

Decoding Semanticity of Chinese Vocabulary via Google Translate Use

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ABSTRACT

The logophonetic feature of Chinese writing makes it a challenge for Chinese-as-a-foreign language (CFL) students to comprehend the semantic of words based on the character alone. This qualitative study aims at analyzing CFL learners' perception of using Google Translate (GT) and the methods of utilizing GT in their CFL course. Students were given a task-sheet to identify the most suitable meaning in context. This was followed by an interview session to identify how the CFL learners made the selection for words with multiple semantics. The study showed that the respondents generally found GT useful in assisting students to identify the semanticity of words. However, the absence of specific language forms in the Chinese language poses difficulty in the selection of accurate meaning. CFL learners need to acquire the knowledge of Chinese sentence structure, language variation and syntax to utilize GT more effectively in CFL classes, particularly in selecting the accurate meaning for words with multiple semantics. This study provides useful guidance in enhancing a more creative CFL teaching and learning practice in language learning and teaching with the use of GT.

Keywords: Semanticity, dictionary skill, CFL learning, Google Translate (GT), knowledge and perception

INTRODUCTION

Malaysia is a multiracial society with about 30 million bilingual and multilingual populations. Although Bahasa Malaysia is the national language; the English language, Mandarin and Tamil are widely used besides other minority languages and dialects. The Malaysian Education system too, allows for a multi-educational school set up with national schools and vernacular schools being common in Malaysia. In the context of Chinese education, Malaysia is ranked to be the third best country in the world for Chinese education after China and Taiwan and has its own curriculum to produce certified Chinese teachers (CPPS-Vernacular School Report, 2012). The

recent trends too have shown an increase in the enrolment of non-Chinese students in the Chinese national type schools in Malaysia. In the year 2012, a total of 10% of the 600,000 students in the Chinese schools consist of non-Chinese students (CPPS-Vernacular School Report, 2012). Current trends also indicate that many parents in the rural areas opt to send their children to Chinese vernacular schools to acquire the language as they perceive the additional language to be an added benefit to the child's future (Tan, 2015). The Chinese language also has a vast demand internationally as Mandarin is one of the six official languages used by the United Nations and China has become an economic powerhouse of Asia (Abeysinghe & Lu, 2003). Thus, learning the Chinese language is becoming popular, more so as Malaysians are already well acquainted with the Chinese language and culture that is widely spoken in the country.

Most of the local universities offer Chinese language courses; either as a full language course or as a foreign-language course. However, learning the language can be challenging as the Chinese writing system is tonal and ideographic (Huang, 2009) unlike English and Bahasa Malaysia that are based on syllables. The Chinese vocabulary relies highly on recognising the Chinese characters. According to Lee and Jaganathan (2014), CFL students need to have some background knowledge of the nuances of the Chinese language; the various scripts of the Chinese character itself and the accurate tonal stress to understand the accurate semantic of the words. This poses a great challenge for Chinese-as-a-foreign language learners (Huang, 2009; Shi, Morgan & Allopenna, 1998; Zhang, 2009; Hui Yin, 2014). As such, multiple methods are utilized to make the learning easy as well as to maintain the effectiveness and flexibility of the Chinese language teaching to non-Chinese speakers (Teow, Tech & Chin, 2013; Hui Yin, 2014; Hoe, 2014). As computer-assisted language learning can enhance language teaching and learning (Amarel & Meurers, 2011), the use of contemporary translation tools and free translation websites provide quick and easy referencing in language learning (Laufer & Hill, 2000; Nino, 2009; Roby, 1999). A recent study that focused on the use of GT and contextual semanticity among English-as-Foreign Language (EFL) learners showed that EFL learners rely on speculation based on contextual clues rather than comprehending the language structure and the language variety to gauge the meaning of words in context (Jaganathan, Maryam Hamzah & Subramaniam, 2014). Thus, this study aims to explore and identify how CFL students utilize GT in their learning activities. Specifically, the study aims to identify how the CFL learners select the accurate semantics of the Mandarin words from GT entries and identify the steps taken by the CFL learners in selecting the accurate entry for the words that they have difficulty in comprehending the accurate meaning.

