Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study

Mai Malkawi
Master of English Language
Full-time Lecturer, Language Center
The Hashemite University, Zarqa-Jordan
malkawi.mai@gmail.com
ORCID https://orcid.org/0000-0002-8730-3068

==

Abstract

Along with the technological developments taking place in the last decades, many aspects of our life has changed, thus we became more dependent on ways through which we can perform our tasks quickly and somehow efficiently making us, as a result, more technology – oriented. Translation and translating is not an exception indeed. Through the few last decades and up to this moment, we noticed many online sites and services that help users perform their tasks. Even though those sites are very popular, well known and available since long time, some people are unable to use them properly to obtain the result desired. This paper aims at investigating the way students use such sites in order to reveal if they do I the right way that gives them the best result.

Keywords: Machine translation (MT), *google translate*, technical translation course, The Hashemite University

Introduction

Machine translation is a new trend in translation industry that encompasses the use of technology in order to help translators do their job as quickly as possible. "MT is simply a translation performed either purely automatically by a computer or with human assistance which involves the preparation of the ST, i.e. pre-editing and/or product editing, i.e. post – editing" (A.B. As-safi 2011:26). For the most part, the use of these sites or online tools must be accompanied by human assistance which is needed to refine the product of such sites and tools.

This human supervision is truly vital especially if the two languages used are of remote origins such as Arabic and English, which are the languages investigated in this study. This study tries to examine students' awareness of this fact which is highly significant in order to get the

==
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   26

accurate product of the translation process.

What is Machine Translation?

Machine translation is a relatively new trend in translation that appeared in the late twentieth century. There are several definitions for this new type of translation. For example, W. John Hutchins (1995) said that: "The term 'machine translation' (MT) refers to computerized systems responsible for the production of translations with or without human assistance." Another definition is presented by Grace Hui-chin Lin (2009) who said: "Machine translation (MT) is a modern method of translation through computer assistance, which is a sub-field of computational linguistics.".

Thus, the concept of machine translation incorporates the employment of technology by using a software to help the translator produce the required product i.e. the target text. The field of machine translation requires the cooperation between those who work in the translation industry and the specialists in computer sciences and IT in order to enable computer software to transfer a text from one language to another.

Machine Translation Tools/Sites and Their Development

The area of machine translation has passed through different waves of development since its foundation in early 1950s and a960. It was first used and was "an ideal to which no human translator can aspire, nor translations of literary texts, for the subtleties and nuances of poetry are beyond computational analysis, but translations of technical manuals, scientific documents, commercial prospectuses, administrative memoranda, medical reports" (Hutchins 1995). Thus, machine translation was suitable for texts which contain normal words with the denotative usage that did not require going deep in meaning.

Since its beginning until today, machine translation was done through many tools/ sites that underwent and still undergo continuous development and enhancement. Through this paper, the light will be shed on three of them: Google translate, Bing Microsoft translator, and Modern MT.

Methodology and Data Collection

For the purpose of this study, the researcher used a questionnaire conducted through google forms containing 8 questions related to the topic of the study sent to students taking two courses, technical translation, and applied English. The questions asked about some aspects that can reveal the way those students use such tools. The sample involved in the study comprised 43 students od different studying years and different specialties as both courses – technical translation and applied English- are elective courses offered to all students.

