”

Some Chinese concepts can be translated literally into English, but without a deep understanding of the Chinese cultural practice the translation will mean little to Westerners. An example from an interviewee is “坐月子 zuò yuè zi”, literally meaning “sitting the month”. It can be translated as “maternity leave”, “postnatal period”, “or "postpartum rest”. However, the researcher believes the cultural meaning of “坐月子 zuò yuè zi” remains untranslatable due to the different activities of Chinese and Western women during that period. During “坐月子 zuò yuè zi,” Chinese women follow a special diet and stay indoors to benefit their health.

The semiotic square (Greimas’ square) is a semiotic tool that helps map signifier relationships in a more complex way than simple oppositional pairs (Chandler 1994). Consider the Chinese idiom “不分青红皂白 (bù fēn qīng hóng zào bái)” using the semiotic square as shown in Figure 23. 不分青红皂白 (bù fēn qīng hóng zào bái) literally means not being able to distinguish between red-green or black-white. The correct translation is the phrase “not being able to tell between right and wrong”. In the semiotic square below, (S₁) Black is contrary to, or the opposite of (S₂) White, (Non-S₂) Red is contradictory to or outside the set defined by (S₂) White and is semiotically related to or complementary to/implicated by (S₁) Black, and (Non-S₁) Green is contradictory to (S₁) Black and is complementary to/implicated by (S₂) White. In Chinese culture, the color (S₂) White is associated with death and mourning while the color (Non-S₂) Red is considered lucky. The color (S₁) Black is said to be the king of colors whereas the color (Non-S₁) Green can represent infidelity or other derogatory connotations. However, in American culture, White is commendatory and traditionally used for weddings or purity, while

Black is derogatory and used for funerals and evil. Red can mean danger or anger, while the color Green represents spring and new growth. The semiotic squares for these colors in Chinese and English show very different cultural codes or narrative relationships.

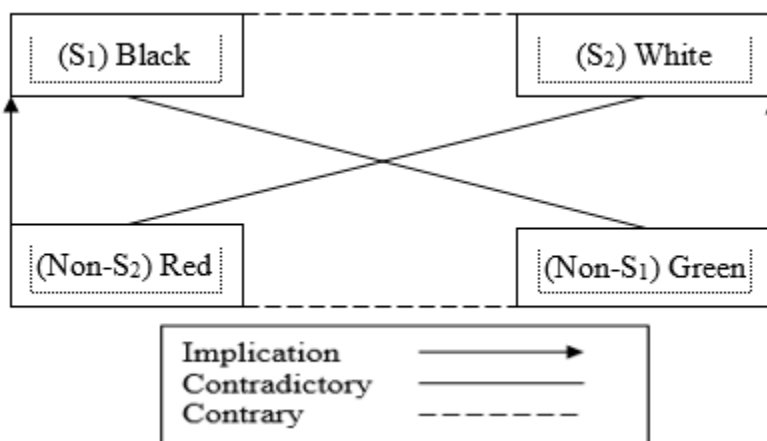


Figure 23: Semiotic Square for Chinese Color Code

Understanding cultural connotation is important for quality translation. Both the survey and interview results support the conclusion that having an awareness of the cultures helps with accurate translation. By knowing both the source and target cultures, translators have the denotative and connotative knowledge, and a broader grasp of semiotic structures and culture codes, to grasp the meaning of vocabulary and idioms. Translators should have a deep understanding of both the Chinese and English language and continually learn, practice, and experience both cultures. For example, Chinese translators should visit English-speaking countries to learn authentic English expressions and Western culture. To further improve the translation process, translators should also proofread the final product before it is given to the client. “Rationality is not instantaneous”,¹⁵ and when we come back to a text we see it in a more

¹⁵ This is a favorite expression of the research’s mentor and thesis chair, Dr. Pat Munday.

objective light. MT tools may be used appropriately for vocabulary but must not be used to express nuanced meaning. Good translators need to increase their culture awareness and develop their expertise and professionalism to improve their translation skills.

5.3. Machine Translation (MT)

Surprisingly, only 65% (13 out of 20) of the interviewees used MT tools, but 99% (347 out of 350) students surveyed used MT. The researcher believes this is because professors, based on their educational background and teaching experience, have a larger a corpus of English vocabulary than students. In addition, both interviewees and students with higher English proficiency levels used MT tools to look up specialized vocabulary and difficult word meanings while students with lower English proficiency levels used MT to translate whole passages which leads to low quality translations. Baidu, Youdao, Iciba, Dict, Kingsoft translation, Google Translator, and Lingoes were used by interviewees. As shown in the literature review, MT is largely domain-limited, generated for a specific purpose, and not generally intended for a literary translation. Based on the researcher's experience, students are more tech-savvy than their teachers, and having grown up with connectedness they "naturally" reach for their phone and software app when confronted with a translation homework assignment or other need for translation.

Ultimately, the reality of MT as a technological system will depend on how it is socially constructed. Whether it is accepted only for informal gisting or goes on to supplant human translation – especially in well-defined domains and through improved MT systems such as Computer-assisted Technology using Translation Memory – user expectations may need to adjust to the technology's limitations. As the historian of technology David Nye describes it, the social construction of technological systems "emerges not only through its use as a functional

device, but also through it being experienced as part of many human situations which collectively define its meaning" (Nye 1991: 85). Interviewees and many Chinese students already routinely use MT, both for academic work and for enhancing their understanding of American popular culture. In this study, interviewees collectively defined the meaning of MT as a tool which they use to look up difficult vocabulary to assist them in performing the translation task. But though MT is here to stay, its formal use in university translation studies and its informal use in Chinese society is still open. There is still a lot of interpretive flexibility before closure occurs, i.e. before MT emerges as a stable, well-defined, and academically accepted technology. Several interviewees as noted from above, MT should not be over-relied upon and agreed that its usefulness is limited to looking up difficult words.

In the current study, the survey shows that the majority of respondents would pay for a professional translator when translating an important document. This correlates with the answers given in the interviews. When students do use MT, Youdao dictionary was found to be the most popular. This is somewhat different from the interviewees, who were split between Baidu and Youdao dictionaries, which could be due to students downloading the Youdao App on their mobile devices. Other MT, such as Google Translate, may not be as popular because Google applications are blocked in China for users without a Virtual Private Network. Most students rely on the free online translators, which are used daily by most students according to the survey result. The researcher believes that this could be because many students used MT to translate entire websites, to look up vocabulary for their educational materials, and for English language entertainment.

The survey shows that many people believe paid machine translators are more effective (n=143, 44%) than free machine translators; however, they are not willing to pay for a machine

translator (n=86, 26%). This could be caused by the surveyed students not being able or willing to pay for machine translation software. Thompson (2006) finds that “In China, downloading illegal copies of music, movies and software is as normal and accepted as Americans checking the weather online. Baidu's executives discovered early on that many young users were using the Internet to hunt for pirated MP3's, so the company developed an easy-to-use interface specifically for this purpose (p.13).” Chinese youth, as a cultural value, are reluctant to purchase software, textbooks, music, movies or other digital products; they prefer to use free educational materials, which would help explain this reluctance to pay for MT.

