

**IT STUDENTS ATTITUDES AND BEHAVIORS TOWARDS THE
USE OF MACHINE TRANSLATOR**

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entitled
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ABSTRACT

The study of IT students attitudes and behaviors towards the use of machine translator is conducted due to at present many people use computers and the technology has continuously improved. One technology that is popular among students is translation tool; Google Translate. This GT can be used with sentence, article, or the whole page document, therefore, most students use it. However, there are flaw too. The grammar of the translated article by GT is not correct, so the researcher chose the translation tool GT to study the attitudes and behaviors of the students and at the same time, study the translation skill of the students.

From the study it is shown that among the representative sample; 30 graduate students from Information Technology Management, Mahidol University, 30 students use GT. It is also divided into non-frequent GT use (NF) total 10 and frequent GT use (F) total 20. The objectives that students use GT are for learning and understanding the lessons. It includes translate the articles or sentences in order to understand the subject they are studying. The attitudes of these students towards GT are it is free of charge, easy to access, convenient, and the translation can be done quickly. However, once the translation tests were given to the students, it is found that those who use GT not so frequently have higher scores than those who frequently use GT. This leads to the conclusion that the use of GT does not have any effect on students' skills and higher quality in English translation.

**KEY WORDS: GOOGLE TRANSLATION / MACHINE TRANSLATE /
BEHAVIORS / ATTITUDES**

44 pages

ทัศนคติและพฤติกรรมของนักศึกษาเทคโนโลยีสารสนเทศในการใช้เครื่องมือแปลภาษา
IT STUDENTS ATTITUDES AND BEHAVIORS TOWARDS THE USE OF MACHINE
TRANSLATOR

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บทคัดย่อ

การศึกษาวิจัย เรื่อง ทัศนคติและพฤติกรรมของนักศึกษาเทคโนโลยีสารสนเทศในการใช้เครื่องมือแปลภาษา เนื่องจากปัจจุบันมีการประยุกต์ใช้คอมพิวเตอร์จำนวนมาก และได้รับการพัฒนาอย่างต่อเนื่อง หนึ่งในเทคโนโลยีที่นักเรียน นักศึกษามีความนิยมใช้ คือ เครื่องมือแปลภาษา Google Translate ซึ่ง GT นี้สามารถแปลได้ตั้งแต่ประโยค บทความ หรือเอกสารทั้งหน้า นักศึกษาจึงนิยมใช้กัน แต่ GT ก็มีข้อเสียอยู่ไม่น้อยไวยการณ์ในการแปลด้วย GT ยังไม่ถูกต้องมากนัก ผู้วิจัยจึงเลือกเครื่องมือแปลภาษา GT มาใช้ศึกษาทัศนคติและพฤติกรรม พร้อมทั้งศึกษาทักษะการแปลของนักศึกษา

โดยผลการวิจัยครั้งนี้ แสดงให้เห็นว่า จากกลุ่มตัวอย่างนักศึกษาปริญญาโท หลักสูตรการจัดการเทคโนโลยีสารสนเทศ มหาวิทยาลัยมหิดล จำนวน 30 คน นั้น ใช้เครื่องมือแปลภาษา GT ทั้งสิ้น 30 คน กลุ่มนักศึกษาที่ใช้ GT ไม่บ่อย (NF) มีจำนวน 10 คน และกลุ่มนักศึกษาที่ใช้ GT บ่อย (F) จำนวน 20 คน พบว่าวัตถุประสงค์ที่นักศึกษาเลือกใช้เครื่องมือแปลภาษา GT นั้น เพื่อใช้ในการเรียนรู้และทำความเข้าใจเนื้อหาในบทเรียน รวมไปถึงใช้แปลบทความหรือประโยคเพื่อทำความเข้าใจวิจัยที่ศึกษา โดยนักศึกษาเหล่านี้มีทัศนคติที่ว่า เครื่องมือแปลภาษา GT นี้ ไม่มีค่าบริการ และสามารถเข้าใช้บริการได้ง่าย สะดวก แปลข้อความได้รวดเร็ว โดยคะแนนเฉลี่ยการทำแบบสอบถามทดสอบการแปลนั้น กลุ่มนักศึกษาที่ใช้ GT ไม่บ่อยมีคะแนนการแปลประโยค และข้อความเฉลี่ยที่สูงกว่าผู้ใช้ GT บ่อย ทำให้เห็นว่า นักศึกษาที่ใช้เครื่องมือแปลภาษา GT บ่อย ๆ นั้น ไม่ได้ส่งผลต่อทักษะและคุณภาพที่เพิ่มขึ้นในการแปลภาษาอังกฤษ

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CHAPTER I

INTRODUCTION

This research has studied the relation between the behavior and attitude of student in usage of Google Translation, a machine translator, and the translation skill according English to Thai, leading to the academic strategy of curriculum and research guidance.

1.1 Background and the importance of problem

The one of technology which is favorite is “Translation tool”. It is the computer program which is used to translate the text from one language to another language. The using of translation tools would make anyone who does not understand in the foreign language, to understand it easier [1].

Nowadays, various online tools, which service for the language translation, to the internet user and student, such as students that work about the research and they use the translation tool to translate the research article, from the original language into English. Many people probably knew the translation tools like “Google translate (GT)”. It is the translate tools which most favorite in the group of student, and it has been accepted as well, it could translate by start from the text which is sentence until the full page document or even all of website. GT could support for more 70 languages, and many people that ever used it. They might found GT could help them in the communication between the different languages of people, to understand each other. However, we always see much of mistakes or the obstacles of GT. Some specific words or those which are connotation, specific vocabulary or slang word, so the chance for translation does not meet the requiring of user is quite high.[2]

According to study of previous research, there are the behavior and attitude investigation of students that used Google translate (GT) program, so we found: it affected to the examination score of the English subject. Moreover, in the part of

measuring skill of the research translation, it is needed to be applied with the standard indicator by American Association (ATA). This criterion may not be perfectly suitable for Machine translation. Therefore, this gap could possibly be motivation of this research. Additionally, there is a research which is the development of accuracy indicator of Machine Translation [1]. So our research would use the translation tool as the machine translation instead of measuring skill of research article translation.

From above mentioned, this research is to study about the relation between behavior and attitude during using the translation tool” Google Translate (GT)” and the skill of GT’s using, by using three kinds of questionnaires, The first kind is the questionnaire about the attitude in their using GT. The second kind is the questionnaire for behavior investigation in their using GT. Finally, the third kind is the questionnaire for testing about translation’s skill, which is focused to the translation from English to Thai. There is the existing indicator in translation by using Machine. This kind of questionnaire has been novelly developed by researcher. Studied samples are the master degree student of Information Technology Management (ITM) program which typically write the research article in English, and they could take it to use for the quality management and strategic planning in the writing of research article to the student.

1.2 The purpose of research

- To study the behavior and attitude of students, in Google Translate (GT) usage.
- To study the student’s skill in their Translation tools Google Translate (GT)’s using.
- To study the relation between the behavior and attitude in their Translation tools Google Translate (GT)’s using, that affected to their skill of research article translation by using Machine Translation measurement criteria.

1.3 Scope of research

- This research Measures the behavior, attitude and the translation skill of student.
- The translation was applied with the research article from English language to Thai.
- The research articles has the content about Information Technology Management.
- Sample group is the master degree student of the Information Technology System Management, Mahidol University.

1.4 Expected benefits of this research

The expected benefits are to be able to investigate and find the relation between the behavior and attitude of students, in their translation tool Google Translate (GT) 's using. This research would be able to bring it to apply for the quality management and strategic planning in the writing of research article to the student.

In the next chapter, the related theories and research will be reviewed.

CHAPTER II

LITERATURE REVIEWS

This research aims to study from the documentary and related researches as guidelines, in which consist of the background and importance of Google Translation including to feature in point view of using Machine Translation for translating the languages. Besides these, will mention about the importance of Machine Translation conclude to the steps of deep translation and finally mention about measurement of errors of language translation from Machine Translation called "Basic Class Error Rate".

2.1 Machine Translation

Machine Translation (translation by computer) [4] refers to using computer to translate one language to on more language and so on such as English to Thai or English to French. The translation is not only based on good knowledge of terminology, but also has knowledge of linguistics, etymology, grammar, idiom, synonyms, or other aphorisms. All of these will record in computer memory and be able to use, in which has the same meaning of Machine Aided Translation.

Machine translation is sub-science of linguistic science concerning with using computer software, translate the text or speech from the natural languages to other languages, for instance translation the text from Thai to English and so forth in basic level. Machine translation can replace one language to other languages (word by word). However, translation by replacing the words easily is not the correct translation because the language is ambiguous. For example the term "bank" can be possibly translated in Thai as "ธนาคาร" and "ตลิ่ง" and so on. Moreover, language is different from each other both idiom and grammar such a "il fait froid" translated "อากาศหนาว" in French, but if translate word by word is "มันทำหนาว" in Thai and so on. Since easy word replacement

translation is limited, so there is a technique of machine translation such as learning automative translation from parallel text and linguistic analysis and so on.