===
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   27
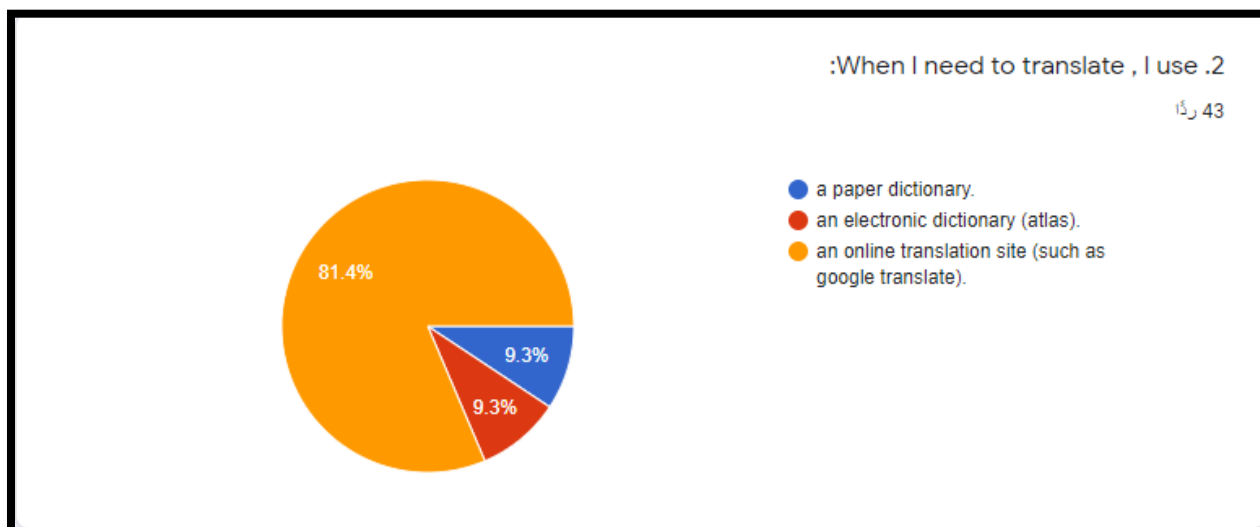
Data Analysis

As mentioned in the previous part, the survey that was conducted by google forms contains 8 questions reflecting the sides of students' strategies when using MT.
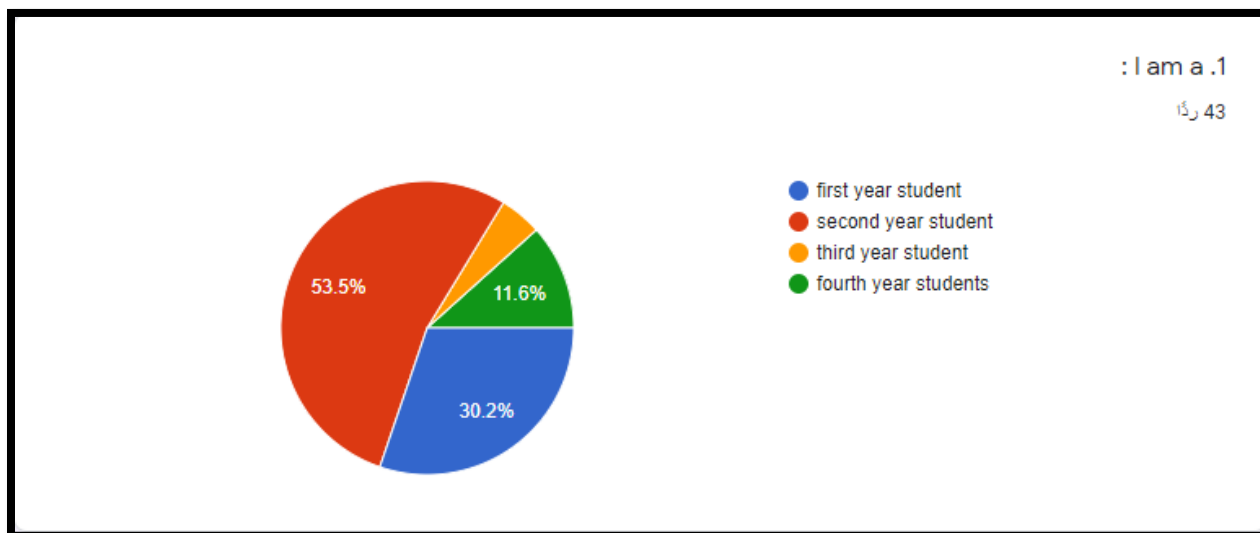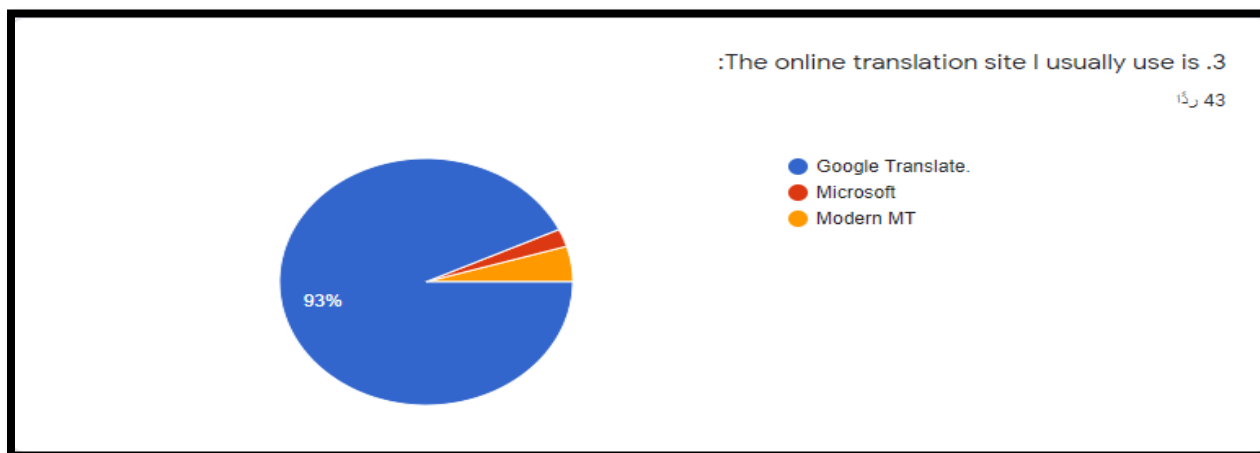