5.4. Translation Profession

5.4.1. Translation Process

Ramos (1980) describes translation as a semiotic process involving two corresponding messages in two different codes. The translator is the mediator between the codes, being the decoder of the original message and encoder of the target message. Translation is a semiotic activity involving communication, problem solving, and decision making. The translator, as the sender, needs to correctly convert the messages for the receivers. In a postmodern sense, of course, we also emphasize the active role of the receiver, who decodes a message based on historical, cultural, and social contexts. In this study, the emphasis is on the translator as sender, and the majority of interviewees followed a 3-step semantic translation process of:

1. Comprehending
2. Translating
3. Revising

The “comprehending” step includes planning and researching specific knowledge¹⁶ of the source text, understanding the purpose, audience, and context. As Chapter 2 stated, “Skopos theory” could be used to identify the purpose of the translation. The “translating” step is where the target text is generated from the source text. Finally, the “revising” step allows translators to make final changes to the target text, accounting for both linguistic and cultural meanings. Most interviewees believed that the “revising” step is the most vital in the translation process. In the researcher’s own translating experience, she agreed that revision is the key to an accurate translation, especially when the document contains important information or involves a technical domain. This is a key observation and a step that is skipped by non-professionals that also contributes to Chinglish issues as discussed above.

Darwish’s (1989) 3-dimensional translation process shows the 3-step process that interviewees identified as a standard practice. Darwish’s 3-dimensional process includes the following steps:

1. Text analysis
2. Translation
3. Rearrangement

Darwish draws attention to the mental processes when translating through the “concept lens” as shown in Figure 24. Translators are constantly matching the lexis, grammar, stylistics, and culture equivalence, code switching back and forth from the source language to the target language.

¹⁶ According to Nöth (2012), the study of meaning requires taking into consideration informational (domain-specific) knowledge.

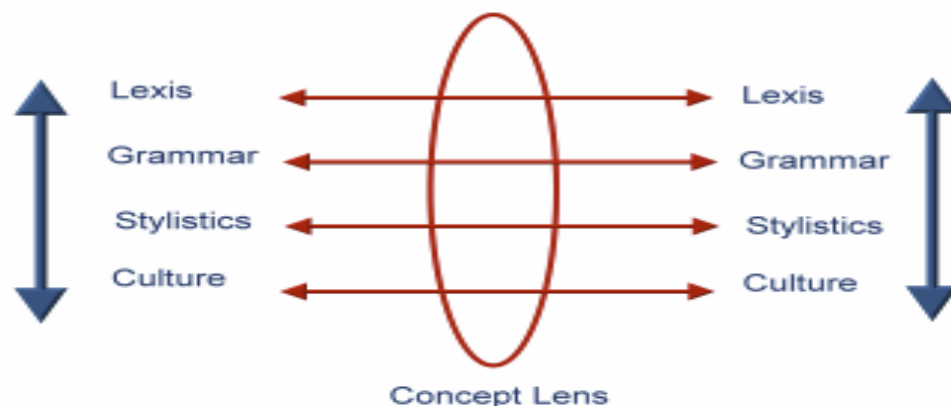


Figure 24: Darwish's Concept Lens

5.4.2. Professional Translators' Competence

Interviewees stressed that improving translation skills is vital for today's Chinese students. The researcher believes that translation skills often develop as an outcome of the translator's experience. When translators accumulate a rich corpus of Chinese and English language and culture, their translation skills will improve. According to the interviewees, these skills include but are not limited to vocabulary, memory, work ethic, professionalism, and broad and specialized subject knowledge.

Drawing from the results of the interviews and the literature review in Chapter 2, excellent command of both languages is the foundation of being a good translator. As one interviewee pointed out, "a qualified professional translator is someone with high professional language levels in both the original and target language, who uses both on a daily basis, and can more or less unconsciously jump back and forth between communicating in both." Thus, it is important to select a specific kind of text or domain for translating and continue learning to become more familiar with the subject knowledge, writing style, and thinking patterns of that domain.

Data from the survey shows that students who are concerned about mistranslation see more mistranslated texts, and that students considering becoming a future translator are more concerned about mistranslation than others. This provides hope that future translators will pay more attention to what and how they are translating. This in turn will provide better translations and improve their international and professional standing.

In addition, the survey pointed out the top three attributes of a good translator, *viz.* being a native speaker in the source language, experience in translation, and being an expert in a specific field or domain. One interviewee stated “if a translation is completed by a non-native speaker of the target language, it should be proofread by a native speaker of the target language.” The researcher believes that all of these attributes are vital in being a good translator.

6. Conclusion

The above analyses demonstrate that the findings in this study answered the research questions and provided support for the hypotheses presented in Chapter 1. For anyone looking to understand or cultivate an interest in Chinese to English translation, this study is a good starting point. The study is based on original research with a large sample of interview and survey participants who provided useful insights. The research complements existing studies by providing practical solutions for recognized problems and by using semiotic analysis to help the audience understand the role of cultural context in translation, especially idiomatic translation. In this chapter, the researcher will discuss the implications of these findings, the limitations, and recommendations for future research.

6.1. Implications of Findings

The mixed approach of quantitative and qualitative research was designed to identify Chinese to English translation problems and provide solutions to improve translation quality. The topic was worth researching because it raises our awareness of the role of accurate translation in the technical communication field and in intercultural communication. The topic is important for cultural exchange and not merely for professional translators. On the one hand, American universities are eager to recruit international students, especially Chinese students. On the other hand, mistranslation and miscommunication can negatively affect students' learning experience, social interactions, and cultural experience. This research is a resource for American universities and Chinese students who wish to study in America, and for those who want to pursue a translation profession in China. Additionally, the research is a resource for Chinese to English translators and the translation profession because it addresses major issues that cause

mistranslation and explores ways to resolve these issues. The results of the research also contribute to the ESL field and students who are learning translation.

This study focused on particular research questions based on the literature review and the researcher's personal translation experience. Through interviews with professional translators, university professors, and a survey of university students, it was found that first and foremost, Chinglish is a common translation problem. Chinglish stems from different levels including vocabulary, syntax, and cultural awareness. The main cause for Chinglish, especially at the cultural level, is due to the Chinese educational system. The Chinese educational system does not provide enough training in the differences between the two language systems, thinking patterns, and cultures. On one hand, the Chinese education system focuses heavily on examinations rather than practice. Thus, Chinese teaching methods emphasize helping students pass their universities entrance examinations, and thus limits students' interests in study and their broader knowledge. On the other hand, some Chinese students lack critical thinking skills because they are required to memorize textbooks and discouraged from challenging authority. Students can actively learn the cultural differences by studying in Western countries and communicating with native English speakers.