According to the definition mentioned above, then the details about the steps of language translation will be described, in which could be divided into two issues. [4]

2.1.1 The Steps of Language Translation

The steps of language translation could be divided into two steps [5].

1. Transcription from source language
2. encoding the target language

The mentioned steps include to the steps of Machine Translation and translated by translators, too. For example, French-Thai translation is translated by translator. The steps of translation are translator transcripts the French to the meaning that translators understand. After that, translator translates what he/she understands into Thai.

Background of steps look easy and clearly see rely on the process of complicated thinking in order to transcript the source language, in which need to use emotion related to grammar, syntax, semantics, idiom etc., of source language including to understand the culture of tellers, too. Translator should use emotion that is similar with transcription in order to translate the meaning of targeted language.

Machine translation could be divided into other kinds that consider through linguistic and computing architecture. [6]

Changing the source language into targeted language could be done by straightforward translation of word level. However, to correct the problems of incorrect translation that causes such as the difference between source language and targeted language etc. Linguistic knowledge is brought to use in language translation is different from straightforward translation. Transfer the capacity, transfer the structure is like syntax tree structure from source language that gets from tree analysis.

In case of Thai translation to other languages, in which focuses on the verbs of Thai orders the variety of verbs more than 2 words, not exceed 7 words. So the analysis should be paid special attention. Besides this, Thai has no “adjectives” like English or French, only “adverb”, in which has behavior to use directly with adjectives

in English and French. That is why analysis word groups starting with “verbal phrase” is more complicated.

2.2 Google Translation

Google Translation [3] is a language translation program by using reference of translation which can translate both text and website address. Generally, most of the programs will rule reference and need to use term definition and many grammars while it is translating. Contrastly, Google work team added a lot of data to program at the same languages and targeted languages and added sample data translated by human. Providing the program refers the principle, word groups that human had translated. Google work team revealed that there is better output than previous ways.

Nowadays, Google translate supports 22 languages of the world such as Arabic, Bulgarian, Chinese, Croatian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hindi, Italian, Spanish, Korean, Japanese, Norwegian, Polish, Romanian, Russian, Spanish, Swedish, and Portuguese and also Thai.

2.2.1 Feature of Google Translation

The advantages and ability of Google translate covers more than 70 languages all over the world; can translate by pronunciation, handwriting and photos. It can also translate long text including other phrases or even though translate a document. According to the modernization, language translation tool still can record our translation in order to applying the next translation or in case of Google Translate is offline (but required to download Language Packages first).

2.3 Class error rates of Machine Translation

Basic class error rates [7] is a basic model in division the kinds of errors in language translation of machine translation.

As a result of an error classification, two values are usually of interest: raw error counts for each error class, and error rates for each class, i.e. raw error counts normalized over the total number of running words, which of the values is preferred depends of the exact task. For example, if only a distribution of error types within a translation output is of interest, the raw error counts are sufficient. On the other hand, if we want to compare different translation outputs, normalized values i.e. error rates are more suitable. Therefore they are appropriate candidates to be used for the evaluation task.

In this work, we explore the error rates calculated on the word level as well as on the block level, where a group of consecutive words labeled with the same error category is called a block. The normalization in both cases is carried out over the total number of running words. Therefore the block level error rate for a particular error class is always less or equal than the corresponding word level error rate.

The following five basic class error rates are explored:

- **INFER** (inflectional error rate): Number of words translated into correct base form but in incorrect full form, normalized over the hypothesis length.
- **RER** (reordering error rate): Number of incorrectly positioned words normalized over the hypothesis length.
- **MISER** (missing word error rate): Number of words which should appear in the translation hypothesis but do not, normalized over the reference length.
- **EXTER** (extra word error rate): Number of words which appear in the translation hypothesis but should not, normalised over the hypothesis length.
- **LEXER** (lexical error rate): Number of words translated into an incorrect lexical choice in the target language (false disambiguation, unknown/untranslated word, incorrect terminology, etc.) normalised over the hypothesis length.

Above indicators are basic model that researcher uses for dividing the kinds of errors of machine translation by measuring in third questionnaires-skill questionnaires the English to Thai translation.

2.4 Related Researches

Arisara Sokkhvann [8] studied the attitude and behavior of students in Google using. This study aims to survey the objectives of attitude and behavior in Google Translate (GT) in order to help in learning of students including to the advantages, disadvantages, problems of GT using, and how to solve the problems. Target population is fresh year students at Songkhla Rajabhat University, in which do not attend major in English amount 125 students. Research tool consists of questionnaires with 5-point rating scale, checklist and training (English-Thai and Thai-English). The statistics used in this research is mean, standard deviation, frequency, and the correlation coefficient of Pearson. The results of this research found that almost students use GT, but there is frequency of low use, in which aim to use GT in order to find the meaning of general words the most to practice how to write the English, to read the books and to translate the idioms or proverbs in order. The study showed that students have positive attitudes with GT even though GT has disadvantages. From the survey of behaviors in GT using found four behaviors such as sentence reading and the text before translated by GT one sentence one time. Choosing the words to use is more appropriate than GT and the correction output after GT using found that choosing the words to use is more appropriate than GT is affective to the translation quality of students who have frequency of low use. The result could not find the relationship, in which has statistic significance between behaviors of GT using and translation scores of students. The mentioned research studies related to attitudes and behaviors of students in Google Translation use in order to help in learning English of fresh year students only. The assessment methods and experimentation of the translation is standard assessment of American Translation Association (ATA) only. For our research surveyed the behaviors and attitudes the same. The most important thing of research is questionnaires used for experiment from English to Thai translation, in which there is Machine Translation for measuring the errors of translation.

Sarathorn Munpru [9] studied the title “Survey Online Tools for Thai and English Translation of Thai students” that presents the work checking of Thai university students. Online tool in Thai translated into Thai or English. 65 students of bachelor degree respond the questionnaires comprise three parts of their objective tools and attitudes. This study provides the benefits for teachers, students and research who try to

find the efficient ways for teaching the learners. In this study will add the recognition of online tool using for students who are learning English or other languages, in which could affect to this study qualified for language learning. From the mentioned research surveyed many kinds of online tools for translating Thai or English, in which our research focuses on Google Translation and survey the behaviors and attitudes of students to Google Translation. After that, there is a translation skill from English to Thai that has Machine Translation for measuring the errors of translating. From theories and research found that GT use, behaviors including to the capacity of language translation of various translation tools accepted the population and despondences from many users. There are plenty sorts of users who could not communicate with foreigners, they think about the mentioned tools for first choice. Thus, our research focuses and chooses target population clearly to study the behaviors, attitudes and skills for GT using. For the article translation of the research from English into Thai is the most interesting thing for study. The next chapter will mention about all research methodologies of this study.

CHAPTER III

RESEARCH METHODOLOGY

The study is conducted to measure the students' attitudes and translation skill of research articles from English to Thai language that aims at applied quality management and strategies for research writing to the students according to the comprehensive details of research methods conducted as described in Figure 3.1.

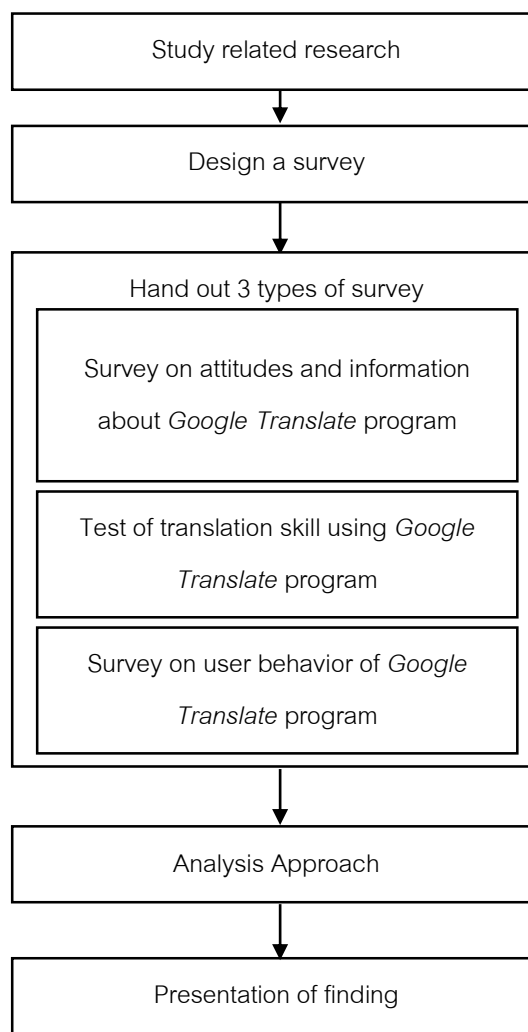


Figure 3.1 Research processes

3.1 Related Research Study

The relevant research and studies are as follows.