REVIEW OF LITERATURE

Google-assisted translation or Google Translate in short, is one of the translation websites that provide free translation service. Despite the limitation of machine aided translation, its easy accessibility and quick referencing contributes to the common use in language learning classes. Studies on machine aided-translation generally relate to the reliability and usefulness of the machine-aided translation (Van Rensburg, Synman & Lotz, 2012). Other related issues include accuracy in translation (Aiken, Park, Simmons & Lindblom, 2009b) as well as the challenges faced in the process of transferring meaning from the source language to the target language (Ahmed AlSheikh, 2012) while several scholars focus on the different languages that affects

actual meaning (Aiken & Balan, 2011; Kais et al., 2013) or focus on the various types of software utilized (Kais et al., 2013). GT use in a classroom practice enables a fast translation of text due to its vast applications and compatibility with numerous operating systems. GT utilizes patterns in a broad scope of writing and generates a translation by relating patterns from various documents to help decide on the best translation (Quigley, 2010). GT does not provide grammar rules for comprehension of words. Thus, this affects the meanings of the words particularly if the words have multiple semantics. As mentioned earlier, Ahmed AlSyekh (2012) highlighted this challenge and noted that a source language (SL) item has a particularly restricted range of meaning that may not possibly match to the restriction and exceptions present in the target language (TL). Some meanings of words can also be ambiguous, so this poses problems as they may be associated to a variety of meanings that may not be equivalent in the target language. The present trend of using machines to assist meaning comprehension is less feasible in the learning of new language as meanings can differ in context, concepts and structures but studies has shown that foreign language learners of English still have a high dependency on GT in completing tasks given in the classroom (Jaganathan, Maryam Hamzah & Subramaniam, 2014). This is probably due to the fact that the learners can express a given meaning in a more natural path when they comprehend the meaning in their source language as posited by Varantola (2002).

The Mandarin language is a Sino-Tibetan language and is comparatively more difficult as it focuses on four basic tones and ideographic writing system (Huang, 2009). The semanticity of the Chinese characters is derived from the representational pictures, ideas or images, as well as the supra-segmental phonological units, such as tone or stress. Thus, the Chinese characters change its meanings based on its inflectional function or the derivational function. It is difficult to comprehend the meaning of the words based on the character alone. The meanings of words as Leech (1974) posits, may be linked to the way the word is presented. This can be in the form of conceptual meaning, connotative meaning, stylistics, reflected meaning, affective, collocative or thematic (Leech, 1974). As such, the comprehension of meanings of Chinese characters, will involve the meaning identification of the character plus the tonal form. The learners not only need to have the depth and breadth of the vocabulary knowledge as proposed by Shen (2008), but they also need to be taught on the prevalent features and varieties present in the language. In the case of Chinese language, it is highly dependent on strokes and tones. Understanding the variety in the language and written component of the Chinese language will provide a systematic and progressive step in learning the language more effectively. This is the notion of pedagogical norm presented by Valdman (1988) who posits that second and foreign language learning and teaching are pertinent for second and foreign language teaching and learning as pedagogic norm provides progressive steps that serve as an intermediate goal for a language study (Gass, Bardovi-Harlig, Magnan & Waltz, 2002). Valdman (1988) proposed four principles that guide implementation of the pedagogical norms in a second and foreign language teaching and learning. Firstly, one should know about the reflection of the actual speech of the target language speakers in authentic communication situations. The foreign language learners should also conform to the native speakers' idealised views of the speech use. Besides, the learners need to have knowledge of the varieties of linguistic behaviour that may be appropriate for foreign learners as well as take into account of the processing and learning factors that are present in the specific language.

Besides the pedagogical norms, the learners who utilize GT should also have the sufficient knowledge that is involved in the translation of words; and in this case from a target language to the source language and back to the target language. In other words, the learners need to be equipped with the relevant knowledge involved in the translation process so that selection of the semanticity of words will be accurate. This is because, as mentioned earlier the semanticity of words comes in many forms so the students need to have the accurate knowledge about the foreign language that they are learning. Craciusnescu, Constanza & Susan (2004) noted that there are at least five general types of knowledge involved in the translation process. Therefore, the students should be well equipped with the knowledge of the source language; the knowledge of the target language; the knowledge of equivalents between the source and target languages and the knowledge of the subject field. Besides this, the learners should also have the knowledge of socio-cultural aspects. To illustrate further, Craciusnescu, Constanza & Susan (2004) noted that the knowledge of the source language allows us to understand the original text while the knowledge of the target language makes it possible for a reader to produce a coherent text in that language. In addition, the knowledge of equivalents between the source and target languages and the knowledge of the subject field would also assist in the comprehension of the source language text. Another knowledge that pertinently contributes in comprehending semanticity is the knowledge of socio-cultural aspects of the source and target cultures. As the CLF learners need to depend on GT to aid their selection of the accurate semanticity of words, these knowledge are crucial for them to utilise GT effectively in the CFL classroom. Although the learning of a foreign language relies on a variety of factors such as aptitude, learning style or even motivation (Johnston, 2003); the availability of resources is equally important for a firm grasp of the language knowledge (Crystal, 1997). Foreign language learners need to be motivated so that they will have a firm grasp of the language and they should also be sensitised with the nuances of the L2 for a more effective acquisition of the language. Hence, this study is grounded on Lantolf and Thorne's (2007) sociocultural theory that contends a successful learner of a second language must be prepared to adopt the nuances of the linguistic norms and the cultural aspects of the target language.