Second, cultural awareness is an important factor for improving translation quality, especially when it comes to idiomatic translations. It is vital for the translator to identify cultural similarities and differences between Chinese and English idiomatic expressions. For conventional English idioms, the translator needs to follow convention and keep cultural meaning in mind when translating from Chinese. Translators need an awareness of the two cultures' different thinking patterns when translating meanings that have different connotations to both cultures. Therefore, learning idiomatic expressions and understanding culture codes are

vital for translators to develop cultural awareness. The researcher believes that translators who lack cultural sensitivity can cause serious problems. Tom (2016) provides a good and current example of the negative impact an inaccurate Chinese to English translation can have across disciplines and may become an international issue. Chinese science researchers recently translated “nature (自然 zì rán)” as “Creator (创造者 chuàng zào zhě)” in a peer reviewed paper, and it was culturally offensive to many Western readers. Westerners understand “Creator” as “God”. This is a mistranslation that stemmed from a lack of cultural knowledge. The first author, Ming, explained that English was not their native language and their understanding of the word “Creator” was not the same as a native English speaker. It would have been beneficial if a professional translator had proofread the translation to determine whether it was appropriate for Western culture before being published.¹⁷

Third, MT is best when used for gisting. Using MT, casual readers may obtain a rough translation of the source text that allows them to understand the essence or general meaning of the source text even though the sentence structure, grammatical agreement, parts of speech, or word meanings are not accurate. It is important to have a professional translator either translate or proofread texts if higher translation quality is desired. For example, translating legal documents or publishing articles in an international journal, where an accurate translation is important, requires a professional translator’s touch. MT tools can be used when translating single vocabularies, day-to-day phrases, internet texts, or other relatively unimportant texts. The genre of the translated text or the purpose of translation determines the extent of relying on MT tools. On one hand, it would be vital for MT developers to improve MT tools for more accurate

¹⁷ The researcher thanks her committee member Dr. Michael Masters for bringing this example to her attention.

results. On the other hand, individuals need to understand the limitations of MT and utilize MT tools appropriately.

Lastly, this thesis identifies the qualities of competent translators. These qualities can be summarized by the following:

1. Excellent command of both languages
2. Comprehensive understanding of both cultures
3. Good research and translation skills
4. Exceptional composing and editing ability
5. Skill in the subject matters and interdisciplinary knowledge
6. Respect for the professional translator code of ethics
7. Sufficient translation experience and translation certification
8. Capable of continual learning
9. Understanding of MT tools for the relevant domain

Raising the general accuracy of translation requires improving the translation industry, providing professional training in both language systems, understanding how people from each language think, and knowing how the target culture (audience) will actively construct the meaning of a given translation. To promote accurate translation as a chief goal of the translation industry, the educational system needs to produce translators who are more knowledgeable of cultural connotations, the profession needs to regulate translation licenses, and there needs to be some standardization in translators' rate of pay.¹⁸ All in all, the ideal professional translator is

¹⁸ Though it is beyond the scope of this thesis, there is a rich history of professionalization in Western culture for fields such as engineering and medicine. The translation industry would benefit from learning how professional criteria developed for these fields.

one who combines language and cultural knowledge, possesses a variety of translation skills, and has a passion for learning new things.

6.2. Limitations

One of the serious limitations the researcher encountered was lack of library access to Chinese databases and published articles, which affected the researcher's ability to review the scholarly literature in China. For example, the researcher was not able to obtain access to articles such as Xiaojun Heng's "Functional Equivalence in English Translation of Chinese Idioms: A socio-semiotic approach [J]." *Chinese Translators Journal* 4 (2003): 004. The researcher doesn't know if this limitation resulted from her location at a small public university in Montana or if it would be a limitation also faced by graduate students at large private American universities. Hopefully this access problem can be overcome and future researchers who follow up on this research are able to access Chinese scholarly literature.¹⁹

In addition, the researcher should stress that this study has been primarily concerned with understanding Chinese to English translation problems in particular and identifying possible solutions to these problems. The study does not imply that these are the only problems and solutions for Chinese to English translation. English to Chinese translation was not included in this study because the problems and solutions are different than Chinese to English translation. Likewise, the problems and solutions may not apply for translation between other language pairs. Unfortunately, translation studies are not a major focus in technical communication programs in the US as compared to China and European countries. Therefore, there was limited access to translation experts at Montana Tech, which has no translation program, even though the

¹⁹ On the flip side of this problem, according to Dr. Pat Munday, many graduate researchers at Chinese universities can not freely access Western scholarly journals.

researcher's thesis chair has a deep understanding of the topic and provided generous support and useful insights for this research.²⁰

Time constraints were also a limitation as the researcher had only three weeks in China to conduct the research and there was no time for follow up interviews because the interviewees are professors with busy academic lives. The interview sample was diverse but there were biases associated with the sample. For instance, all of the interviewees were Chinese which excluded translators from other countries, including American translators of Chinese. Translation into language pairs other than Chinese-English was beyond the scope of this study. Finally, another limitation is that the survey sample was not randomly selected and lacked variety because, instead of randomly selected participants, the survey participants were Chinese college students who are learning English, with most majoring in English and translation. Since most students in these fields were women, the sample size for females is larger than males, which may have created gender biases in the study as well.

6.3. Recommendations for Future Research

This study discovered some interesting areas to be explored in future research. First, it is important to investigate the reasons for the lop-sided nature of Chinese-English translation education and the translation industry. While Chinese anxiety for modernity seems to drive the ESL industry in China, there is no such demand (let alone American anxiety regarding Chinese language) for Chinese language courses in the US. There is a sort of cultural imperialism at work here, more subtle and economically driven than the "gunboat diplomacy"²¹ of 19th century

²⁰ The thesis chair, Dr. Pat Munday, lived in Germany for a year and performed extensive translations of German-to-English historical scientific documents for his doctoral research and early research program.

²¹ "Gunboat diplomacy" refers to foreign policy that is supported by the use or threat of military force, a term now associated particularly with British imperial power and the Opium Wars. See http://www.encyclopedia.com/topic/Gunboat_diplomacy.aspx for further explanation.

Western imperialism. It seems that all Chinese students must learn English, but few American students need to learn Chinese, even though there are some efforts to counter this, e.g. Confucian Institute.²²

Second, it is worth studying whether it is possible to develop MT software that is capable of translating cultural meaning and whole passages rather than functioning primarily as a vocabulary or gisting tool. Future research may answer this question through an analysis of software currently in development and how the cultural meaning problem is being addressed. Deeper studies of the cultural sensitivity that is lacking in current MT applications may aid in the development of MT with improved translation accuracy.

Third, a comparison is needed of how English-Chinese mistranslation problems differ from other language pairs. The researcher suggests conducting a similar study using different language pairs. The mistranslation problems will likely vary largely depending on the language similarities and differences. It would be interesting to compare the problems among different language pairs based on cultural distance between the pairs. For instance, the researcher expects that Chinese to English translation problems will differ greatly from Spanish to English translation problems because the cultural/historical differences between Chinese-English are so much greater than for Spanish-English.

Lastly, the researcher calls for a study of the practical steps that can be taken to improve the ESL educational system in China, provide professional training, and expose future translators to Western culture. Future research could focus on a review of the current state of ESL education

²² The Confucius Institute (孔子学院/ Kǒng zǐ Xué yuàn) is a non-profit public educational organization affiliated with the Ministry of Education of the People's Republic of China. The aim of Confucius Institute, with many locations in the US, is to promote Chinese language and culture, support local Chinese teaching internationally, and facilitate cultural exchanges. See https://en.wikipedia.org/wiki/Confucius_Institute for further explanation.

in China. For example, reviewing academic programs, course syllabi, and course evaluations would provide insights to this question.

These questions and others may be addressed by future researchers, and the researcher hopes that she has in some small way contributed to the scholarship on this subject. While she could have easily devoted several more years of research to this topic, that will have to wait for possible future work in a doctoral level program. For now, as the Greek philosopher Hippocrates noted, “Life is short and art long; the crisis fleeting, experience perilous, and decision difficult.”