Arisara Sukkwan [8] 's study is about the students' attitudes and behaviors in the use of *Google* program and the focus on surveys of purposes, attitudes, and behavior of *Google Translate* (GT) users to aid in English language learning, as well as the advantages, disadvantages and problems found in GT program, including how to deal with the issues. The sampling group consisted of total 125 first-year students of Rajabhat Songkhla University who were not majoring in English. Research tools used for the study were 5-point rating scale questionnaire, checklist, and translation exercises (English – Thai and Thai - English). The statistics applied for the study were mean, standard deviation, frequency, percentage, t-test, and Pearson's correlation coefficient.

Sarathorn Munpru [9] conducted a survey on online tools used for Thai and English translation by Thai Students that presents the monitoring of university students' used online tools for either Thai or English translation. 65 undergraduate students completed the questionnaires which consisted of three parts: the kinds of used tools, their purposes, and their attitudes. The results of this study will be useful for teachers, students, and researchers who are trying to find effective ways to teach students. This study can help increasing perception of using online tools to those students who learn English or other languages, resulting in increasing quality of research study related to language learning.

3.2 Questionnaire Design

There are 3 types of survey questionnaires for this study:

3.2.1 Survey Questionnaire on the Purposes and Attitudes in Using *Google Translate* (GT)

This survey questionnaire was designed to determine purposes, frequency and attitudes of the students who used GT translation tool, including advantages and disadvantages, problems and solutions of the GT translation tool. The questions in survey questionnaire were created upon the basis of relevant studies and literature review, categorized into 5 sections.

- General data of the respondent
- Purpose and frequency of GT translation tool usage.
- Respondent's attitude towards the use of GT translation tool.
- General comments on the advantages and disadvantages of using GT translation tools.
- Problems and solutions of general GT usage issues.

General comments on the advantages and disadvantages, as well as problems found in GT usage were constructed as open-ended questions. The value of consistency between questions and objectives assessed by the advisor committee was 0.964, with reliability value of the questionnaire at 0.927.

3.2.2 Test of Translation Skills (English to Thai)

This questionnaire was designed to test the student's translation skill into sentence and research articles from English to Thai. Machine was used as an error measurement for English to Thai article translation. The questionnaire consisted of 2 parts.

- Test of translation skills with English sentences: 10 sentences.
- Test of translation skills with English articles: 3 articles.

3.2.3 Survey Questionnaire on *Google Translate* (GT) Usage

This questionnaire was designed to monitor student behavior of using GT as a translation tool immediately after completed translation skill test with English sentences and English articles. The students who did this questionnaire were asked to write the check mark (✓) in each question to identify their GT usage behavior. The value of consistency between questions and purposes assessed by the advisor committee was 0.957.

3.3 Questionnaires Distribution

For questions about the purpose and attitude in using *Google Translate* (GT), the test of translation skill with sentences and articles from English to Thai and the

questionnaire survey on *Google Translate* (GT) user behavior were conducted, of which these three types of questionnaires constituted a set of questionnaire. All three questionnaires were different in terms of translation skill assessment for English articles only. The questionnaire procedures are as follows;

1. There were three sets of questionnaires. The students were able to choose only one set.
2. The students completed the survey questionnaires on the purpose and attitudes in using *Google Translate* (GT).
3. Then, the students completed translation skill test with sentences and articles from English into Thai.
4. Finally, the students completed the survey on the use of *Google Translate* (GT) immediately after completion of translation skill test with sentences and articles from English into Thai.

The sampling group consisted of 30 graduate students of Faculty of Engineering in Information Technology System Management, majoring IT Management, Mahidol University.

3.4 Analysis Approach

The data derived from the students who completed survey questionnaires on the purpose and attitudes of using GT were used for standard deviation analysis, based on frequency of the students' GT translation tool within a week. The ranges of frequency used in this study were 0, 1-2, 3-4, 5-6, and more than 6 times a week in order to monitor GT user behavior with analysis method to find the frequencies and percentages. Then, a test was done to measure translation skills of sentences and articles from English into Thai and cross-checked by criteria of error classification of machine translation into 5 categories. The questionnaires were evaluated by 2 linguistic experts; first, an English teacher, and second, a person who graduated in English language. Next, the relationship between attitudes, behavior, and assessment result from translation skill test with sentences and articles from English into Thai were included in the analysis using Pearson's correlation coefficient.

3.4.1 Questionnaire on the purposes and attitudes in using *Google Translate* (GT)

Rating criteria for the respondents of questionnaires to choose according to their opinions are classified into 2 types as the following:

Type 1

High	is rated as	5	scores
Medium	is rated as	4	scores
Occasion	is rated as	3	scores
Rarely	is rated as	2	scores
Never	is rated as	1	score

Type 2

Strongly agree	is rated as	5	scores
Agree	is rated as	4	scores
Moderately	is rated as	3	scores
Disagree	is rated as	2	scores
Strongly disagree	is rated as	1	score

The designed is shown in Appendix A

3.4.2 Test of translation skill using *Google Translate* program (English to Thai)

Rating criteria to determine the translation skills were adapted by a basic form of error classification for Machine Translation tools called “Basic Class Error Rates”, divided into five categories as the following;

1. INFER (inflectional error rate): Number of words translated into correct base form but into incorrect full form, normalized over the hypothesis length.
2. RER (reordering error rate): Number of incorrectly positioned words normalized over the hypothesis length.
3. MISER (missing word error rate): Number of words which should appear in the translation hypothesis but do not, normalized over the reference length.
4. EXTER (extra word error rate): Number of words which appear in the translation hypothesis but should not, normalised over the hypothesis length.

5. LEXER (lexical error rate): Number of words translated into an incorrect lexical choice in the target language (false disambiguation, unknown/untranslated word, incorrect terminology, etc.) normalised over the hypothesis length.

3.4.3 Survey Questionnaire on usage behavior of Google Translate (GT)

The criteria of ratings were divided into two groups;

1. The group of people who often used GT, represented as F.
2. The group of people who did not often use GT, represented as NF.

This grouping derived from the responses regarding to the purposes and attitudes of respondents towards the use of Google Translate (GT).

3.5 Presentation of finding and Conclusion

Results from this study reflect behavior and attitude towards Google Translate, including the relationship between behavior, attitude, and translation skills of sentences and articles from English to Thai of Thai students in order to be applied in quality management and to further set the strategies for research writing to the students.

3.6 Schedule of research

No.	Task/Month	Jan	Feb	Mar	Apr	May	Jun	Jul
1	Study related research	■	■	■	■	■	■	■
2	Design a survey				■	■		
3	Hand out survey					■		
4	Scoring procedure					■		
5	Analysis approach						■	
6	Presentation of finding						■	■
7	Documentation							■

CHAPTER IV

RESULTS AND DISCUSSION

In this chapter, we discussed about the study result from 3 types of questionnaire. The first type questionnaire is the survey about the frequency, the attitude towards using “Google Translate”, and towards “Google Translate” program. The second type of questionnaire is to test translation skills of students by asking them to translate sentences and article from English to Thai with the measurement and errors of translation tools. The third type questionnaire, survey the behaviors in using translation tool, Google Translate.

4.1 Objectives and frequency in GT use

From the study, among 30 representative samples who are graduate students, 30 use GT which is total to 100%. The highest mean of using GT came from 11 graduate students who use GT more than 6 times/ week, this is accounted to 37%. The minor average came from 8 graduate students or accounted to 27% who use GT only 1-2 times/ week. In the meantime, there are 2 graduate students, who do not use Google Translate for a week.

This finding shows that the graduate students mostly use “GT” to help in English learning in various forms. (See table 4.1 and Figure 4.1)

Table 4.1 Students’ frequency of GT use

1. General Information						Yes		No	
Number of graduate students who use GT						N	%	N	%
Objective	Frequency (%) (times/week)					\bar{x}	S.D.	Level	
Frequency of GT use	7	27	23	7	37	6	3.94	High	

