

A Survey of the Use of Mobile Technology and Translation Tools by Students at Secondary School in Thailand

1. Introduction

The rapid growth of Information Technology use on mobile devices has been called the biggest revolution since the PC or the Internet, yet in Thailand there is little to no empirical research to support this view. Ownership of mobile devices is increasing and users are diversifying how they use their phone or tablet. The growing use of mobile technology effects many areas of IT including translation. There is insufficient information in Thailand to confirm students in particular are accessing translation tools via mobile devices and what tools they are accessing. This report details the research into translation tools used by Thai students to translate the Thai language to and from English. This includes a survey of 1707 students in Thailand that indicates they use mobile technology and they prefer to use phones over computers for their translation.

The survey has two primary objectives: (1) to confirm the use of mobile technology by Thai students for translation purposes, and (2) to ascertain which tools students use for this translation. The technology or hardware that students use is categorized as either a computer, a phone, a tablet or another method. The software, online service, or phone app that uses machine translation is referred to as the translation tool. Students often use dictionary-based services therefore the research determines if the students use these translation tools for more advanced use such as the translation of phrases, sentences or longer text. Longer text could involve a paragraph, an email or a web page. Secondary aims also include the student's level of satisfaction with the translation, problems encountered, and students' opinions on their translation needs.

In Thailand the importance of ASEAN membership is a prominent issue. The world's largest current translation service is provided by the European Union and this example of the translation of several languages is relevant for the countries that are ASEAN members such as Thailand. The primary language used for ASEAN is English and this signals a potential growth in interest in Thai to English, and English to Thai, translation services. Therefore this study concentrates on the automatic translation of English for Thai students.

2. Related Work

The growing use of mobile technology is being compared to the Internet revolution (Kats 2013) and for many it is replacing the use of PCs (Bonnington 2015). In 2011, manufacturers shipped more smartphones than computers (Aguilar 2012). In 2014 people worldwide spend more time on their smartphones than on traditional PCs (Halleck 2014), more people in America own phones than computers (Murtagh 2014) and the amount of mobile devices overtook the number of people in the world (Davies Boren 2014). It is reported that more web searches were requested on mobile devices than on personal computers (Daily Mail Online 2015).

Research is showing that mobile technology can engage and inspire students to learn (Nielson 2013). The use of mobile technology in language learning has led to the development of a new research area called mobile assisted language learning (MALL), see (Kukulska-Hulme 2008) for an overview. The advantages of using mobile technology include the familiarity of the device to the user, the availability of anywhere, anytime, and the accessibility of translation services. In addition, students are more proficient and regular users of mobile technology, use these devices for longer and for more tasks, and place a greater value to mobile devices than standard computers (Bibby 2011). Although Somers (Somers et al 2006) reports the inappropriate use of online machine translation involving plagiarism.

3. Study Methods

The survey of 1707 students from four schools based in Chiang Mai was carried out during June 2015. Both Government and private schools are represented in the survey. Students in Chiang Mai may not accurately represent all students in Thailand, nevertheless, it is hoped inferences can be drawn from the sample of these schools. The survey is based on in-person interviews with answers gained directly from the students to achieve a good response rate and has the benefit of the assistance of the interviewer.

3.1 Research Questions

The primary research questions are (1) do students use mobile technology and prefer this use to computers? (2) What translation tools are students using? The secondary issues include: (a) do students use these tools to translate phrases, sentences and longer text? (b) Are students satisfied with this translation, (c) what problems do they have, and (d) what are the students' views on what they think they need to help them with translation?

3.2 Survey Instrument

The survey is based on a short questionnaire that includes four areas of interest:

1. Use and preference of technology. The survey includes two closed questions asking the students what technology they use for translation, and what technology they prefer to use the most. The choices are presented in the order of computer, phone, tablet and other.
2. Choice of translation tool. When completing the questionnaire students can give up to five answers for their choice of translation tool. The interviewer requests the students' translation tool that they use the most, the second most etc. A set of potential answers, with their logos, were printed on a help sheet for the interviewers.
3. The use and satisfaction of translation for phrases, sentences and longer text. The students are asked if they translate text of greater length than one word, and if so what is their level of satisfaction with that translation. The student can indicate their level of satisfaction using a Likert scale for each of the three text lengths.
4. Two open questions concerning translation problems and students' opinion on their translation needs.