Figure 1: Question 1

The sample studied included 43 students distributed on the different studying years as can be seen in the above figure. Of these, 53.5 % (23 students) are second year students , 30.2% (13 students) are first year students, 11.6% (5 students) are fourth year students, and 2 students forming 4.7% are third year students.

Figure 2: Question 2

==

Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   28
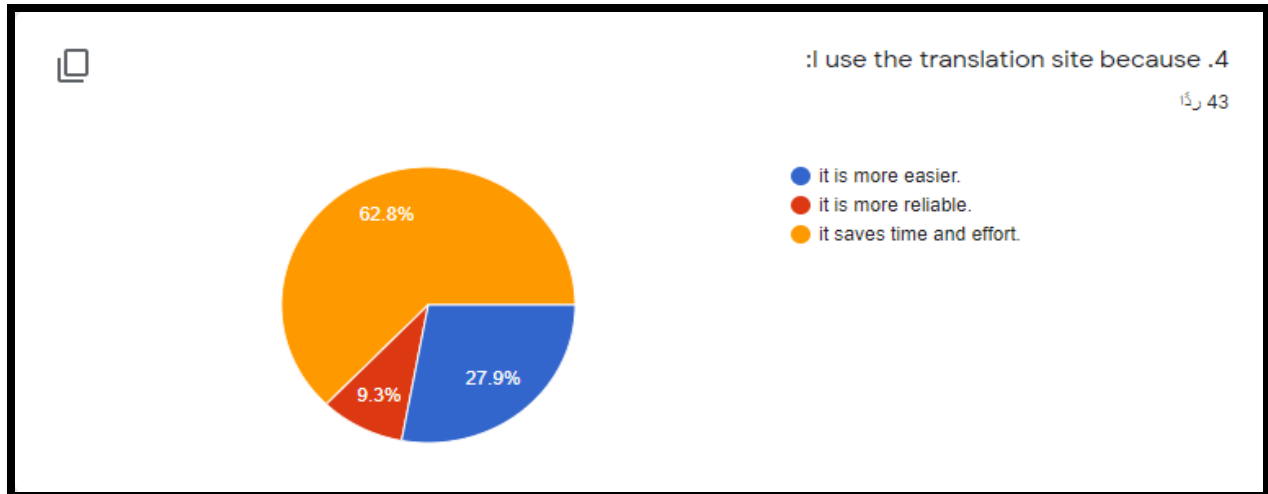
The second question of the survey, asked the students about the tool they use usually when they want to translate a text. As shown in figure 2, 81.4% (35 students) said that they use an online site such as google translate while 4 students forming 4.9% of the sample chose the other options which were the traditional paper dictionary and the electronic dictionary. This answer is logical and comprehensible for many reasons, the first one is that the paper dictionary is tedious and requires time and effort to look up a word making it less practical. Though quick and easy to use, the electronic dictionary is also not a practical choice due to its high price in the market making it unaffordable for many students. On the other hand, sites like google translate are easy to use, accessible anytime and anywhere, and needing lesser time and effort the fact that makes such sites appealing for users.
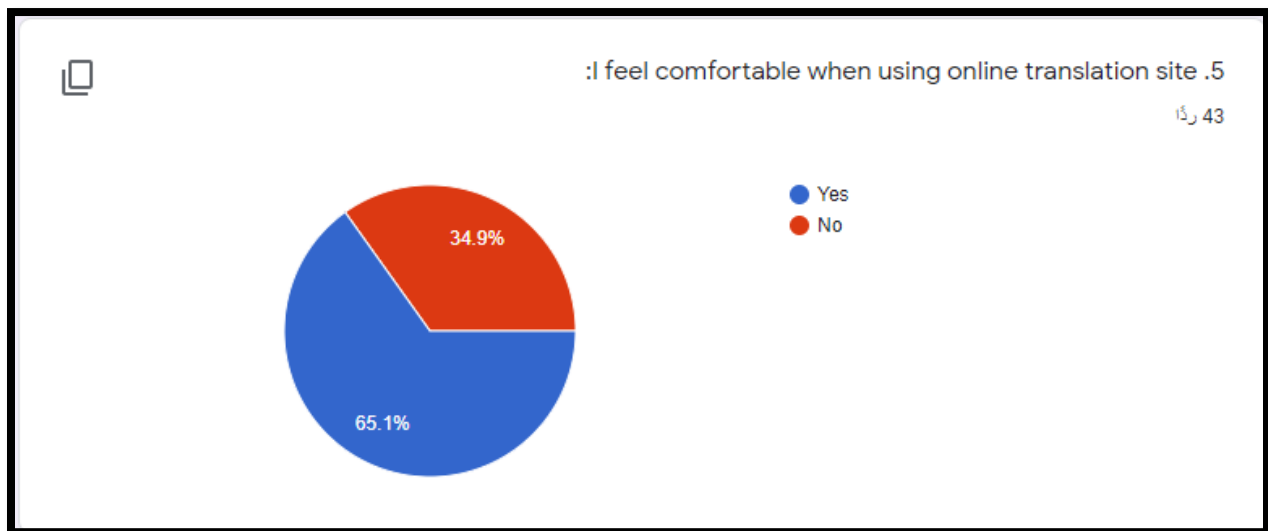