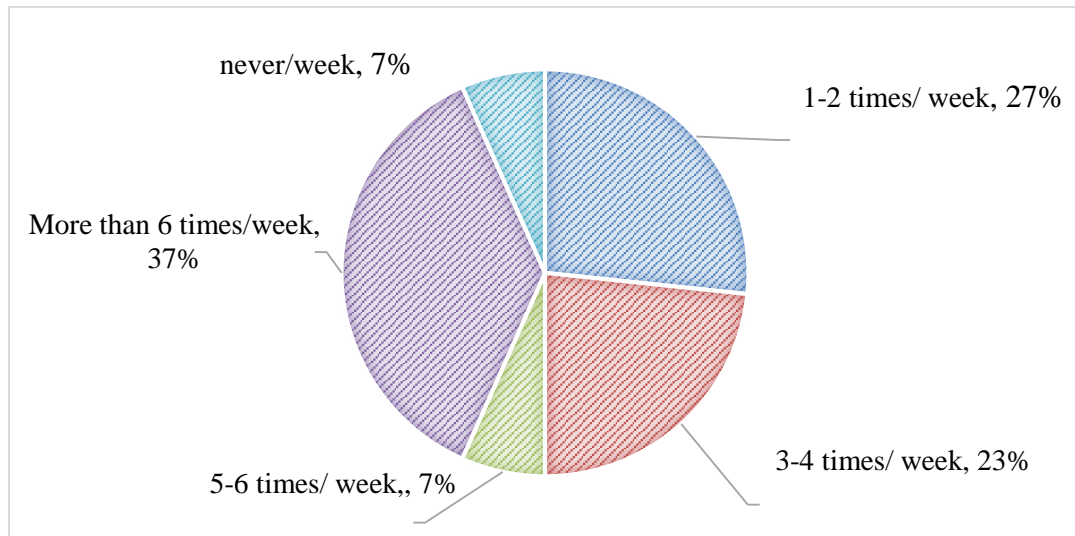


Figure 4.1 Proportion of frequency of GT use per week

Table 4.2 Objectives of GT use in writing

No. #	Objective	$\bar{(x)}$	S.D.	Level
1.	Live chat with foreign friends on a social network	4.97	0.18	Very High
2.	English words and messages or comments on blog, facebook, twitter, etc.	4.93	0.25	Very High
3.	English sentences or texts in exercises or assignments in an English course	4.10	0.31	High
4.	English-Written emails	4.07	0.45	High
5.	English poems or messages in greeting cards	3.73	0.94	High
Total		4.36	0.43	Very High

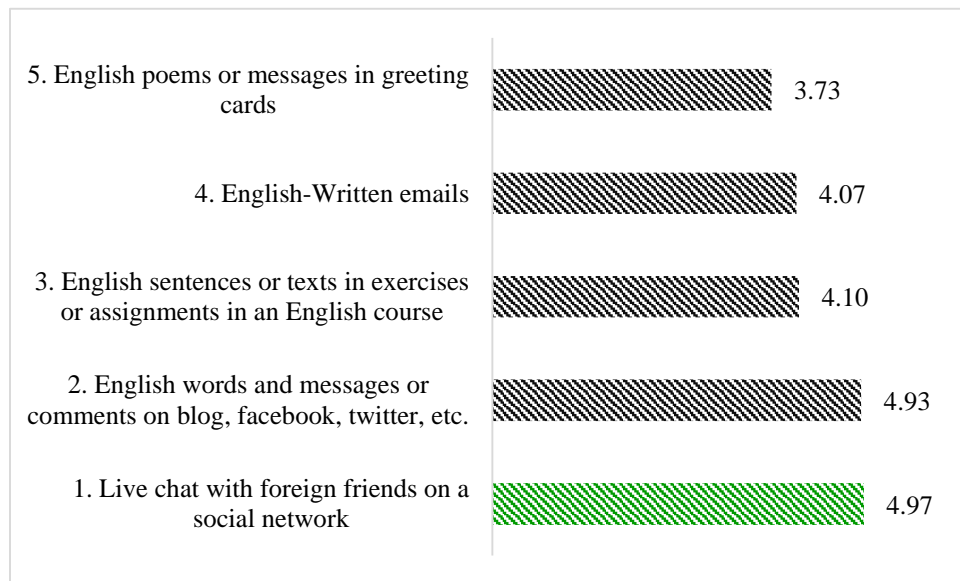


Figure 4.2 The objective of GT use in writing

From Table 4.2 and Figure 4.2, the objective that most students use GT, number 1 is to write. When consider the detail, the most factors that student use GT in writing is to write a dialogue with their foreign friends on the internet ($\bar{x} = 4.97$, S.D. = 0.18) due to GT can translate Thai sentence into English with ease and conveniently. The second factor is to write word, sentence or opinion in English on Blog, Facebook, and Twitter ($\bar{x} = 4.93$, S.D. = 0.25). This is the factor that encourages student to use GT because it can translate very quickly and the important factor even though it was not listed in high position is students use GT to translate English sentences or messages in the exercise or assignment ($\bar{x} = 4.10$, S.D. = 0.31).

Table 4.3 Objective in using GT for translation

No.	Objectives	\bar{x}	S.D.	Level
1.	Passages or articles	4.30	1.02	Very High
2.	Abstract of academic articles	4.27	1.05	Very High
3.	Official documents	3.77	1.33	High
4.	External reading books	3.67	1.49	High
5.	Idioms or proverbs	3.47	1.53	High
Total		3.89	1.28	High

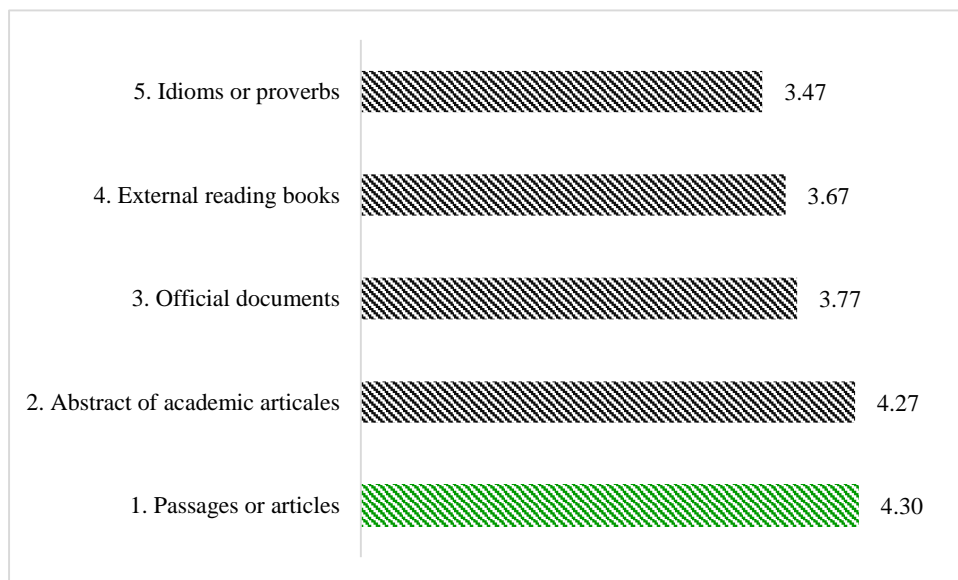


Figure 4.3 Objective in using GT for translation

From table 4.3 and Figure 4.3, it is found that the second objective that students use GT is for translation. The most frequent use of GT is to translate the passages article ($\bar{x} = 4.30$, S.D. = 1.02) which maybe the research about their study or extra material for further understanding of the research. The second objective is using GT to translate abstract of academic articles ($\bar{x} = 4.27$, S.D. = 1.05). Many students chose GT to translate the abstract or their own research. Moreover, using GT to translate external reading books ($\bar{x} = 3.67$, S.D. = 1.49)

From the analysis, due to graduate students of Mahidol University have to write thesis in English, therefore, they might use GT mainly to translate article to understand more about the subject they are studying and this includes using GT to translate the abstract from Thai to English which they have to do it by themselves for the initial understanding of the subject.

Table 4.4 Objective in GT use for reading

No.	Objective	(\bar{x})	S.D.	Level
1.	English sentences and texts in an English textbook	4.10	0.31	High
2.	English sentences and texts on a website	4.07	0.25	High
3.	English New	3.10	0.80	Moderate
4.	Novels or tales	2.97	0.72	Moderate
5.	Product labels	2.93	0.74	Moderate
6.	Magazines	2.93	0.69	Moderate
7.	Epigrams and proverbs	2.83	1.44	Moderate
8.	Signs	2.57	1.33	Low
9.	Advertisements	2.37	1.38	Low
Total		3.10	0.85	Moderate