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8. Appendix A: Interview Questions

Welcome and thank you for your participation today. The principle aim of this interview is to identify common problems in Chinese to English translation and to develop methods to improve the translation quality. This study is being carried out as part of my graduate thesis. There are no foreseeable risks associated with taking part in this survey. This interview is completely anonymous.

您好！非常感谢您接受采访！这次采访将作为我的研究生论文的一部分。本次采访的目的是探究中译英中存在的问题并提出解决方法以此提高翻译质量。

Date 日期_____

Name 姓名_____

Age 年龄_____

Gender 性别_____

Occupation 职业_____

Job Title 职称_____

Education 学历_____

1. What are some difficulties when you translate Chinese to English and what is the biggest difficulty?

您在中译英的过程中遇到哪些障碍？最大的障碍是什么？

2. What are the reasons for Chinglish?

“中国式英语”产生的原因是什么？

3. How can Chinglish problem be resolved?

如何避免翻译中的“中国式英语”？

4. What is your translation process?

您的翻译步骤是什么?

5. What do you consider the most important step in your translation process?

你认为翻译步骤中哪个步骤最重要?

6. How would you define a qualified professional translator?

您认为专业翻译人员应该具备哪些素质?

7. Do you use machine translation tools?

您是否使用机器翻译工具?

8. If so, which machine translation tools do you use?

如果是, 您所使用的机器翻译工具是什么?

9. If so, under what situation do you use machine translation tools?

如果是, 您在哪种情况下使用机器翻译工具?

10. Does culture sensitivity affect translation quality? If so, how?

文化敏感度 (对文化差异的认识) 对翻译质量有影响吗? 若有影响, 请举例说明。

11. What are your suggestions for improving Chinese to English translation quality?

请您谈谈提高中英翻译质量的一些看法。

9. Appendix B: Survey Questions

The principle aim of this study is to collect information about Chinese to English translation.

This study has the potential to contribute to my graduate thesis. There are no perceived risks associated with taking part in this survey. This study is completely anonymous. Participation is voluntary, and subjects' consent will be implied by their proceeding into the study.

Date _____ University _____ Age _____

Sex _____ Degree _____ Major _____

English Education Years _____

English or Translation Certification (select all that apply) CET4 CET6 TEM4 TEM8

Others (please write in) _____

1. On a scale of 1 to 10, 1 being “bad”, 10 being “excellent”, how would you rank your knowledge of translation methods and the process of linguistic translation?

1 2 3 4 5 6 7 8 9 10

2. On a scale of 1 to 10, 1 being “uncomfortable” and 10 being “comfortable”, how comfortable do you feel with your translating skills?

1 2 3 4 5 6 7 8 9 10

3. How often do you have to translate Chinese to English?

- Everyday
- Twice a week
- Once a week
- Once a month
- Less than once a month

4. On a scale of 1 to 10, 1 being “unlikely” and 10 being “likely”, how likely will you be using translation for a future profession?

1 2 3 4 5 6 7 8 9 10

5. On a scale of 1 to 10, 1 being “never” and 10 being “all the time”, how often do you see Chinglish (English that has been influenced by the Chinese language) or mistranslation around you?

1 2 3 4 5 6 7 8 9 10

6. On a scale of 1 to 10, 1 being “not at all concerned” and 10 being “extremely concerned”, how concerned are you about mistranslation?

1 2 3 4 5 6 7 8 9 10

7. On a scale of 1 to 10, 1 being “not important at all” and 10 being “extremely important”, how important do you think cultural awareness is in affecting the quality of a Chinese to English translation?

1 2 3 4 5 6 7 8 9 10

8. What do you think are the reasons for mistranslation problems when translating Chinese to English? Please select all that apply.

- Grammatical differences between Chinese and English
- Using machine translation tools without professional translator editing
- Lack of culture awareness
- Others (Please write in) _____

9. What free online translator do you use for Chinese to English translation? (Please circle only one)

- Baidu Dictionary

- Youdao Dictionary
- Google Translation
- Microsoft Bing
- Others (Please write in)
- I do not use machine translation tools

10. How often do you use free online translators as part of the translation process?

- Everyday
- Twice a week
- Once a week
- Once a month
- Less than once a month

11. On a scale of 1 to 10, 1 being “inaccurate” and 10 being “accurate”, how accurate do you think your preferred online translator is?

1 2 3 4 5 6 7 8 9 10

12. Do you think paid machine translators are more effective than free online translators?

Yes No

13. Would you pay for a machine translation technology/software?

Yes No

14. How often do you proofread a translation before you finish it?

- Always
- Rarely
- Never
- Only if time allows
- Only when I don't have another proofreader

15. What are the most important factors that make a good translator?

(From the list below, please rank the top three important factors that apply)

1. _____

2. _____

3. _____

- a. Native speaker in the source language
- b. Educated in foreign languages and the translation process
- c. Experience in translation
- d. Expert in a certain subject or field
- e. Someone who is skilled with machine translation tools
- f. Someone who can work at a fast speed
- g. Someone who works for a low rate
- h. Someone who proofreads the translation before it is finished
- i. Someone who has a translator certification
- j. Others

16. Do you believe that most people, if they had an important document to translate, would they pay a professional translator or would they trust someone to do it for free?

Yes No

17. What is the biggest challenge associated with the translation process? (Please circle only one)

- Vocabulary
- Grammar differences between Chinese and English
- Cultural differences between Chinese and English
- Time

- Finding someone with the subject knowledge to perform accurate translation
- The cost of quality translation
- Finding someone with a specific academic or technological skillset to perform a translation.

- Other (please write in): _____

18. In what area is the Chinese translation industry lacking? (Please circle only one)

- Regulation
- Accuracy
- Number of qualified translators
- Professional training
- A standardized rate of pay for translators
- The translation industry is fine

19. On a scale of 1 to 10, 1 being “unimportant” and 10 being “extremely important”, in your opinion, how important is the quality of a translation for conveying the meaning of an idea?

1 2 3 4 5 6 7 8 9 10

This is the end of the survey. Thank you for your time and consideration in participating in the survey!

10. Appendix C: Tests of Language Proficiency

The principle aim of this study is to collect information about the accuracy of human translation as opposed to MT. This study has the potential to contribute to my thesis. There are no perceived risks associated with taking part in this experiment. This study is completely anonymous. Participation is voluntary, and subjects' consent will be implied by their proceeding into the study. If you have any questions, comments, or concerns, please contact Shihua Brazill by phone at 406-548-7481 or email at sbrazill@mtech.edu.

Mandarin Chinese to English Proficiency Vocabulary Test

- Sex:
- Age:
- Years of English education:
- Translation level: 1 2 3

(Please circle one of the numbers above, 1 is for beginner, 2 for intermediate, and 3 for advanced.)