Figure 3: Question 3

Related to the previous question, the third question asked about which translation students normally use when they want to translate. It is no surprise that the majority (93% or 40 students) chose ***google translate*** as it is more popular and known than Microsoft translator (chosen by 1 student) and Modern MT (chosen by two students.

According to Wikipedia, ***google translate*** is "a multilingual neural machine translation service developed by Google to translate text, documents and websites from one language into another. "which started in 2006. In order to collect and gather data, this service used documents of the UN and the European Parliament. ***Google translate*** got great fame among people and students and it is in fact the first site coming in mind when thinking of machine translation.

==
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   29
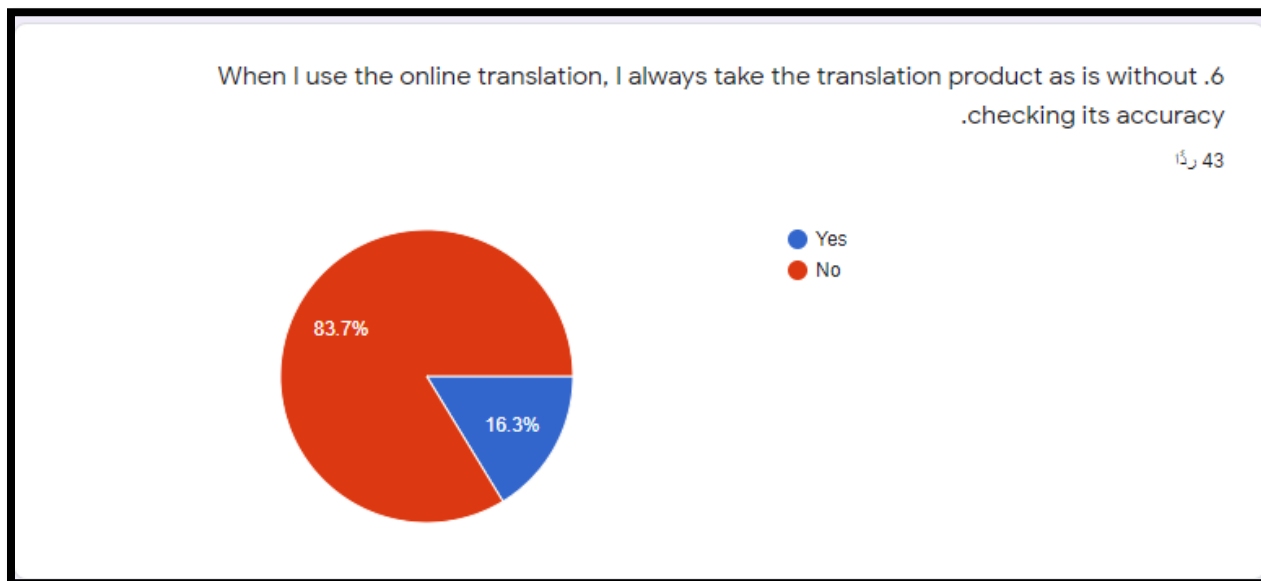
Figure 4: Question 4