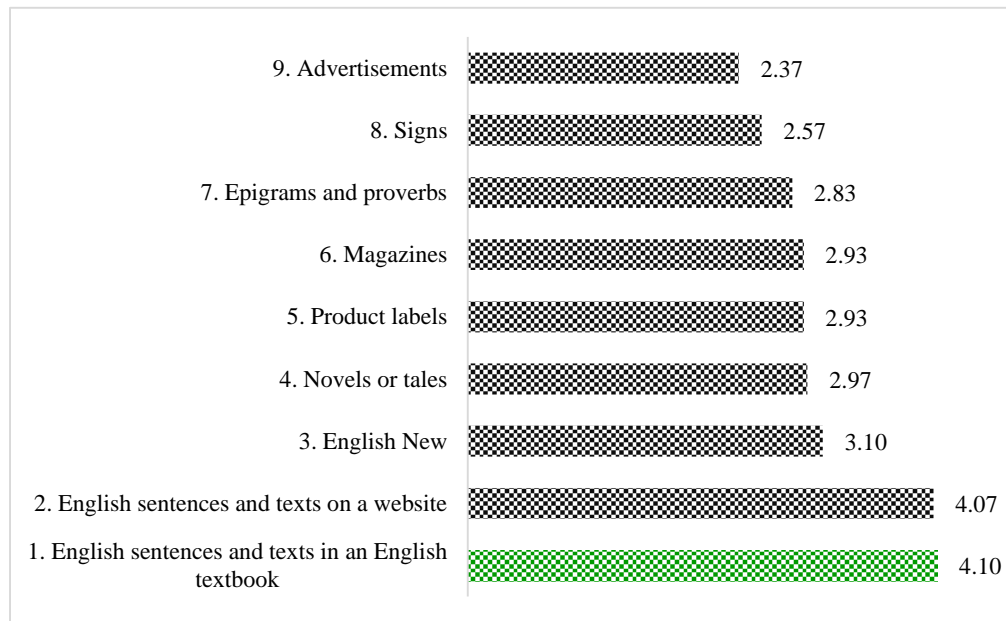


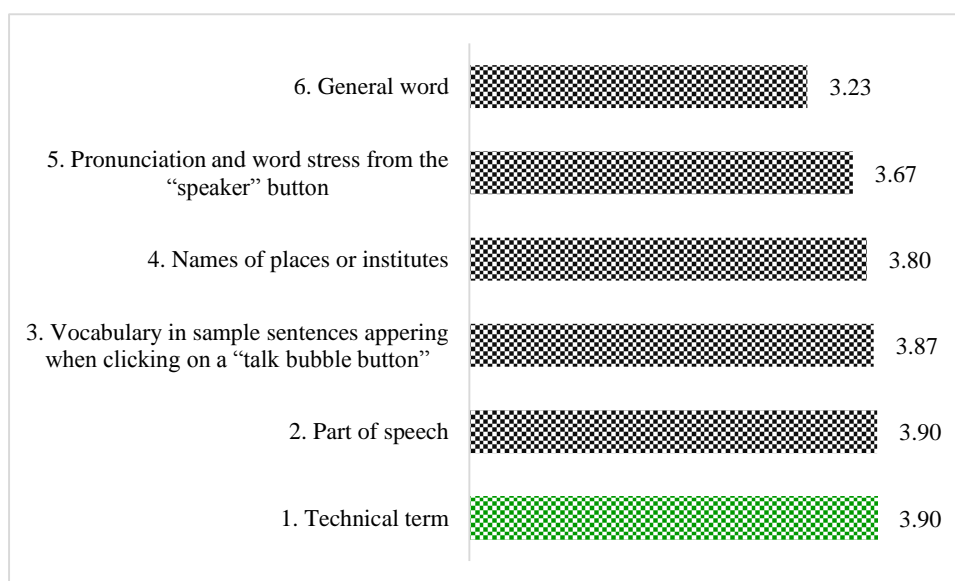
Figure 4.4 Objective in GT use for reading

From table 4.4 and Figure 4.4, the third objective that students use GT is for reading. When consider in detail, it is found that GT is used frequently for reading to read English sentences and English textbook ($\bar{x} = 4.10$, S.D. = 0.31). The second factor is to translate English sentences and text on website ($\bar{x} = 4.07$, S.D. = 0.25), followed by to translate English news ($\bar{x} = 3.10$, S.D. = 0.80)

From the analysis, it is found that the curriculum of Mahidol University for graduate students is all in English, most students may use GT to translate sentences and messages for better understanding of the lessons.

Table 4.5 Objective in GT use for vocabulary learning

No.	Objective	\bar{x}	S.D.	Level
1.	Technical term	3.90	0.66	High
2.	Part of speech	3.90	1.32	High
3.	Vocabulary in sample sentences appearing when clicking on a “talk bubble button”	3.87	1.36	High
4.	Names of places or institutes	3.80	0.66	High
5.	Pronunciation and word stress from the “speaker” button	3.67	1.37	High
6.	General word	3.23	0.73	Moderate
Total		3.73	1.02	High

**Figure 4.5** Objective in GT use for vocabulary learning

From Table 4.5 and Figure 4.5, it is found that the fourth objective that students choose GT is for vocabulary learning and once consider it in detail, it is found that the most frequent use of GT for vocabulary learning is equal between technical term

($\bar{x} = 3.90$, S.D. = 0.66) and part of speech ($\bar{x} = 3.90$, S.D. = 0.66). Vocabulary in sample sentences appearing when clicking on “talk button” ($\bar{x} = 3.87$, S.D. = 1.36) is also as important factors as terminology learning. However, the ability to translate terminology of GT is not as good as general word translation.

From the study and the analysis, it is found that the factor that students choose GT is to write dialogue to communicate with foreigners and to use for writing words or sentences on online media. In the meantime, the study has an effect on GT use because it is used to better understand of the lessons. GT also involves students when they write thesis since they have to translate from Thai to English therefore students choose GT since they put more emphasis on classroom teaching.

4.2 The Students' attitudes towards GT

From the study, the most students' attitudes towards GT is it is free of charge and easy to access ($\bar{x} = 4.77$, S.D. = 0.43) moreover, the translation is quick ($\bar{x} = 4.30$, S.D. = 0.53). Due to the GT has more advantages than disadvantages ($\bar{x} = 4.17$, S.D. = 0.46), therefore, students' attitudes towards GT as a quality translator and it is better than translate by themselves ($\bar{x} = 4.03$, S.D. = 1.00)¹

GT is considered as more effective and helpful for low English competency student than high English competency student ($\bar{x} = 4.03$, S.D. = 0.32), besides, students has attitudes towards GT as helping students to understand English passages better ($\bar{x} = 3.33$, S.D. = 0.66) and GT helps student with low English competency gain translation skill ($\bar{x} = 3.13$, S.D. = 0.68) and poor English students depend more on GT in learning English rather than average and good English students ($\bar{x} = 3.07$, S.D. = 0.64) Please see table 4.6 and Figure 4.6

Table 4.6 Students' attitude towards GT

No.	Attitude	\bar{x}	S.D.	Levels
1.	GT is free and easy to access.	4.77	0.43	Very High
2.	GT can translate texts quickly	4.30	0.53	Very High
3.	GT give me more advantages than disadvantages.	4.17	0.46	High
4.	The quality of texts translate by GT is better than by my translation.	4.03	0.53	High
5.	GT is more helpful and effective for both students with low English competency than those with high English competency.	4.03	0.32	High
6.	I gained a lot of vocabulary knowledge when I use GT	4.00	1.02	High
7.	GT is equally helpful and effective for both students with low and high English competency	4.00	0.45	High
8.	Using GT, I don't need to remember new vocabulary or guess meaning of words.	3.87	0.73	High
9.	I can rely on the accuracy of texts translated by GT (English to Thai translation)	3.83	1.15	High
10.	I understand an English passage better with the assistance of GT.	3.33	0.66	Moderate
11.	I gain translation skills from using GT	3.13	0.68	Moderate
12.	GT makes me lazy to think and to use my effort in writing.	3.07	0.58	Moderate
13.	Poor students depend more on GT in learning English rather than average and good students.	3.07	0.64	Moderate
14.	I can write English sentences better with the assistance of GT.	2.57	0.97	Low
15.	I feel more confident when using GT for English writing.	2.47	0.94	Low

Table 4.6 Students' attitude towards GT. (cont.)

No.	Attitude	\bar{x}	S.D.	Levels
16.	I learn English grammar and structure from using GT.	2.43	0.82	Low
17.	GT makes me lazy to think and to use my effort in reading.	2.20	0.76	Low
Total		3.49	0.71	High