RESEARCH METHODOLOGY

The study employed a mixed-mode qualitative method. The respondents were given prior briefing and they participated with informed consent to complete a task-sheet for thirty minutes. The task-sheet consist of five words that were randomly selected from their topics learnt in the CFL course syllabus: [好], [天], [和], [口], and [家]. The respondents needed to identify the most suitable meaning in context as illustrated in Table 1. Scores were given accordingly with [score 1-4 correct answers] recorded as below average scores; [5-7 correct answers] recorded as average score while [8-10 correct answers] recorded as good achievement. The respondents were provided a ten-item questionnaire with a Likert scale of strongly disagree to strongly agree ranging from score 1 – 5. The three sub-sections on the questionnaire mainly focused on the perception of the usefulness of GT in the language class, the difficulty of understanding meanings and word in context and the strategy used in deciding the selection of the entry from the GT. In the second procedure, questionnaires were distributed to the respondent

to obtain feedback on the use of GT during lessons and they needed to choose a score from 5-point Likert scale beginning from “strongly disagree” to “strongly agree”. The interview sessions were focused on three open-ended questions; mainly on the respondents knowledge of GT use; the use of other tools and materials in Mandarin language learning and the steps taken in identifying the meaning from the choice of entry that is provided by GT:

Table 1

Vocabulary variance provided in the Task Sheet

Vocabulary	Sentence
1. 好	a. 我爸爸、妈妈都很好。 <i>Translation : My dad and mom are very <u>good</u>.</i>
	b. 我的爱好是游泳。 <i>Translation : My <u>hobby</u> is swimming.</i>
2. 天	a. 我男朋友去美国十天。 <i>Translation :My boyfriend went to the United States for 10 <u>days</u>.</i>
	b. 今天的天很美啊！ <i>Translation : Today the <u>sky</u> is very beautiful!</i>
3. 和	a. 明天我和朋友去喝咖啡。 <i>Translation :I will go out for coffee <u>with</u> friends tomorrow.</i>
	b. 他们两姐妹不和。 <i>Translation :The two sisters are not living together <u>harmoniously</u>.</i>
4. 口	a. 他们家有六口人。 <i>Translation : Their family has six people. (the classifier “口” is not translated in English)</i>
	b. 他不高兴了，不开口说话。 <i>Translation :He is unhappy, he refuses to open his <u>mouth</u> to speak.</i>
5. 家	a. 我哥哥不在家，他在宿舍。 <i>Translation :My brother is not at <u>home</u>, he is at the dormitory.</i>
	b. 这是我们家的照片。 <i>Translation :This is our <u>family</u> photo.</i>

RESULTS AND DISCUSSION

The respondents for this study consist of CFL learners from a public university in Malaysia. The respondents were all Malaysians with 9 (90%) of the students being Malay respondents and one

Indian (10%) respondent. There were 60% female and 40% male respondents. As for the age group, only one (10%) of the male respondent was below the 20 years age group while 3 (30%) male and 6 (60%) female respondent were under the 20-25 years age group. All the respondents obtained an average score ranging from 5-7 correct answers in their task-sheet (refer Table 2).