The fourth question asked about the reason of opting for and using translation sites instead of the other options. 62.8% of the sample answered because such sites save time and effort while 27.9% said because it is easier, and the third option (because it is reliable) got the least percentage that did not exceed 10%. Students gave the priority to saving time and effort because they want something to help them in their studies, assignments, and research quickly and without taking much effort from them.

Figure 5: Question 5

The next question asked about whether the students are comfortable ans satisfied when they use the translation site. 65.1 % answered positively as opposed to 34.9% answering negatively. The reason behind the positive attitude towards translation sites is students'

===
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   30

confidence in those sites as they are created by experts who put great knowledge and experience to build such sites. Moreover, since the service of these sites are easily accessible and requiring no effort or lots of time, it creates a feel of ease and comfort while it is used.

Figure 6: Question 6

Question number 6 asked about an important aspect that must be taken into consideration when dealing with machine translation which is the aspect of accuracy. According to https://www.merriam-webster.com/dictionary, accuracy is "1. freedom from mistake or error: CORRECTNESS ." It means that the TL produced should be free of errors whether grammatical, structural, spelling, or the information. This requires the careful proofreading and critical evaluation of the result produced and not taking it for granted or as it post editing process.

The importance of the post editing process reveals itself when the SL and the TL are of two significantly remote languages such as English (coming from the Germanic family) and Arabic (which is a Semitic language) with lots of differences, grammatical and structural, and lots of gaps that cannot be bridged but by post editing and careful revision.

Based on the replies received from the students, it seems that the students are aware of the fact that they should revise the product of the online translation site. This is clear as 83.7% of the sample answered negatively to the question asking if they take the product of the site as is without checking its accuracy while 16.3% answered that they take it without checking. In the second part of the question, they were asked about the reason and the answers were as the

===

Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   31

following:

Those who answered positively that they take the product without checking it for accuracy said they do so because they are confident that sites like *google translate* are always accurate and correct, thus there is no need for any revision.

The majority who answered negatively and who checked the TLT produced, said that they revise the text because of many reasons:

- those sites may translate the text literally without taking any care of the mismatches or the difference between the languages involved thus giving a misleading and incorrect translation.

- those sites may give equivalents which are not appropriate to the text translated especially that those sites do not know the type of the text that we are translating.

- to check the clarity of the text produced.

- those sites generally give inaccurate translations for metaphors and scientific terms which need the appropriate equivalent to be given by a human translator.