The questionnaire also includes a section for personal details such as age, gender, and year of study.

Table 1 Sample number of students in each year of education

	<i>School</i>				<i>Total</i>
	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	
<i>Population</i>	3333	2794	3192	617	9936
<i>Year of Education</i>	<i>Sample</i>				<i>Total</i>
1	70	70	67	24	231
2	65	74	83	19	241
3	53	61	77	22	213
4	79	72	81	70	302
5	78	109	96	61	344
6	87	141	88	60	376
Total	432	527	492	256	1707

3.3 Sample

To estimate the amount of participants of the survey we applied a stratified random sampling approach. Stratified random sampling involves dividing a population into homogeneous subgroups and then taking a simple random sample in each subgroup

(Tromchin, 2006). This method produces the minimum required sample for the survey from each educational establishment. Stratification may produce a smaller bound of error of estimation when there are homogenous groups (Scheffler, Mendenhall, Ott, & Gerow, 2012).

Language learning needs and proficiency, and the use of technology, differs between educational levels therefore the students are divided by the year of study as strata. In Thailand the years of study for secondary schools range from Mattayom one (12-13 years old) to Mattayom six (17-18 years old). The sample from each establishment is calculated using the Krejcie and Morgan sampling method (Krejcie & Morgan, 1970). The sample from each population has a confidence rate of 99% with a five percent (5%) margin of error. Table 1 shows the sample for each school and year of study. The four schools are named as school A and B (Government) and schools C and D (Private).

4. Analysis of the Survey Results

The results are presented in three main sections: the use of mobile technology by students, the use of translation tools by students and the secondary findings that include the students' satisfaction with the translations.

4.1 Use of mobile technology by students

The first primary objective of the survey was to confirm the extensive use of mobile technology by students in Thailand for translation between the Thai and English languages. The results show that students in the survey use mobile technology, and prefer to use mobile technology, over the use of computers. When asked what technology they used for translation 90% of the students stated they use a phone (1546 students, 90.6%), 70% use a computer (1215 students, 71.2%), 375 students (22.0%) use a tablet, and 51 students (3.0%) use another method. The other methods included using a dictionary (30 students), a notebook, an iPad, a talking dictionary or a book.

4.2 Use of translation tools by students

The second primary objective of the survey was to determine what tools students' use for translation between Thai and English. The questionnaire gave students the opportunity to give five answers in order of most use. The students selected a wide range of tools totaling 73 unique answers. These were a selection of online tools, phone apps, search engines, PC software, social network tools and non-digital answers such as a dictionary. The results presented are based on the first choice of the students, rank #1, and all of the tools given by the students, rank #1 to #5.

4.3 Secondary findings

The selection of translation tools included many dictionary-based applications that provide a simple word look-up facility so the students were asked if they used the translation tools for more than one word. In the survey 1507 students (88.3%) answered yes they do, 185 (10.8%) said no, and 15 (0.9%) did not give an answer. The students were also asked if they

translated phrases, sentences or longer texts, and how satisfied were they with the translation. The options ranged from very satisfied, satisfied, it's OK, a little unsatisfied and very unsatisfied.

The results indicate the students are satisfied with the translations with just over 85% (85.2%) selecting either satisfied, very satisfied or OK. Students appear to have realistic expectations for the translations and rate the translation tools comparatively. The pleasant nature of Thai students could also be a contributory factor to the positive levels of satisfaction.