Table 2
 Demographic data

Respondent	Sex	Race	Score
R1	M	Malay	Average
R2	F	Malay	Average
R3	M	Malay	Average
R4	M	Malay	Average
R5	F	Malay	Average
R6	F	Indian	Average
R7	F	Malay	Average
R8	F	Malay	Average
R9	F	Malay	Average
R10	M	Malay	Average

The Use of GT among the CFL Respondents

Table 3 below shows the respondents' perception of GT use. The response from the interview showed that 80% of the respondents were introduced to GT through their course mates. Generally, the respondents agreed that GT was very useful in the CFL classroom with a min score of 3.4. Almost all respondents (70%) noted that GT specifically provides assistance in their reference for meanings of words. The respondents often used GT to translate and obtain the meaning of selected entries. As such, the respondents perceived having the mobile application software to be very useful for the classroom activities particularly in finding the meanings of words. Besides GT, the respondents utilized both print and electronic bilingual or trilingual dictionaries to make the necessary reference. However, a total of 70% of these respondents also noted that it was sometimes difficult to choose the suitable meaning of the Chinese words for a given situation due to the multiple semantic of the words. The respondents noted that they are cautious of the difference in meaning that is apparent in the Mandarin language as the meanings are highly dependent on the tone. Thus, they face problems in identifying the accurate meaning based on the different pronunciations. In cases where respondents face difficulty in selecting an accurate entry, they refer to the parts of speech (min score 3.7) or the situation in context to obtain the clue for the meaning (min score 4.4). There were two respondents who claimed that they are very dependent on GT because of the TTS function (Text-to-Speech and Speech-to-Text functions).

Table 3
Perception of GT Usage amongst CFL Respondents

	Strongly (1) Disagree	Disagree (2)	Neutral(3)	Agree(4)	Strongly agree(5)	Total	min
1. GT is very useful to me in my Chinese language class.		3	1	5	1	10	3.4
2. I often translate my words in my Chinese class activities using GT in order to understand them.	1	2	2	3	2		3.3
3. I always use GT to find the meanings of the Chinese words.		2	4	2	2		3.4
4. I find words in Chinese have many meanings.			-	1	9		4.9
5. It is difficult for me to choose the suitable meaning of the Chinese words for the situation given.				3	7		4.7
6. When I have difficulty in understanding the meaning of a Chinese word, I use GT.			4	4	2		3.8
7. GT does not give me the exact Chinese meaning that I want.			2	5	3		4.1
8. When I translate a word, I look at the first meaning given in the column.			2	7	1		3.9
9. When I translate a word, I select from the parts of speech given [e.g: verb or adj]			4	5	1		3.7
10. When I translate, I also refer to the situation given in the text.			1	4	5		4.4

Analysis of Respondents' Limitation in Selecting the Accurate Entry

Based on the five vocabularies given, students were generally able to obtain accurate answers for the word “好” (No.1), “天” (No.2) and “家” (No.5) compared to the words “和 (hé)” (No.3) and “口 (kǒu)” (No.4). The two words “和 (hé)” (No.3) and “口 (kǒu)” (No.4) obtained the most errors. In question 3(b), all the respondents were not able to select the accurate answer. The meaning of “和 (hé)” was totally misunderstood. All the respondents noted that they keyed-in the correct entry for the word “和 (hé)”, but they failed to identify the correct meaning for the word “harmonious”. The sentence and list of entries below further illustrate:

3(b) 他们两姐妹不**和**。
(Hanyu Pinyin: Tāmen liǎng jiěmèi bù hé)

The entries GT provided for the word “和 (hé)” are listed in Table 4 below:

Table 4: List of entries for the word “和 (hé)” identified according to conjunction, verb, noun, adverb and adjective include:

Table 4

List of Entries for the Word “和 (hé)”

<i>Conjunction</i>		
	1. and	和, 与, 及, 而, 而且, 并
<i>Verb</i>		
	2. draw	绘制, 绘图, 画, 吸引, 牵引, 和
	3. tie	扎, 绑, 系, 捆, 纽带, 和
	4. chime in	帮腔, 和
	5. compose a poem in reply	和
	6. join in the singing	和
	7. write a poem in reply	和
	8. mix	混合, 混, 拌, 搅拌, 插花, 和
	9. blend	混合, 交融, 拌, 拌和, 合成, 和
<i>Noun</i>		
	10. peace	和平, 安, 安乐, 和, 和睦, 和睦的例子
	11. sum	和, 总和, 概括, 金额, 合计, 概略
	12. summation	和, 合计
<i>Adverb</i>		
	13. together	一起, 共同, 一同, 共, 和, 交
<i>Adjective</i>		
	14. harmonious	和谐, 和睦, 和, 澳, 嗜, 均衡
	15. kind	慈, 和, 和蔼, 和气, 和善, 厚

The choice of answers selected showed that 70% of the respondents interpreted “和” in the sentence as “together” [entry no: 13]. Another 20% of the respondents opted for [entry no: 15] - /kind/, and one respondent provided an answer that was not enlisted in the entry list, instead he listed the entry as [entry no: 14] - /harmonious/.