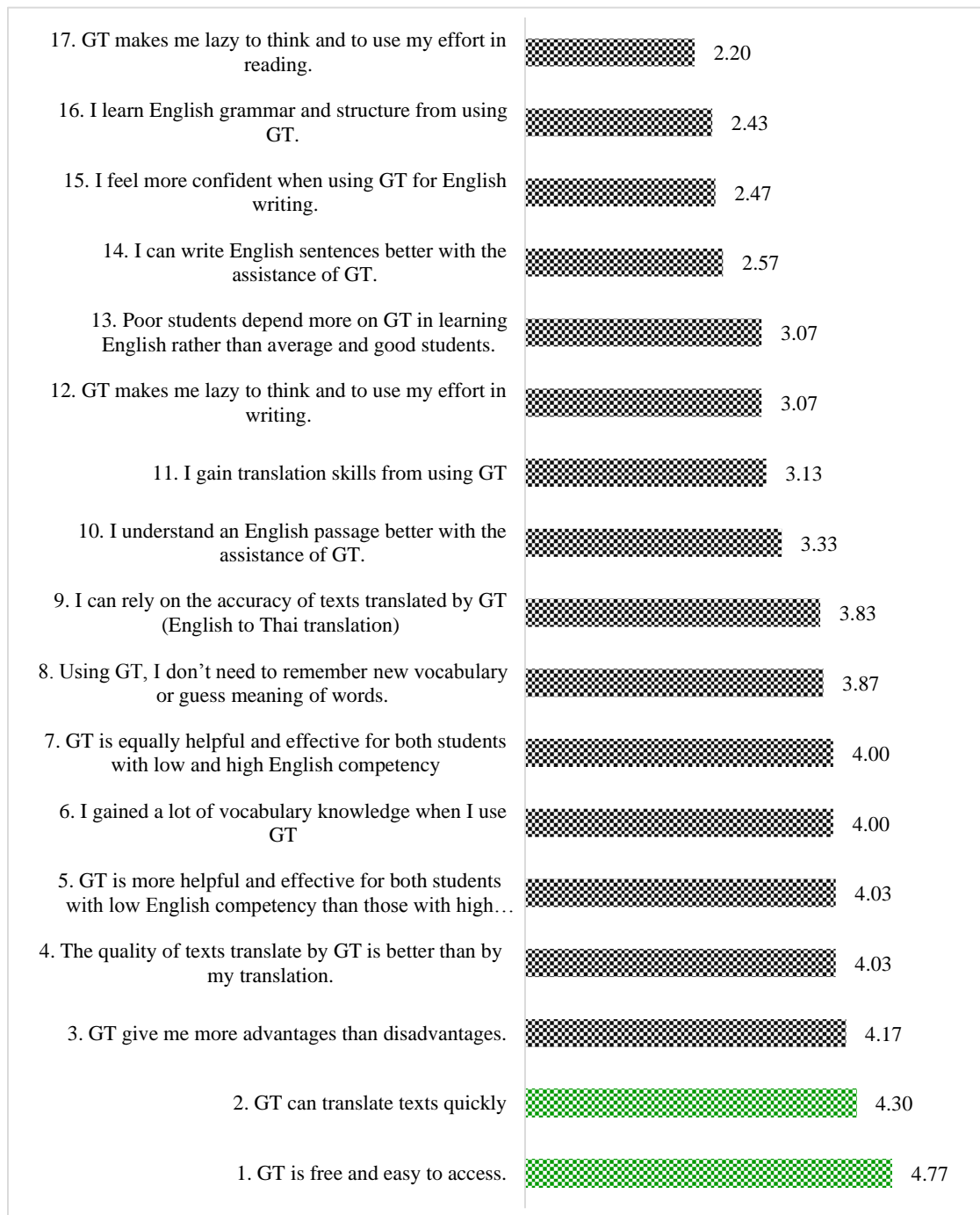


Figure 4.6 Students' attitudes towards GT

4.3 Advantages, disadvantages, problems and solutions

After checked the questionnaire from 30 students, the majority of students (22 students) concluded that GT is easy to access and free of charge, moreover it is convenient to use and fast while another 8 students concluded that GT has advantages since it is a guide to a better understanding English passages, in addition to that GT is able to translate sentences and long articles.

However, GT still has disadvantages. After checked the questionnaires from 30 students, all of them have similar comments that is GT mistranslate word, sentences or articles and the grammar is not correct. Moreover the sentence order or article composition is not correct resulted in unable to understand the sentence and sometimes GT mistranslate the meaning.

When check the questionnaire answered by 30 students, they agree in the same direction that GT needs improving and development that it learns more grammar and correct sentence order and learn more about vocabulary.

4.4 Difference between scores of frequent and non-frequent GT users

Table 4.7 English to Thai translation scores of non-frequent GT users and frequent GT users

EN-TH Translation	NF		F		T	Df	Sig. (2-tailed)
	Mean	S.D.	Mean	S.D.			
Part 1	2.78	1.42	2.71	0.12	3.99	19	0.94
Part 2	0.77	0.40	0.74	0.13	3.29	19	0.25
Part 1+2	3.54	1.20	3.45	0.34	2.63	19	0.49

NF = non-frequent GT users F = frequent GT users

From table 4.7, it is found that the non-frequent GT users have higher sentence translation mean (Part 1) than that of the frequent GT users including article translation score (Part 2). The non-frequent GT users have higher score than that of the

frequent GT users. Therefore, using GT frequently does not have direct effect on student's English translation skills.

4.5 The students' behaviors of using GT

From the study of students' behavior in using GT, of 30 students who did the questionnaire about objectives and attitudes towards GT, there are 20 students who are frequent GT users or 67% , this group uses GT more than 3 times/ week and the other group is 10 students who are non-frequent GT users which accounted for 33%. This group uses GT less than 2 times/ week. Thirty students have completed the sentence and article translation test and they have to assess their own behaviors towards GT usage immediately.

4.5.1 Translation behavior from Thai-English

Table 4.8 Students' behaviors towards GT usage for English – Thai translation

No.	Students' behaviors towards GT usage for English – Thai translation	NF		F		Total	
		(N=10)		(N=20)		(N=30)	
		N	%	N	%	N	%
1	I read English sentences and text before using GT.	9	90	15	75	24	165
2	I edited the GT output when I finished the translation task.	9	90	9	45	18	135
3	When I was not sure about word meanings translated by GT, I clicked on those words to see other possible meaning and chose the most appropriate ones.	7	70	15	75	22	145
4	I used GT only for meanings of unknown vocabulary words and translated the rest by myself.	3	30	13	65	16	95

Table 4.8 Students’ behaviors towards GT usage for English – Thai translation. (cont.)

No.	Students’ behaviors towards GT usage for English – Thai translation	NF		F		Total	
		(N=10)		(N=20)		(N=30)	
		N	%	N	%	N	%
5	When I was not sure about word meaning translated by GT, I asked for other students’ help.	3	30	9	45	12	75
6	I used GT to translate one sentence at a time	2	20	14	70	16	90
7	I compared my work with other students’ before submission	2	20	6	30	8	50

NF = non- frequent GT users F = Frequent GT users

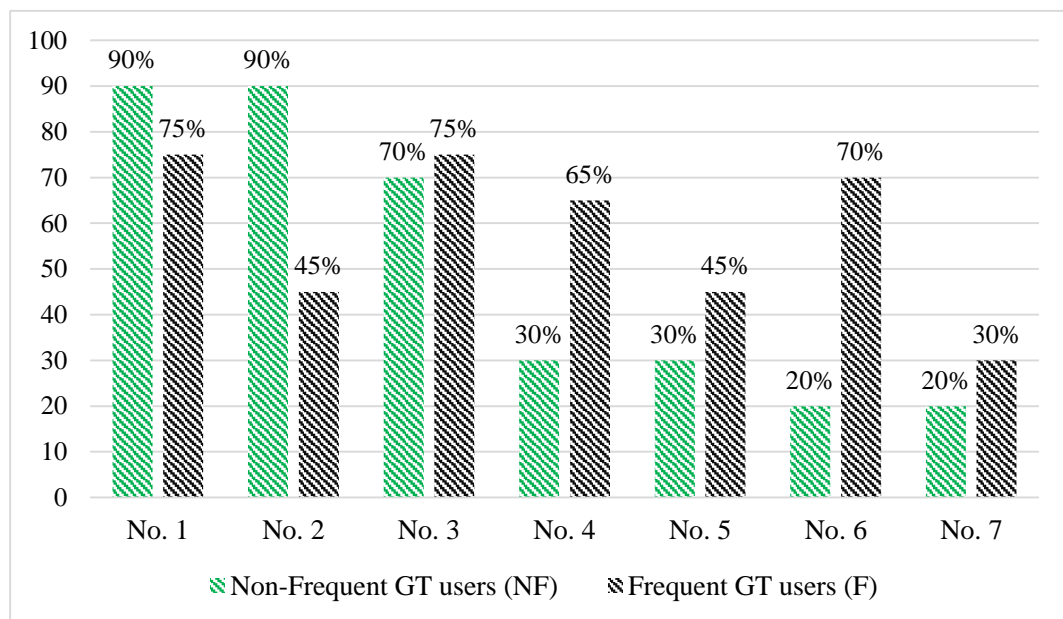


Figure 4.8 Compares students’ behaviors in using GT for English to Thai translation

From table 4.8 and Figure 4.8, it is found that there are 10 non-frequent GT users and 20 frequent GT users. When consider in detail, it is found that the behavior of students who use GT for sentence or article translation from English to Thai in the translation test is “I read English sentence and text before using GT”. Nine non-frequent GT users and 15 frequent GT users display these behaviors.

When they are not sure if the meaning translated by GT is correct, more frequent GT users will click those words for other possible meaning and choose the most appropriate one than non-frequent GT users do. In addition, another behavior of frequent GT users is to translate one sentence at a time.

The analysis of chapter 4 derived for 8 tables and exhibits can be concluded that from the sample of 30 graduate students from the Information Technology Management, Mahidol University, all 30 students use GT and they can be divided into 2 groups; 10 non-frequent GT users (NF) and 20 frequent GT (F) users. The objectives of using GT are for study, translation, vocabulary learning, for better understanding lessons and sentence or article translation in order to understand their own research. The attitudes of students towards GT are it is free of charge, easy to access, convenient, fast and provide a better translation than the students themselves. Moreover, it is benefited students with low English competency more than students with good English competency and students thinks that they acquire translation skill from GT.