Number	Chinese Word	English Translation
1	我	I
2	车	Car
3	九	Nine
4	你	You
5	上	Up
6	草	Grass
7	抓住	Catch
8	梦想	Dream
9	六月	June
10	主意	Idea
11	杰出的	Outstanding
12	解决方案	Solution
13	援助	Aid
14	问题	Issue

15	昏昏欲睡的	Drowsy
16	悬崖	Cliff
17	教堂	Church
18	开始	Start
19	偷偷的做	Sneak
20	领先	Ahead
21	摘要	Abstract
22	无自信	Diffidence
23	统一的	Uniform
24	节俭的	Frugal
25	对话	Dialogue

Chinese to English Phrase and Sentence Translation Test

Number	Chinese Sentences	English Translation
1	红茶	Black tea
2	加油	Cheer up!
3	高考	College entrance examination
4	吃药	Take medicine
5	我很喜欢它	I like it very much.
6	他的身体很健康	He is very healthy. / He is in good health.
7	我没有英文名	I do not have an English name.
8	我的学习很忙	I am very busy studying.
9	该房子正在建造中	The house is under construction.
10	你应当把你的物品保管好	You should take good care of your things.
11	不准拍照	No photography.
12	顾客是上帝	Customers come first.
13	自觉排队	Stand in line.
14	小心地滑	Wet floor.
15	小心碰头	Watch your head. / Lower your head.

MT Applications

MT Applications Information
translate.google.cn
fanyi.youdao.com
fy.iciba.com
dict.cn
fanyi.baidu.com/translate
http://tran.httpe.com/
http://www.netat.net/
http://www.freetranslation.com/en/translate-english-chinese
http://www.bing.com/translator/
https://www.translate.com/

11. Appendix D: Pilot Study

Results

A test of the primary research question concerning whether significant differences exist between human and machine translators shows that these two groups indeed differ by a substantial margin. In translating the 15 phrases and sentences from Chinese to English, mistakes made by humans ($\bar{x}=3.2$, $SD=4.8$, $n=133$) were far fewer than those made by the machines ($\bar{x}=18.4$, $SD=9.07$, $n=10$), and a two-sample t-test indicates that this difference is highly significant ($t=-5.24$, $p=0.00$).

Although the overall difference between human and MT accuracy is considerable, it is clear that a great deal of variation exists among the human group, and that a number of individuals show up as outliers, which acts to skew the sample mean more toward that of the machine translator average (figure 1).

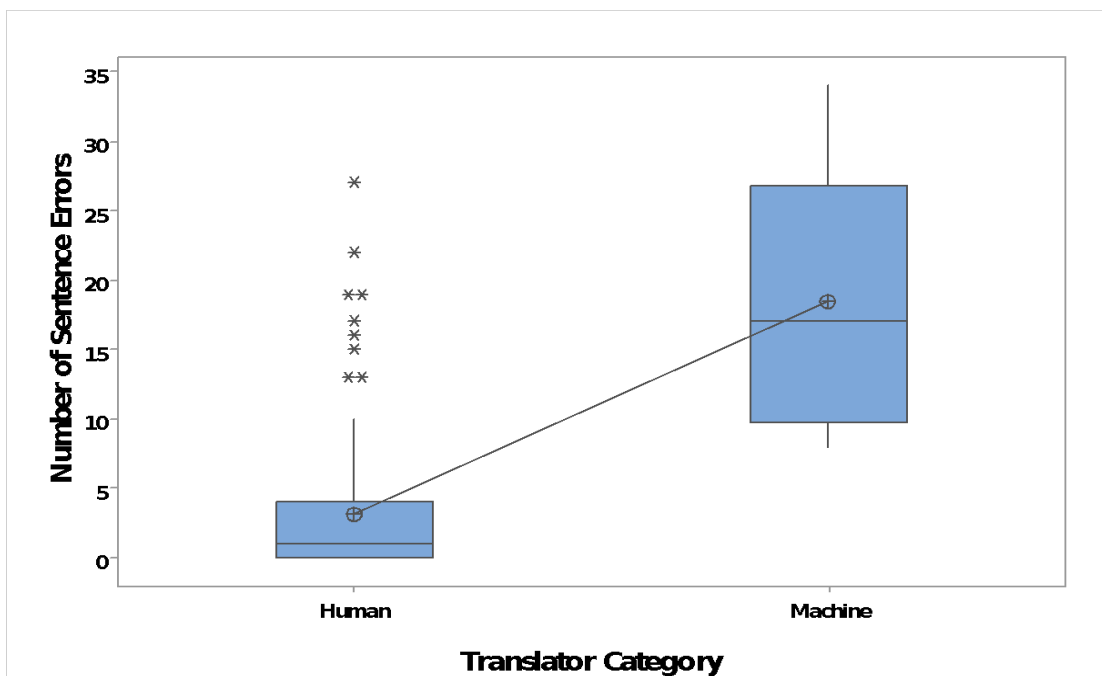


Figure 1. Boxplot showing results of a two-sample t-test of human vs. MT accuracy of phrase and sentence translation tests (outliers represented by an asterisk).

Separating out the human translators into their respective groups, with different levels of English language proficiency beyond the minimum 15 years of experience as designated in table 1, shows that the outliers in figure 1 are exclusively second-year English audio/visual studies students from a college in China (figure 2). The remaining groups can be seen to cluster near the bottom of figure 2, with these four averaging only 1.45 translation errors among them, which is more than half of the mean error rate of 3.2 when the audio/visual students were included among them in the above analysis.

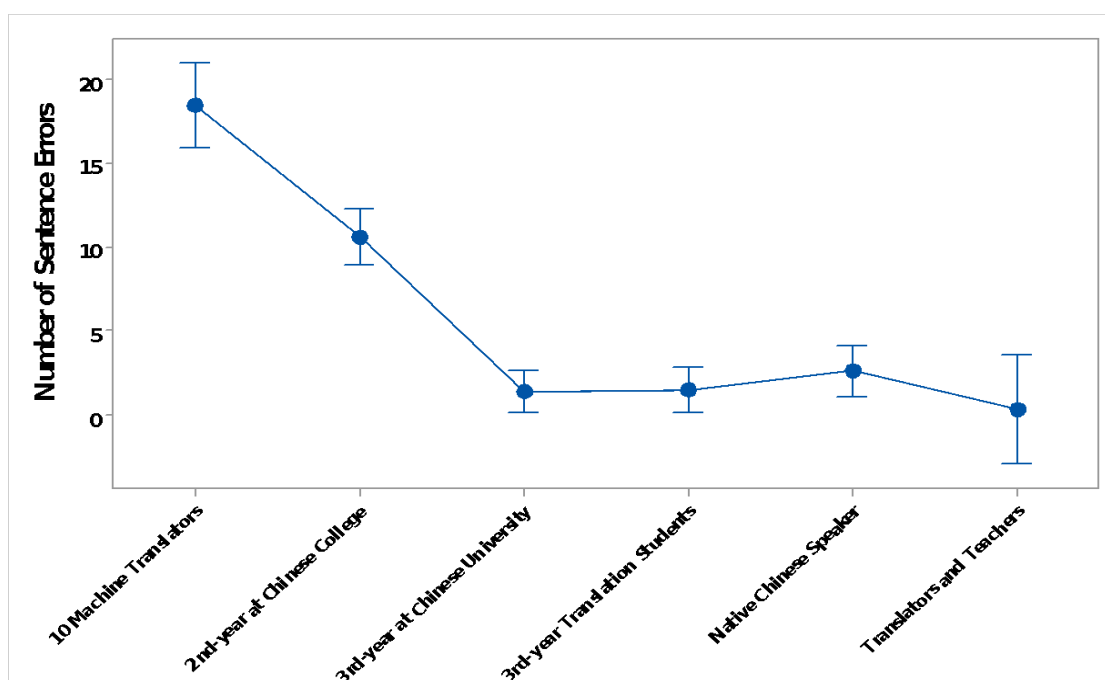


Figure 2. Difference in translation errors between machines and each of the different human translation groups sampled.