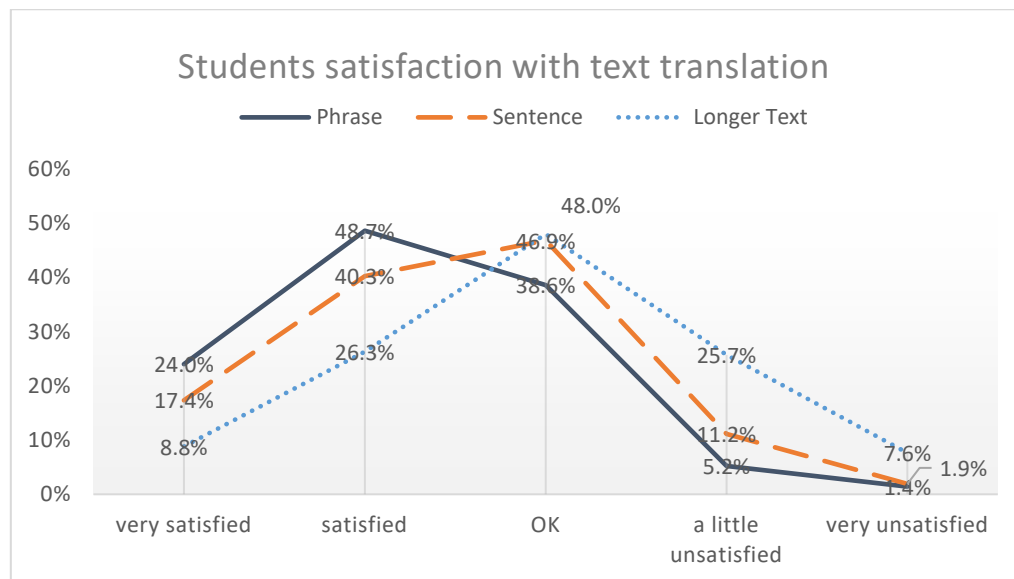


Figure 1 Student's satisfaction with the translation of phrases, sentences and longer texts

In Figure 1 we compare the results for the satisfaction of translation of phrases, sentences and longer texts. The students were most satisfied with the translation of phrases. Over 70% (72.7%) voted for either satisfied or very satisfied with phrase translation. Very few (6.6%) voted for either a little or very unsatisfied. The satisfaction of sentences was also positive with 17.4% voting very satisfied, 40.3% satisfied and 46.9% stating the translation is OK. The very unsatisfied votes remained low at 1.9% but the amount of students who are a little unsatisfied doubled from phrases to 11.2%. Finally the results for longer text was more balanced with about half of students (48.0%) voting OK, and similar results for very satisfied (8.8%) and very unsatisfied (7.6%), and satisfied (26.3%) and a little unsatisfied (25.7%).

5. Conclusion

The research determined the students in the survey not only use their phones for translation but prefer to use a phone over a computer. In addition, the students also indicated a preference for translation provided by Google Translate over the other translation services. Both of these findings are consistent with previous research mainly outside of Thailand. The use of a phone increases and the dependence on Google Translate decreases with the advancement of the year of study.

Students are aware of the wide range of translation tools but the functionality of the tool appears as important as the quality of the translation. The students may use many different tools but these tools offer a very limited amount of variety between a small set of translation engines. The availability of text written in both Thai and English, used by statistical machine translation, will increase with ASEAN membership and may help improve the quality of Thai to English and English to Thai translation. The indication is that the students will access whatever translation services are available via their mobile phone.

References

- Krejcie R. and Morgan D. (1970) *Determining Sample Size for Research Activities*, in the Educational and Psychological Measurement, issue 30, pp 607-610. [Online] Available from <http://research-advisors.com/tools/SampleSize.htm> [Accessed 9 Nov 2014]
- Scheafler R., Mendenhall W., Ott R. and Gerow K (2012) *Survey Sampling*, 7th edition, International edition, Cengage Learning, Canada
- Trochim W. (2006) *Probability Sampling* [Online] Available from: <http://www.socialresearchmethods.net/kb/sampprob.php> [Accessed 9 Dec 2014]