From the students' behaviors analysis, the frequent GT users have skills and know how to use GT more than the non-frequent GT users do which is assumed that the non-frequent GT users may not be good at English. However, the score form translation test showed that non-frequent GT users have higher score in sentences and messages translation than the frequent GT user on average. This indicates that use of GT even frequently does not have any effect on translation skills and higher quality in English translation.

CHAPTER V

CONCLUSION

A study of “the Relationship between attitudes and behaviors of IT students and their translation skills in the context of usage in machine translator” is aimed to study behaviors and attitudes of students towards GT and their skills in using GT, including the study of relationship between behaviors and attitudes of students towards GT usage and skills in sentences and articles translation from Thai to English with the translation tool measurement and error.

5.1 Conclusion

From the study of sampling group composing of 30 graduate students from Information Technology Management, Mahildol University, 30 students use GT and the frequency of GT use is more than 6 times/ week by 11 students or 37% while the frequency of GT use just 1-2 times/ week by 8 students or 27%

Students are divided into 2 groups; 1) non-frequent GT use (NF) and 2) frequent GT use. The main objectives of using GT are to understand the lessons, and to translate the research findings from English to Thai to better understanding the research they are conducting. However, once compare the test score of sentences and articles translation from English to Thai, students in non-frequent GT use have higher score than students in frequent GT use group on average. Therefore using frequent GT does not have any effect on quality or students’ translation and reading skills.

5.2 Future works

From the study of “the Relationship between attitudes and behaviors of IT students and their translation skills in the context of usage in machine translator” provides knowledge of behaviors and attitudes of the graduate students of Information technology Management, Mahidol University in GT use. Even the students who are non-

frequent GT use shows that they have higher score in sentences and articles translation from English to Thai than students who are frequent GT use. So this study should be helpful for academic planning for graduate students in the upcoming years to adjust the curriculum to be stricter and be more intensive and this study can be used to develop the skills and translation quality

From the suggestion, the GT should be developed and improved to have correct grammar no matter it is just short words, sentences, long articles or website, it should translate them with efficacy and effectiveness.

REFERENCES

1. Arissara, (2013), Students' Attitudes and Behaviors towards the Use of Google Translate"
2. Zcooby (online), 2014, Available: <http://www.zcooby.com/how-to-improve-translation-by-google-translate/> (10 February 2015).
3. Sutenm (2007), Available: <http://www.sutenm.com/google-translate> (10 February 2015)
4. Wikipedia (2015), Available: <http://th.wikipedia.org/wiki/> (10 February 2015)
5. Christian Boitet, Youcef Bey, Mutsuko Tomokiyo, Wenjie Cao, and Hervé Blanchon. IWSLT-06: experiments with commercial systems and lessons for subjective evaluations., in presentation slide of the International Workshop on Spoken Language Translation. Kyoto, Japan. 2006.
6. Sombat Khruathong, Towards a Micro-Systemic Parsing for a Thai-French Machine Translation: Application to the Serial Verbs", Doctoral Thesis, Franche-Comté University, 2006.
7. Maja Popović and Hermann Ney. 2011. Towards Automatic Error Analysis of Machine Translation Output. *Computational Linguistics*, 37(4):657–688, December.
8. Sukkhwan, A. (2014). Use of Google Translate: A Survey of Songkhla Rajabhat University Students. *International Proceeding of L-SA Workshop and Colloquium 2014: "Speaking" for ASEAN*, Thailand: Prince of Songkla University, 88-104
9. Sarathorn Munpru. (2014). A Survey of Online Tools Used in English-Thai and Thai-English Translation by Thai Students.

APPENDICES

APPENDIX A

แบบสอบถามการใช้โปรแกรมแปลภาษากูเกิลทรานสเลท (Google Translate : GT)

แบบสอบถามฉบับนี้ มีวัตถุประสงค์เพื่อสำรวจทัศนคติ และข้อมูลเกี่ยวกับการใช้โปรแกรมแปลภาษากูเกิลทรานสเลท (Google Translate : GT) ของนักศึกษาปริญญาโท คณะวิศวกรรมศาสตร์ สาขาวิชาการจัดการเทคโนโลยีสารสนเทศ โดยแบบสอบถามแบ่งเป็น 5 ตอนดังต่อไปนี้

- ตอนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม
- ตอนที่ 2 วัตถุประสงค์และความถี่ของการใช้โปรแกรมแปลภาษา GT
- ตอนที่ 3 ทัศนคติของผู้ตอบแบบสอบถามต่อการใช้โปรแกรมแปลภาษา GT
- ตอนที่ 4 ข้อคิดเห็นทั่วไปเกี่ยวกับการใช้โปรแกรมแปลภาษา กูเกิลทรานสเลท
- ตอนที่ 5 ปัญหาจากการใช้โปรแกรมแปลภาษา กูเกิลทรานสเลท และวิธีการจัดการปัญหาดังกล่าว

คำชี้แจง : โปรดทำเครื่องหมาย ✓ ในช่องสี่เหลี่ยม และในตาราง/เติมข้อความให้ครบถ้วนตามความเป็นจริง

ตอนที่ 1 ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

1. เพศ : ชาย หญิง
2. คุณใช้โปรแกรมแปลภาษากูเกิลทรานสเลท หรือไม่
 ใช่ ไม่ใช่

ตอนที่ 2 วัตถุประสงค์และ ความถี่ ในการใช้โปรแกรมแปลภาษา กูเกิลทรานสเลท (GT)

3. ช่วงคะแนนภาษาอังกฤษที่ได้ ตอนสอบเข้าเรียน ปริญญาโท

- 0 - 29 คะแนน 31 - 40 คะแนน
- 41 - 60 คะแนน 61 - 80 คะแนน
- 81 - 100 คะแนน

ข้อ	วัตถุประสงค์	ความถี่ (ครั้ง/สัปดาห์)				
		5	4	3	2	1
		ใช้บ่อยมาก	ใช้บ่อย	ใช้บางครั้ง	ไม่เคยใช้	ไม่เคยใช้เลย
4.	คุณใช้ GT.....ครั้ง/สัปดาห์ (โปรดระบุ)					
5.	คุณใช้ GT เพื่อวัตถุประสงค์ในการอ่านดังต่อไปนี้บ่อยเพียงใด					
	7.1 นิยาย นิทาน					
	7.2 นิตยสาร					
	7.3 ข่าวภาษาอังกฤษ					
	7.4 ฉลากสินค้า					
	7.5 โฆษณา					
	7.6 ป้ายต่าง ๆ					
	7.7 คำคม หรือคติสอนใจภาษาอังกฤษ					
	7.8 ประโยค และข้อความภาษาอังกฤษบนเว็บไซต์					
	7.9 ประโยค และข้อความภาษาอังกฤษในหนังสือเรียน					
	7.10 อื่น ๆ (ระบุ).....					
6.	คุณใช้ GT เพื่อวัตถุประสงค์ในการเขียนดังต่อไปนี้บ่อยเพียงใด					
	8.1 บทกลอน หรือข้อความภาษาอังกฤษในการ์ดอวยพร					
	8.2 จดหมายอิเล็กทรอนิกส์ (emails) เป็นภาษาอังกฤษ					
	8.3 ประโยค หรือข้อความภาษาอังกฤษในแบบฝึกหัดหรือชิ้นงานที่ อาจารย์มอบหมาย					

ข้อ	วัตถุประสงค์	ความถี่ (ครั้ง/สัปดาห์)				
		5	4	3	2	1
		ใช้บ่อยมาก	ใช้บ่อย	ใช้บางครั้ง	ไม่เคยใช้	ไม่เคยใช้เลย
	8.4 คำ และข้อความ หรือความคิดเห็น (comments) ภาษาอังกฤษ ในบล็อก เฟสบุ๊ก ทวิตเตอร์ ฯลฯ					
	8.5 บทสนทนาสด (live chat) กับเพื่อนชาวต่างชาติ บนเครือข่ายอินเทอร์เน็ต					
	8.6 อื่น ๆ (ระบุ)					
7.	คุณใช้ GT เพื่อวัตถุประสงค์ในการเรียนรู้คำศัพท์ต่าง ๆ ต่อไปนี้บ่อยเพียงใด					
	9.1 คำศัพท์ทั่วไป					
	9.2 คำศัพท์เฉพาะทาง (technical term)					
	9.3 คำศัพท์ชื่อเฉพาะของสถานที่หรือหน่วยงาน					
	9.4 หน้าที่ของคำศัพท์ (part of speech)					
	9.5 การใช้คำศัพท์ในประโยคตัวอย่าง ซึ่งจะปรากฏขึ้นเมื่อคลิกปุ่ม “กล่องคำพูด”					
	9.6 การออกเสียง (pronunciation) และการเน้นเสียง (stress) ของคำศัพท์จากปุ่ม “ลำโพง”					
	9.7 อื่น ๆ (ระบุ).....					
8.	คุณใช้ GT เพื่อวัตถุประสงค์ในการแปลสิ่งต่อไปนี้บ่อยเพียงใด					
	10.1 บทคัดย่อ					
	10.2 บทความ					
	10.3 หนังสืออ่านนอกเวลา					
	10.4 เอกสารทางราชการ (Official documents)					
	10.5 สำนวน (idioms) สุภาษิต (proverbs)					
	10.6 อื่น ๆ (ระบุ).....					