It is also clear from figure 2, that even this lowest ranking human group with the highest number of translation errors ($\bar{x}=10.5$, $SD=7.15$, $n=23$) are still markedly more accurate than the average MT ($\bar{x}=18.4$, $SD=9.07$, $n=10$). And a two-sample t-test between the ten machine translators and this lowest ranking group in the analysis shows that this difference is significant at $\alpha=0.05$ ($t=2.44$, $p=0.029$).

This is also indicated by an analysis of the personal self-evaluation results, in which subjects were asked to evaluate their translation ability prior to completing the language ability tests and translations. In the survey, subjects were asked to rank their translation ability from 1-5, and because all those recruited to participate in the study had at least some understanding of the English language, only 3, 4, and 5 were selected, which are represented here as low, moderate, and high. A one-way ANOVA test of differences in mean translation errors among these self-evaluated groups shows marked variation among them ($F=14.72$, $p=0.000$), and naturally with the biggest difference in group means between the high, and MT groups (figure 3). However, a significant difference (two-sample t-test- $t=3.02$, $p=0.011$) also exists between the MT group ($\bar{x}=18.4$, $SD=9.07$, $n=10$) and those individuals with the lowest stated ability level ($\bar{x}=8.91$, $SD=6.83$, $n=31$). Here it can be seen that those individuals who ranked themselves as being of a lower translation ability level, were again far more accurate in interpreting the 15 different phrases and sentences compared to the MT tools.

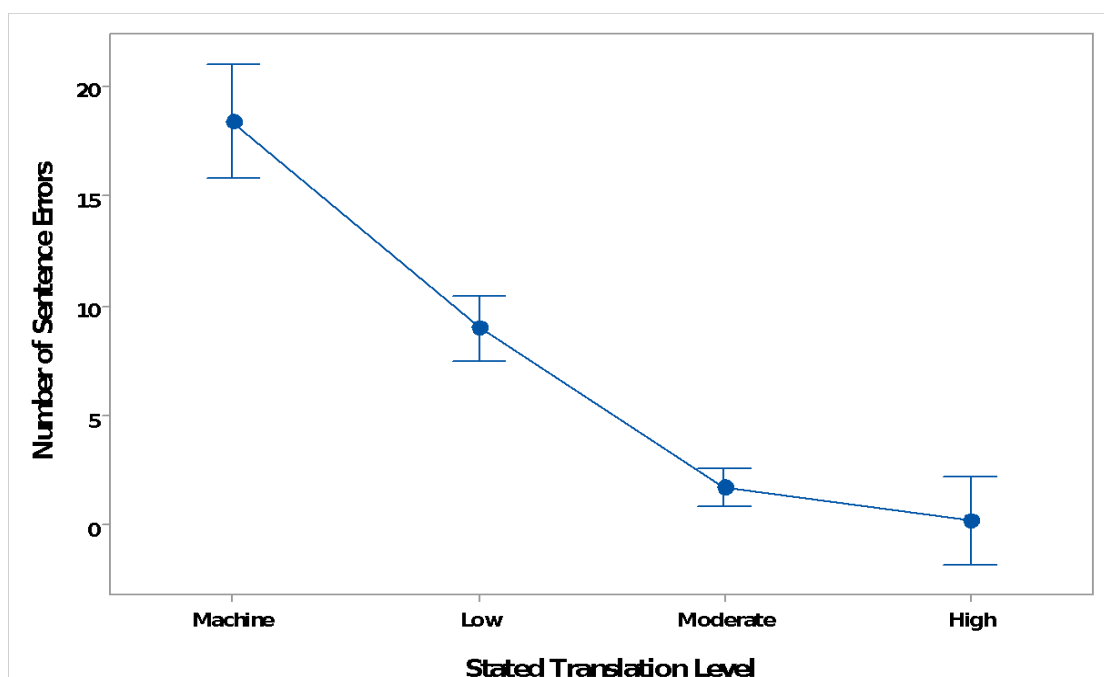


Figure 3. Differences in phrase and sentence errors between machine translators and subjects who stated their translation abilities to be low, moderate, or high.

It is also useful to evaluate differences in translation accuracy among the 10 machine tools used in this study. This information could be valuable for individuals and groups who lack access to human resources for translating sentences from Chinese to English, which have been shown here to be far superior to using these types of freely available machine translators. A comparison of these resources shows that the human group is again the most accurate, and that considerable variation exists among the 10 machine translators, ranging from eight mistakes up to 34 total mistakes across the 15 sentences and phrases used in this study (table 1).

Table 1: Sentence and phrase translation errors across the ten freely available MT tools, and in relation to the average number of errors among the human groups.

Translator	Translation Errors
Human	3.20
bing.com/translator	12.00
dict.cn	10.00
fanyi.baidu.com/translate	9.000
fanyi.youdao.com	18.00
freetranslation.com	29.00
fy.iciba.com	8.000
tran.httpcn.com	22.00
netat.net	26.00
translate.com	16.00
translate.google.cn	34.00

It can be seen from table 1 that the least accurate, and likely the most widely used, is the Google Translate tool. While the most accurate resource, at least for Chinese to English translation, is the Chinese website fy.iciba.com, which only made eight errors across the 15 phrases and sentences in this study. This indicates that not only is it preferable to utilize human translators with at least a minimum level of proficiency in the language, but also that if these resources are not available, it is very important to carefully choose which MT tool will be used.

An initial test of sex differences revealed that males and females showed significant differences in translation accuracy in which mistakes made by males ($\bar{x} = 1.97$, $SD = 3.27$, $n = 30$) were significantly fewer than females ($\bar{x} = 3.56$, $SD = 5.12$, $n = 103$) as indicated by a two-sample t-test ($t = -2.04$, $p = 0.0275$). However, this result was actually due to the fact that the second-year English audio/visual studies students, who had the highest number of translation errors of any human group, were entirely female with the exception of one male. Upon further examination, a generalized least squares regression analysis shows that no difference exists between males and females after accounting for this group affiliation effect ($F = 0.01$, $p = 0.992$).

The same is also true of age as a predictor of sentence and phrase translation error. For example, these two variables are weakly correlated in a bivariate regression analysis ($F = 5.95$, $p = 0.016$), however, age accounts for only a very small amount of the variations in translation accuracy ($R^2 = 4.3\%$). And when years of education, which is obviously highly correlated with age ($F = 109.94$, $p = 0.000$, $R^2 = 45.6\%$), is controlled for in a least squares regression analysis, age is no longer a significant predictor ($F = 0.61$, $p = 0.435$) of errors made in translating phrases and sentences from Chinese to English among individuals in the study sample.

Discussion

The above analysis of human versus MT accuracy reveals that humans are far better at translating Chinese to English phrases. Across a broad range of individuals with varying degrees of education and experience in Chinese to English translation beyond the minimum 15 years of association with the English language, humans were consistently better at translating the 15 different sentences and phrases used in this study.