Consequently, the major reason for the need of post editing is to make sure that the site used gave you the appropriate equivalent especially if we translate poetry including figurative language that requires the decision of a human translator rather than a site that may fail giving the natural rendition.
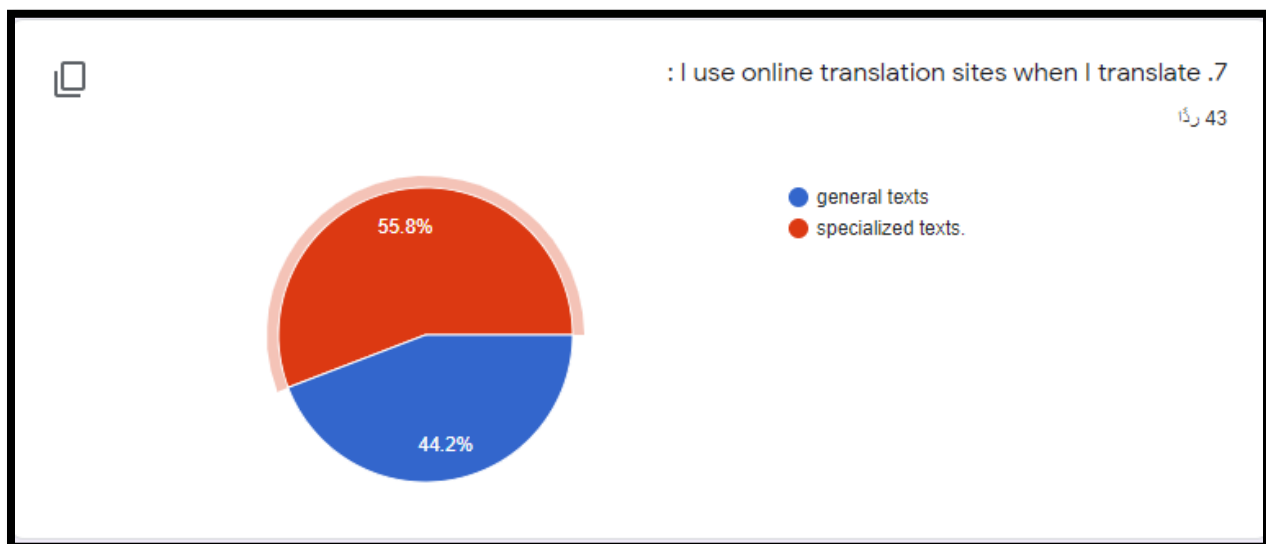

Figure 7: Question 7

==
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   32

In the seventh question, the students were asked about when they normally use the online translation sites. The majority (55.8%) answered they use it when they translate specialized texts. On the other hand, 44.2% of them answered they use it when they translate general (unspecialized) texts. This can be explained in that when translating general texts, we normally face texts that contains words and expressions that are common, and which can be easily translated without the need to go to a dictionary. On the other hand, specialized texts have specialized terms and jargon that may not be known or common for translators who find themselves in need to check the dictionary to look up such words and expressions.
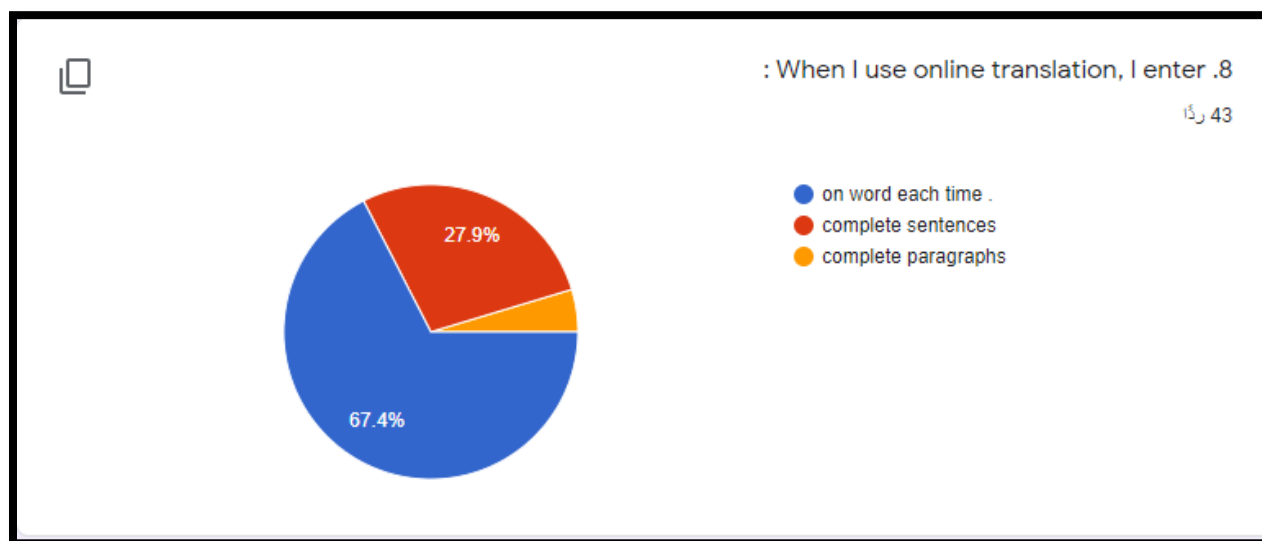
Figure 8: Question 8

This following question asked about an important point that users should take into consideration when using online translation sites which is the suitable input that gives the translator the appropriate and accurate output. The question asked what the suitable entity is to be entered in order to give the user the accurate equivalent. 67.4% of the sample answered the suitable option is entering one lexical item each time while 27.9% answered entering complete sentences and 4.7% chose entering complete paragraphs.