The literal meaning of the sentence is “The two sisters are not living together harmoniously”, but most of the respondents interpreted it as; “The sisters are not together” or “The sisters are not kind”. The respondents noted that they have the knowledge of the sentence structure but failed to get the exact meaning as in the normal usage of the word in the Chinese language context. If the respondents interpret “和” as “together”, then the accurate sentence that should be written is;

“他们两姐妹不在一起。”

Likewise, if the respondents interpret “和” as “kind”, then the accurate sentence would be;

“他们两姐妹不和善。”

When the students comprehend the semantics of the character inaccurately in a complete sentence, then the interpretation of the meaning is flawed. In this case, the CFL learners are not aware of the changes in the character that transforms meanings. As such, CFL learners need to be sensitized of the changes in the scripts that need to represent the actual meaning of character as well as be aware of the meaning transformation that may occur when a sentence is read out completely.

Question 4 (a) and 4 (b) also recorded a high number of mistakes. None of the respondents selected the correct answer for question 4(a) while only 3(30%) respondents were able to select the correct answer for 4(b). The meaning for the word “口” was not understood as all the 10 respondents chose the wrong meaning for the word in 4(a) - a measure word (classifier), while 70% of the respondents interpreted “口” inaccurately in 4(b). The sentences below illustrate further:

4(a) 他们家有六口人。

(Hanyu Pinyin: Tāmen jiā yǒu liù kǒu rén)

4(b) 他不高兴了，不开口说话。

(Hanyu Pinyin: Tā bù gāoxìng le, bù kāikǒu shuōhuà)

The entries GT provided for the word “口 (kǒu)” are listed in Table 5 below:

Table 5

GT Entries for the word “口 (kǒu)”

Noun

- | | |
|------------|----------------------|
| 1. mouth | 口, 嘴巴, 嘴, 喙, 炉口, 吻 |
| 2. opening | 口, 孔, 发展, 开盘, 开拓, 空缺 |
| 3. orifice | 孔, 口 |
| 4. os | 骨头, 骨, 口, 口腔, 嘴 |

auxiliary verb

- | | |
|----------------------------|---|
| 5. measure word in Chinese | 口 |
|----------------------------|---|

Adjective

- | | |
|-----------|---------|
| 6. spoken | 说, 口, 语 |
|-----------|---------|



The choice of answers selected showed that 50% of the respondents interpreted “口” in the sentence (a) as “opening” [entry no: 2], 30% of the respondents opted for [entry no: 6] - /spoken/ instead of [entry no: 5] - /measure word in Chinese. Another 20% of the respondents

provided an answer not enlisted in the entry list. The accurate meaning of the phrase “六口人” is “six people”. The word “口” is the measure word (classifier) for people, or more specifically for family members. “他们家有六口人。” as in sentence 4 (a). Thus, the literal meaning is; “There are six people in their family.”

For sentence 4(a), the respondents have the knowledge on sentence structure but they lack the knowledge of “classifier” usage as appropriated in the Chinese linguistic structure. When the number of an object is a noun phrase, then usually this requires a measure word. The measure words always come after a number and before an object as illustrated in the table below:

Table 7

Illustration of “classifier” usage in English and Chinese language structure.

	English	Chinese
	one people [number + object]	一 个人 [number + measure word + object]
	four pencils [number + object]	四 支 笔 [number + measure word + object]

For sentence 4(b), many respondents opted [entry no: 6]- /spoken/ and [entry no: 2] - /opening/ as the meaning of the entry word “口”, which means “mouth” [entry no: 1].

The sentence 4(b) “他不高兴了，不开口说话。” literally means;

“He is unhappy, he refuses to open his mouth to speak.”