Comparisons of the mean number of mistakes between the human group and the machine group indicated that humans generate significantly fewer mistakes in translation compared to

machines. Additionally, comparing the machine average to that of the human group with the most mistakes, showed that even this worst performing group in the sample was still significantly more accurate than the average of the ten different freely available MT tools used in the analysis. Also, a subsequent analysis of differences in mean translation accuracy among the machine group and those who ranked their translation ability in three different hierarchical categories, revealed that even people at a low stated translation level were still far more accurate than the MT tool average. Results of this study also indicate that considerable variation exists among the freely available MT tools, and that caution is warranted in choosing the best one for translating words, phrases, and sentences between any two languages.

While some difference was initially observed between the sexes with regard to translation ability, these results were actually due to other factors, and specifically differences in sex composition and years of education among the participant groups. Moreover, the latter of these is certainly a logical cofactor, since as age and years of education go up, translators naturally have more experience to draw from, and therefore the quality of translation accuracy is improved.

Taken together, the current study reveals that MT is not as accurate with regard to comprehending and interpreting phrases and sentences, which likely relates to a machines inability to recognize subtleties in meaning, and cultural differences between linguistic groups. If the cultural context is mistranslated, potential misunderstandings and even offense can result. Human translation increases the translation quality through cultural sensitivity, while MT is limited in its ability to properly and effectively translate cultural perceptions based only on how it was coded to do so.

The benefits of human over MT are apparent, and particularly in a functional and logistic capacity across consumer-focused industries as diverse as healthcare, business, and

manufacturing. Additionally, in high-risk situations, precise instruction is needed to avoid misinterpretation. For example, instructions used in the healthcare industry require accurate translation for proper use. Brach, Fraser, and Paez (2005) suggested using professional human translators in a patient's language to improve healthcare quality. From the poorly translated sign example given in the introduction, MT could easily mistranslate the meanings. The sign's translated errors, made by MT, could be dangerous to a person's safety. Machine mistranslation, at an extreme, could result in lawsuits, potential injury, harm or even death for patients.

Incorrect MT can also affect customers' perception about product quality. Liu (2010) found that MT remains a risky proposition that can damage business relations between different cultures. Mistranslations can be seen as dishonest or unethical and can lead to customers doubting the products and a company's ethics. If customers find it difficult to read and understand translated instruction, it will cause them to doubt the product quality. These doubts could lead customers to have a bad impression of and to mistrust the company. Long-term effects of using MT on the company may result in customer dissatisfaction, product rejection, and financial loss.

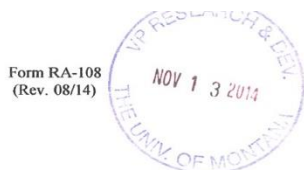
Conclusions

MT is a fast way to obtain a domain-specific translation but is not recommended for literary translation. The domain used in this study were non-literary Chinese vocabularies, phrases, and sentences (see Appendix D). These vocabularies, phrases, and sentences range from beginner to advanced levels. Based on the results of this study it is clear that human translators, with at least a moderate exposure to a non-native language, are more accurate than translation carried out using freely available MT tools. Even though numerous MT tools are now available they are restricted to word-for-word translation; machines are unable to grasp the subtle

differences in meaning associated with different cultures. For example, a sentence mistranslated by machines in the current study was “Customers come first”, which when translated literally from Chinese-to- English by machines without cultural input, it turned out to be “The customer is god.” The translation is obviously meaningfully inaccurate, and may not be appropriate for much of the English-speaking language group in this case, as it could even be considered offensive to some. An additional example from this study that was “Watch your head”, which was mistranslated by one of the MT tools as “be careful to meet”, which again is highly inaccurate and could even result in physical injury among English speakers, as it doesn't even come close to conveying the original warning.

In the long run, mistranslation produced by machines could continue to be culturally offensive; cause harm in high-risk situations; and negatively affect a company's brand, reputation, and revenues. The results of this research strongly indicate that international companies should adopt human translation resources as opposed to relying on cheaper, but considerably less effective and less accurate MT. Additionally, it is recommended that companies employ team translation where more than one person is involved in the translation process, which would further increase the accuracy of translation as a result of involving multiple individuals with variable interpretations of linguistic connotation and cultural meaning.

12. Appendix E: IRB Approval



Form RA-108
(Rev. 08/14)

THE UNIVERSITY OF MONTANA-MISSOULA
Institutional Review Board (IRB)
for the Protection of Human Subjects in Research
CHECKLIST / APPLICATION

IRB Protocol No.:
219-14

MT Tech

At the University of Montana (UM), the Institutional Review Board (IRB) is the institutional review body responsible for oversight of all research activities involving human subjects outlined in the U.S. Department of Health and Human Services' Office of Human Research Protection and the National Institutes of Health, Inclusion of Children Policy Implementation.

Instructions: A separate application form must be submitted for each project. IRB proposals are approved for no longer than one year and must be continued annually (unless Exempt). Faculty and students may email the completed form as a Word document to IRB@umontana.edu, or submit a hardcopy to the Office of the Vice President for Research & Creative Scholarship, University Hall 116. Student applications must be accompanied by email authorization by the supervising faculty member or a signed hard copy. *All fields must be completed. If an item does not apply to this project, write in: n/a.* Questions? Call the IRB office at 243-6672.

1. Administrative Information

Project Title: The Accuracy of Professional Human Translation Opposed to Machine Translation	
Principal Investigator: Shihua Brazill	UM Position: Student
Department: Professional and Technical Communication	Office location: Engineer Hall 205
Work Phone: 406 548 7481	Cell Phone: 406 548 7481

2. Human Subjects Protection Training (All researchers, including faculty supervisors for student projects, must have completed a self-study course on protection of human research subjects within the last three years and be able to supply the "Certificate(s) of Completion" upon request. If you need to add rows for more people, use the Additional Researchers Addendum.)

All Research Team Members (list yourself first)	PI	CO-PI	Faculty Supervisor	Research Assistant	DATE COMPLETED Human Subjects Protection Course
Name: Shihua Brazill Email: sbrazill@mtech.edu	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/23/2014 ✓
Name: Chad Okrusch Email: cokrusch@mtech.edu	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Waived. <i>JB</i>
Name: Email:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Name: Email:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Project Funding (If federally funded, you must submit a copy of the abstract or Statement of Work.)

Is grant application currently under review at a grant funding agency? <input type="checkbox"/> Yes (If yes, cite sponsor on ICF if applicable) <input checked="" type="checkbox"/> No			Has grant proposal received approval and funding? <input type="checkbox"/> Yes (If yes, cite sponsor on ICF if applicable) <input checked="" type="checkbox"/> No		
Agency	Grant No.	Start Date	End Date	PI on grant	
N/A	N/A	N/A	N/A	N/A	

IRB Determination:

For UM-IRB Use Only

- Not Human Subjects Research
- Approved by Exempt Review, Category # 2 (see memo)
- Approved by Expedited Review, Category # _____ (see Note to PI)
- Full IRB Determination
- Approved (see Note to PI)
- Conditional Approval (see memo) - IRB Chair Signature/Date: _____
- Conditions Met (see Note to PI)
- Resubmit Proposal (see memo)
- Disapproved (see memo)

Note to PI: Non-exempt studies are approved for one year only. Use any attached IRB-approved forms (signed/dated) as "masters" when preparing copies. If continuing beyond the expiration date, a continuation report must be submitted. Notify the IRB if any significant changes or unanticipated events occur. When the study is completed, a closure report must be submitted. Failure to follow these directions constitutes non-compliance with UM policy.