When taking Arabic and English as both SL and TL, the one word option is more plausible and helpful solution that gives the accurate equivalent. This is due to the fact that the two languages are of remote origins as mentioned earlier in this paper. This in fact makes entering complete sentences, in many cases, an unsuccessful option as it may result in unnatural renditions.   This is also even more clear when it comes to whole paragraphs containing multiple sentences.

==
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   33

To clarify this point, let's have a look at the translation of this paragraph taken from Wikipedia (https://en.wikipedia.org/wiki/Comet) into Arabic done by the three sites:

"A comet is an icy small Solar System body that heats up when passing close to the Sun displaying a visible atmosphere, and sometimes also a tail. These phenomena are due to the effects of solar radiation upon the nucleus of the comet. Comet nuclei range from a few hundred meters to tens of kilometers and are composed of collections of ice, dust, and small rocky particles."

Using google translate, here is the translation offered:
"المذنب هو جسم جليدي صغير من النظام الشمسي يسخن عند المرور بالقرب من الشمس ويعرض الغلاف الجوي المرئي ، وأحيانًا الذيل أيضًا. تعود هذه الظواهر إلى تأثيرات الإشعاع الشمسي على نواة المذنب. تتراوح نوى المذنب من بضع مئات من الأمتار إلى عشرات الكيلومترات وتتكون من مجموعات من الجليد والغبار وجزيئات صخرية صغيرة."

After reading the translation, we can see it has some problems, though minor, that need to be revised in order to make the TLT more accurate. For example, ويعرض الغلاف الجوي المرئي which is the equivalent of (displaying a visible atmosphere) needs to be changed to مظهراً غلافاً جوياً مرأياً.
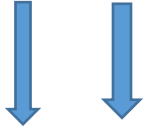
The word displaying is an adjective while the word يعرض is a verb which means (display). The accurate rendition should be مظهراً which means showing or displaying, thus giving the same meaning indicated in the SLT. Another problem which is grammatical, is the rendition of (a visible atmosphere) which is an indefinite noun to الغلاف الجوي المرئي which is definite. In order to be correct, it should be translated as غلافاً جوياً مرأياً by removing the Arabic definite article (ال) from the beginning of the noun الغلاف (atmosphere) and the two adjectives جوياً and مرأياً (visible).

The translation offered by Modern MT is the following:
"المذنب هو جسم نظام شمسي صغير جليدي يسخن عندما يمر بالقرب من الشمس ويعرض جوًا مرئيًا ، وأحيانًا أيضًا ذيلًا. ترجع هذه الظواهر إلى آثار الإشعاع الشمسي على نواة المذنب. تتراوح نوى المذنبات من بضع مئات من الأمتار إلى عشرات الكيلومترات وتتكون من مجموعات من الجليد والغبار والجسيمات الصخرية الصغيرة."

Also this translation needs even more modification in order to be accurate. The first problem is with the structure and the order of the adjectives. In Arabic, unlike English, adjectives are post modifiers meaning that they modify the noun before them. For example, *Sally bought a big car* is translated into Arabic as:

===
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   34

اشترت سالي سيارة كبيرة

ADJ   NOUN

As shown in the example, the Arabic adjective **كبيرة** (big) came after the noun **سيارة** (car). Applying this on the translation produced by Modern MT shows that it is confusing. The reason for the confusion resulted from the fact that both adjective **صغير** (small) and **جليدي** (icy) came after the noun **نظام شمسي** (solar system) which makes it seem that the two adjectives describe solar system rather than body. Thus, the translation should be revised to:

المذنب هو جسم صغير جليدي من النظام الشمسي.

by putting the two adjectives in the right place after the noun.