ตอนที่ 3 ทักษะคติของผู้ตอบแบบสอบถามต่อการใช้โปรแกรมภาษา กูเกิลทรานสเลท (GT)

ข้อ	วัตถุประสงค์	ความถี่ (ครั้ง/สัปดาห์)				
		5	4	3	2	1
		เห็นด้วยอย่างยิ่ง	เห็นด้วย	เห็นด้วยปานกลาง	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
9.	GT มีข้อดีมากกว่าข้อเสีย					
10.	GT ไม่มีค่าบริการและสามารถเข้าใช้บริการได้ง่าย					
11.	GT แปลข้อความได้รวดเร็ว					
12.	GT แปลข้อความได้มีคุณภาพมากกว่าที่ฉันแปลเอง					
13.	GT แปลข้อความภาษาอังกฤษเป็นภาษาไทยได้ถูกต้องและเชื่อถือได้					
14.	ฉันได้ความรู้ด้านคำศัพท์เป็นจำนวนมากเมื่อใช้ GT					
15.	ฉันเรียนรู้ไวยากรณ์และ โครงสร้างภาษาอังกฤษจากการใช้ GT					
16.	ฉันอ่านบทความภาษาอังกฤษเข้าใจมากขึ้นเมื่อใช้ GT ช่วย					
17.	เมื่อฉันใช้ GT ฉันไม่จำเป็นต้องจำหรือเดาคำศัพท์					
18.	ฉันรู้สึกมั่นใจมากขึ้น เมื่อเขียนภาษาอังกฤษโดยใช้ GT ช่วย					
19.	ฉันเขียนประโยคภาษาอังกฤษได้ดีขึ้นเมื่อใช้ GT ช่วย					
20.	การใช้ GT ทำให้ฉันไม่พยายามทำความเข้าใจจากการอ่านภาษาอังกฤษด้วยตนเอง					
21.	การใช้ GT ทำให้ฉันไม่พยายามเขียนภาษาอังกฤษด้วยตนเอง					
22.	ฉันได้ทักษะการแปลจากการใช้ GT					
23.	GT มีประโยชน์และประสิทธิภาพต่อนักศึกษาที่อ่อนภาษาอังกฤษมากกว่านักศึกษาที่เก่งภาษาอังกฤษ					

ข้อ	วัตถุประสงค์	ความถี่ (ครั้ง/สัปดาห์)				
		5	4	3	2	1
		เห็นด้วยอย่างยิ่ง	เห็นด้วย	เห็นด้วยปานกลาง	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
24.	GT มีประโยชน์และมีประสิทธิภาพต่อทั้งนักศึกษาที่อ่อนและเก่งภาษาอังกฤษ					
25.	นักศึกษาที่อ่อนภาษาอังกฤษจะพึ่งพา GT ในการช่วยแปลบทความวิจัย มากกว่านักศึกษาที่อยู่ระดับกลางและเก่ง					

ตอนที่ 4 ข้อคิดเห็นทั่วไปเกี่ยวกับการใช้โปรแกรมแปลภาษา กูเกิลทรานสเลท (GT)

ข้อดี

1.
2.
3.

ข้อเสีย

1.
2.
3.

ตอนที่ 5 ปัญหาจากการใช้โปรแกรมแปลภาษา กูเกิลทรานสเลท (GT) และวิธีการจัดการกับปัญหา
ดังกล่าว

1).

การแก้ไข

.....

2).

การแก้ไข

.....

3).

การแก้ไข

.....

ขอบคุณอย่างยิ่งในการให้ความร่วมมือตอบแบบสอบถาม

APPENDIX B

แบบทดสอบทักษะในการใช้โปรแกรมแปลภาษากูเกิลทรานสเลท (Google Translate : GT)

แบบสอบถามฉบับนี้ มีวัตถุประสงค์เพื่อทดสอบทักษะในการแปลประโยค และบทความจากโปรแกรมแปลภาษา กูเกิลทรานสเลท (Google Translate : GT) ของนักศึกษาปริญญาโท คณะวิศวกรรมศาสตร์ สาขาวิชาการจัดการเทคโนโลยีสารสนเทศ โดยแบบสอบถามแบ่งเป็น 2 ตอน ดังต่อไปนี้

- ตอนที่ 1 แปลประโยคภาษาอังกฤษเป็นภาษาไทย
- ตอนที่ 2 แปลบทความวิจัยภาษาอังกฤษเป็นภาษาไทย

ตอนที่ 1 แปลประโยคภาษาอังกฤษเป็นภาษาไทย

1. Simulation is the imitation of the operation of a real-world process or system over time
2. IT Management is different from management information systems.
3. A primary focus of IT management is the value creation made possible by technology.
4. Simulation has been used successfully for years to improve system design and management.
5. We should consider this era as information age using different and advanced information technology.
6. The importance of IT management is to understand the managing data.
7. A database is a collection of information that is organized so that it can easily be accessed, managed, and updated.
8. Selecting enterprise IT application level is a process influenced by multi-factor.
9. Managing relationships and personalities is a huge part of being a project manager.

10. In this paper we address the problem of ensuring business-IT alignment.

ตอนที่ 2 แปลบทความวิจัยภาษาอังกฤษเป็นภาษาไทย

1. Simulation has been used successfully for years to improve system design and management. With the emphasis on process improvement in all aspects of a business, simulation is being recognized as a tool that can be of significant benefit. Simulation helps maximize process performance before a process is implemented. A frequent decision to be made when using simulation for general business processes is whether to simulate the process or the system. Process simulation, unlike system simulation, models the logical activity sequence rather than the actual material flow.

2. The transformation from a technology-oriented IT department to a client-focused IT service provider with a methodological structuring of internal IT processes can only be guaranteed by service-oriented IT management. In contrast to concepts such as service-oriented computing the service-oriented IT management concept concentrates especially on the management of IT services. A large number of models, methods and concepts were developed, intended to help guarantee service-oriented IT management.

3. Selecting enterprise IT application level is a process influenced by multi-factor. This research is conducted by constructing the measurement model and using questionnaires that were collected by enterprise interview. Based on empirical model and parameters estimation, this paper has a thorough discussion on influence mechanism which is about how process management capability improves enterprise IT application level. The findings show that process management capability influencing enterprise IT application level is a dynamic process and different process management capabilities lead to different speed of improving enterprise IT application level.

APPENDIX C

แบบสอบถามสำรวจพฤติกรรมในการใช้โปรแกรมแปลภาษากูเกิลทรานสเลท (GT)

แบบสอบถามฉบับนี้ มีวัตถุประสงค์เพื่อสำรวจพฤติกรรมและปัญหาจากการใช้โปรแกรมแปลภาษา
กูเกิลทรานสเลท (Google Translate : GT) ของนักศึกษาปริญญาโท คณะวิศวกรรมศาสตร์ สาขาวิชา
การจัดการเทคโนโลยีสารสนเทศ โดยแบบสอบถามมีทั้งหมด 1 ตอน ดังต่อไปนี้

ตอนที่ 1 พฤติกรรมการแปลข้อความจากภาษาอังกฤษเป็นภาษาไทย

คำชี้แจง : โปรดตอบแบบสอบถามให้ครบถ้วนตามความเป็นจริง โดยเลือกคำตอบในข้อที่นักศึกษา
ทำกิจกรรมนั้นจริง

ตอนที่ 1 พฤติกรรมการแปลข้อความจากภาษาอังกฤษเป็นภาษาไทย

- 1. ฉันอ่านประโยคและข้อความภาษาไทยก่อนแปลด้วย Google Translate
- 2. ฉันใช้ Google Translate เพื่อหาความหมายของคำศัพท์เท่านั้น ส่วนอื่น ๆ ฉันแปลด้วยตนเอง
- 3. ฉันใช้ Google Translate แปลประโยคภาษาอังกฤษครั้งละ 1 ประโยค
- 4. เมื่อฉันไม่แน่ใจว่าคำที่แปลโดย Google Translate ถูกต้องหรือไม่ ฉันคลิกที่คำนั้น
(แถบสีเหลือง) เพื่อดูและเลือกใช้คำแปลอื่น ๆ ที่เหมาะสมกว่า
- 5. ฉันถามเพื่อนเมื่อฉันไม่แน่ใจว่าคำที่แปลโดย Google Translate ถูกต้องหรือไม่
- 6. หลังจากแปลเสร็จ ฉันแก้ไขผลการแปลที่แปลโดย Google Translate
- 7. ฉันเปรียบเทียบงานของฉันกับงานของเพื่อนก่อนส่งอาจารย์

ขอบคุณอย่างยิ่งในการให้ความร่วมมือตอบแบบสอบถาม

BIOGRAPHY

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