Final Approval by IRB Chair/Manager: *Paula A. Baker* Risk Level: Minimal
Date: 11/18/2014 Expires: N/A


INSTITUTIONAL REVIEW BOARD
for the Protection of Human Subjects in Research

FWA 00000078

Research & Creative Scholarship

University Hall 116

University of Montana

Missoula, MT 59812

Phone 406-243-6672 | Fax 406-243-6330

Date: November 18, 2014

To: Shihua Brazill, Professional and Technical Communication, Montana Tech
Chad Okrusch, Professional and Technical Communication, Montana Tech

From: Paula A. Baker, IRB Chair and Manager 

RE: IRB #219-14: "The Accuracy of Professional Human Translation Opposed to Machine Translation"

Your IRB proposal cited above has been **approved** under the **Exempt** category of review by the Institutional Review Board in accordance with the Code of Federal Regulations, Part 46, section 101. The specific paragraph which applies to your research is:

X (b)(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

University of Montana IRB policy does not require you to file an annual Continuation Report for exempt studies as there is no expiration date on the approval. However, you are required to notify the IRB of the following:

Amendments: Any changes to the originally-approved protocol must be reviewed and approved by the IRB **before** being made (unless extremely minor). Requests must be submitted using [Form RA-110](#).

Unanticipated or Adverse Events: You are required to timely notify the IRB if any unanticipated or adverse events occur during the study, if you experience an increased risk to the participants, or if you have participants withdraw from the study or register complaints about the study. Use [Form RA-111](#).

Please contact the IRB office with any questions at (406) 243-6672 or email irb@umontana.edu.



Form RA-110
(Rev. 11/12)

THE UNIVERSITY OF MONTANA-MISSOULA
 Institutional Review Board (IRB)
 for the Protection of Human Subjects in Research
AMENDMENT REQUEST

Please provide
 IRB Protocol No.:
219-14

MT Tech

Email this request as a Word document to IRB@umontana.edu or provide hardcopy to the Office of the Vice President for Research & Development, University Hall 116. NOTE: Submission of this form from a University email account constitutes an individual's signature; **students** submitting electronically **must** copy their faculty supervisors.

Project Title: Chinese to English Translation: Identifying Problems, Suggesting Solutions.	
Principal Investigator: Shihua Brazill	Title: Student
Signature: Shihua Brazill ✓	
Email address: sbrazill@mtech.edu	
Work Phone: 4065487481	Cell Phone: 4065487481
Department: Professional and Technical Communication	Office location: Engineer Hall 205, Montana Tech of the University of Montana
Faculty Supervisor (if student project): Pat Munday ✓	
Department: Professional and Technical Communication	Work Phone: 4065651826
Signature: Pat Munday	→ Email: pmunday@mtech.edu

Detail the proposed amendment (protocol, recruitment, confidentiality plan) below and attach any consent/assent/permission forms for IRB-approval (if possible, use Office's "track changes" feature in your attachments):

I wish to amend the IRB form (original protocol number is 219-14) due to the increase of interview and survey sample size, a change of thesis title, and conducting this research outside the USA. The focus of the thesis remained the same, focusing on identifying problems and suggesting solutions for improving Chinese to English translation. In addition, I have changed my thesis advisor from Chad Okrusch to Pat Munday.

The interview questions will be prepared in English and then translated into Chinese by the researcher. The interview results will be translated back to English. The interviewees will be asked the interview questions and will provide their answers in their native language to make sure that all questions are understandable and clear, which may avoid any mistranslation or misinterpretation of the interview questions.

The survey questions will be distributed in English. Distributing the questions in English will reduce translation errors and be simpler for the individuals completing the survey. The subjects only need to select the answers that apply to the questions, whereas when being interviewed the answers are more complex. Based on my experience, the questions are simple and straightforward enough that students at this level will readily understand them. Please refer to Table 1 and Table 2 for detailed information about survey and interview participant groups.

Table 1: Interview Participant Groups

Interview	Number
Professors from Guangdong College of Business and Technology	2
Professors from Zhaoqing University	6
Professional Translators	2
Professors from Tsinghua University	2
Professors from China University of Mining and Technology	3
Professors from Sun Yat-sen University	5
Total	20

to any particular subject.
 Procedures to address confidentiality include:

1. Limit the personal information recorded to the survey;
2. Store personal identifiable data securely and limit access to only the authorized staff;
3. Code data as early in the research as possible and disposed of all data when it has been processed;
4. Do not disclose personal identifiable data to anyone without the written consent of the subjects or their legal representative.

All data obtained or acquired by me will be coded or de-identified.
Shihua Brazill
 (Signature)
November 16, 2015
 Date
Shihua Brazill
 (Print Name)

Consent Form

The principle aim of this interview/survey is to collect information about the problems and solutions to Chinese to English translation.

This study has the potential to contribute to my graduate thesis.
 There are no perceived risks associated with taking part in this survey.
 This survey is completely anonymous.
 Participation is voluntary and subjects' consent will be implied by their proceeding into the survey.
 Subject will remain anonymous. No minors will participate in this project.
 If you have any questions, comments, or concerns, please contact Shihua Brazill by phone at (406) 548-7481 or email at sbrazill@mtech.edu.



For UM-IRB Use Only

IRB Determination:

- Approved by Exempt Review, category # 2
- Approved by Expedited Review, category # _____ (see *Note to PI)
- Approved by Administrative Review (see *Note to PI)
- Full IRB Determination
 - Approved (see *Note to PI)
 - Conditional Approval (see attached memo) - IRB Chair/Coordinator Signature/Date: _____
 - Conditions Met (see *Note to PI)
 - Resubmit Proposal (see attached memo)
 - Disapproved (see attached memo)

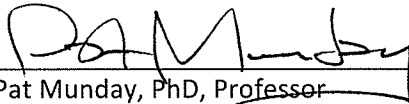
*** Note to PI:** Study is approved for one year. Use any attached IRB-approved forms (signed/dated) as "masters" when preparing copies. If continuing beyond the expiration date, a continuation report must be submitted. Notify the IRB if any significant changes or unanticipated events occur. Notify the IRB in writing when the study is terminated.

Risk level: Minimal

Final Approval by IRB Chair/Manager: Paula de Baker Date: 12/6/15 Expires: N/A

SIGNATURE PAGE

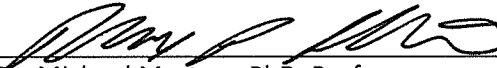
This is to certify that the thesis prepared by Shihua Chen Brazill entitled "CHINESE TO ENGLISH TRANSLATION: IDENTIFYING PROBLEMS AND PROVIDING SOLUTIONS" has been examined and approved for acceptance by the Department of Technical Communication, Montana Tech of the University of Montana, on this 28th day of April, 2016.



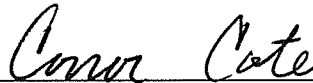
Pat Munday, PhD, Professor
Department of Professional & Technical Communication
Chair, Examination Committee



Dr. Glen Southergill, PhD, Associate Professor
Department of Professional & Technical Communication
Member, Examination Committee



Dr. Michael Masters, PhD, Professor
Department of Liberal Studies
Member, Examination Committee



Mr. Conor Cote, MA, Assistant Professor
Electronic Resources Librarian
Member, Examination Committee