As such, the CFL respondents need to comprehend that the phrase “to open” (开) + “mouth” (口) + “to speak” (说话) should be read as a complete clause. When the word “to speak” is read in isolation, the meaning will not be understood and becomes obscure. The choice of answer selected by the respondents consists of “spoken” (50%); “opening” (10%) and “measure word” (10%). This showed that they were unable to interpret the meaning of the word “开” (meaning: to open) correctly. Hence, they failed to get the meaning “to open + mouth” (开口). The respondents noted that the meaning of the phrase “说话” (to speak) was difficult to comprehend and as a result the respondents failed to connect the meaning of two verb phrases, “to open mouth” and “to speak” together. These phrases in the Chinese structure should be read together as they complement each other; unlike in the English language whereby the phrase “to open mouth” is considered redundant when a person speaks. This brings to the concept of pedagogical norms (Valdman, 1988) that is essential in foreign language learning. As posited by Valdman (1988), when a foreign language learner is exposed to the pedagogical norm, then they are able to reflect the actual speech in an authentic communicative situation and conform to the native speakers’ idealized view of the speech use. However, there may be exception to this notion whereby in the context of EFL learners, contextual clues were used to arrive at a meaning (Jaganathan, Maryam Hamzah & Subramaniam, 2014).

Strategies Used in Deciding the Selection of the Entry from the GT

The study shows that the respondents who have better understanding of the language structure and syntax are able to utilize GT more effectively in CFL classes. The background knowledge of the language structure also contributed to a more effective use of GT. In decoding the accurate words (Chinese character) from GT the respondents noted that they prefer to depend on the “Hanyu Pinyin” pronunciation scheme first before decoding the meaning from the TTS.

For example:

ma [马] \Rightarrow Hanyu Pinyin/ Pronunciation Scheme (mǎ) \Rightarrow selecting accurate character
 \Rightarrow Text to speech translation

As in the case of identifying the steps employed by the Mandarin learners in selecting the accurate entry for words with semantic ambiguity, the respondents have a general tendency to focus on the types of part of speech and suit it into context or the nearest equivalent. If they fail to comprehend the semantic further, then they resort to guessing the meaning or choosing the first entry provided in the list. The steps are shown in Figure 1 below:

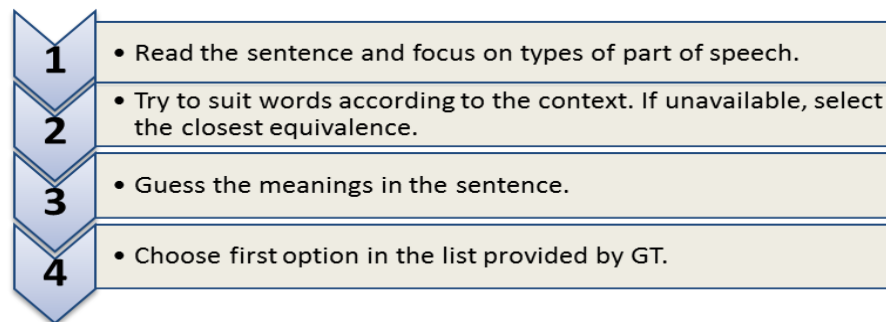


Figure 1. Strategies in selecting entry for words with semantic ambiguity

Recommendation in Utilizing GT in a CFL Classroom

This study provides a simple guide for teachers and learners to enable a more effective usage of GT in classroom practices. In utilizing GT in a CFL classroom, the respondents, as well as the teachers must firstly ensure that the students’ referencing gadgets is equipped with the Google Hanyu Pinyin Input software. This is indicated in the figure below (see arrow). As the GT is partially cloud based, it helps relate patterns to decide on the best translation and add new words that are commonly enlisted in Chinese and this assist in providing word selection from the list as noted by Quigley (2010).

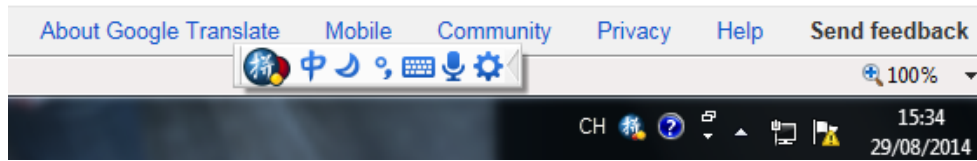


Figure 2. Google Hanyu Pinyin Input icon

The CFL learners must also be equipped with knowledge of the basic tones, structure and semantic variance at the initial stages of learning the language. The nuances of the language will help provide a more comprehensive understanding of cross-cultural elements that may either complement or contrast the foreign language that the students are learning compared to their L1. For example, the Hanyu Pinyin for the Chinese character “好” is “hǎo”. When the word “h-a-o” is keyed-in, a list of Chinese “hao” characters regardless of the tones (hāo, háo, hǎo, hào) will be projected as shown below. To make a careful selection of entry, the students must also have a background knowledge that enables them to identify according to the accurate strokes that depicts the different meaning. This is because, the varied semantic of the words will be displayed and the students need to be able to choose the accurate Chinese character according to the accurate tone as illustrated in Figure 3 below:

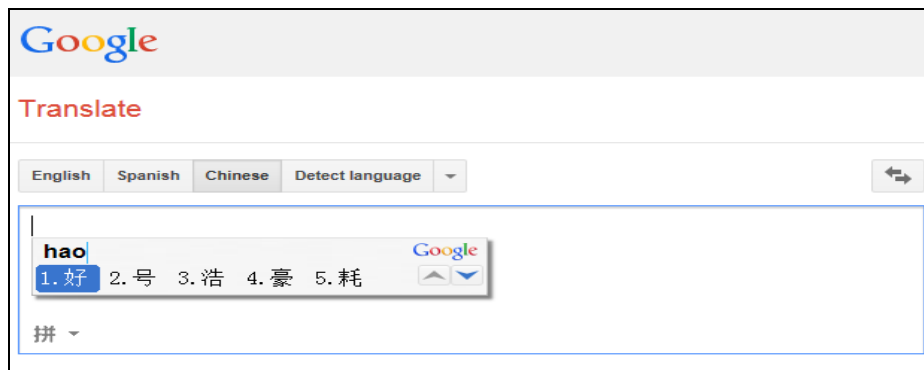




Figure 3. Word list entries

CONCLUSION

Drawing from the findings of this study, it can be concluded that GT use in a CFL classroom has positive effects in assisting students to identify the semantic of words, as it provides quick and easy referencing in language learning as posited by Laufer and Hill (2000); Roby (1999) and Nino, (2009). However, in order to utilize GT in a CFL classroom, the Hanyu Pinyin scheme must be available and the students must be able to utilize the software that integrates Chinese character input skillfully. If the Hanyu Pinyin pronunciation scheme is not provided, certain suitable software(s) will be needed for Chinese handwriting recognition. Among others are HansVision, Fcix, Cangjie, iBus or any other software. As reflected in this study, the basic level CFL learners need to be provided background knowledge of the nuances of the Chinese language to enable a more effective usage of GT in their classroom practices. Firstly, they need to be taught of the multiple variations that are present in the CFL language. In order to understand this multiple variations, the learners must be provided with background understanding of the Chinese language structure so that they would be able to understand how utterances differ in the Chinese language. This is important for the students to comprehend the norms which would enable the students to decipher the meaning in context accurately. As illustrated earlier, the use of redundant form which is not applicable in one language is seen as necessary in the context of the Chinese language. The students need to be enriched with context specific limitations and understand the pedagogical norms in discussing the language. Without prior comprehension of the language structure, the learners' knowledge to complement the GT usage in the language learning class may be limited, thus contributing to the inaccurate selection of the meaning. Shen's (2008) notion that the depth and the breadth of vocabulary knowledge is pertinent in the

context of CFL learning and the accurate usage of vocabulary and stress order as well as the stroke system as posited by Lee (2014) will assist their search of semantic more successfully. Otherwise, students will encounter confusion and difficulty when they need to identify other elements of meanings posited by Leech (1974) that varies into conceptual meaning, connotative meaning, stylistics, reflected meaning, affective, collocative or thematic meaning. It is therefore recommended that the use of GT is more suitable for the intermediate learners as they would have acquired an approximate of 500 vocabularies that is equivalent to the beginner level of the Chinese Proficiency Test, Hanyu Shuiping Kaoshi (HSK) and would have been familiar with the Chinese syntax in a general CFL learning context. With prior background knowledge on Chinese characters, GT will be a useful tool for self-access learning and enable the respondents to explore more aspects of semanticity according to the needs in a variety of context. This study as such is significant for its pedagogical implication as it provides a systematic utilization of GT in the CFL learning context. Moreover, it explores a variety of language constraints that are context-specific in relation to machine-assisted language learning. This study provides some insights into the utilization of machine-aided translation to further advance creative practices in language learning and teaching. The authors therefore suggest that more studies pertaining to foreign language learning and machine-aided translation; GT as in this case, be carried out with other foreign language learners in a wider context.

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