Bing Microsoft Translator offered the following translation:

"المذنب هو جسم النظام الشمسي الصغير الجليدي الذي يسخن عند المرور بالقرب من الشمس عرض الغلاف الجوي مرئية، وأحيانا أيضا ذيل. هذه الظواهر ترجع إلى آثار الإشعاع الشمسي على نواة المذنب. تتراوح نواة المذنب من بضع مئات من الأمتار إلى عشرات الكيلومترات وتتكون من مجموعات من الجليد والغبار والجسيمات الصخرية الصغيرة."

The third site (**Bing Microsoft Translator**) also produced a text that needs revision and Editing even more than the two previous TLTs. The first problem is the problem of the position of the adjectives, similar to the case found in Modern MT. A new problem appeared here is the use of a wrong part of speech in Arabic as an equivalent of the English lexical item. This is shown in translating the English adjective (displaying) to the Arabic noun **عرض.**

In English, the (ing) form of a verb or the present participle is either a part of the verb like in the continuous tense, and adjective when it comes without any form of verbs to Be, or a gerund functioning as a subject when it comes at the beginning of the sentence. Here in the SLT, the word (displaying) came as an adjective so it must be translated as **مظهراً** or **عارضاً** which are the adjectives, instead of **(عرض)** which is a noun, thus a wrong equivalent.

Another problem is gender agreement which is very wide and important in Arabic. In Arabic a noun must agree with the adjective modifying it. In this translation, the site translated (visible) into **(مرئية)** which is a feminine adjective though it modifies **الغلاف الجوي** which is a masculine noun. Consequently, the accurate translation must be **مرأياً** which is the masculine adjective.

Thus, we can see that whichever site we use, it needs post editing and revision as

==

Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   35

there might be lots of problems that needs to be fixed. This process can be done by a human translator who must think of the right equivalent, the right form of a verb, or the right part of speech if the SLT lexical item may have many equivalents in the TL depending on its part of speech.
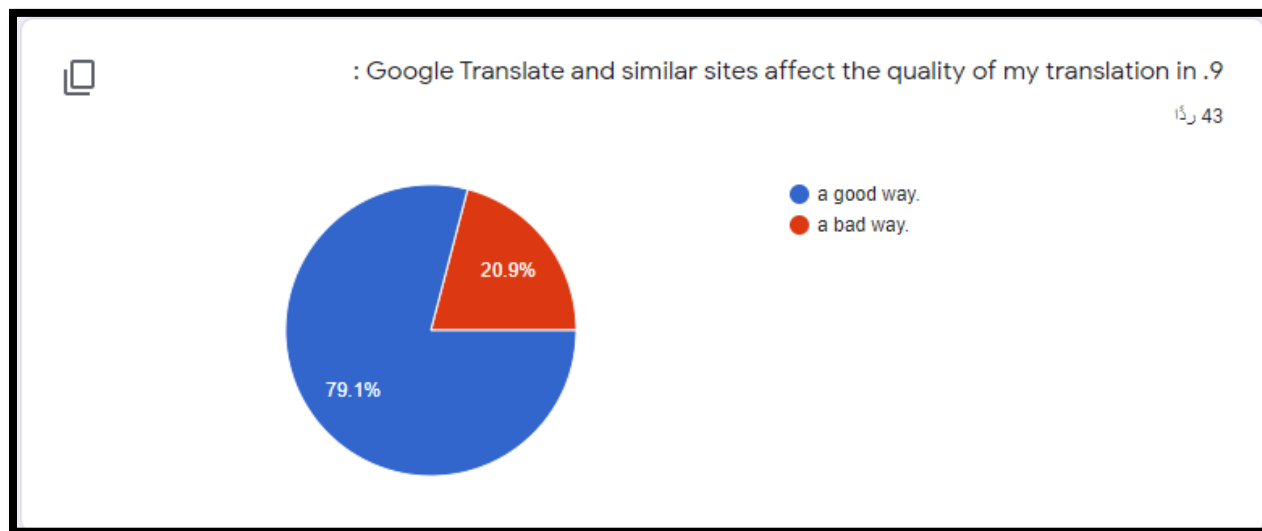
Figure 9: Question 9

The last question asked about the effect these sites may put on the product. 79.1% of the sample said that the effect is positive while the rest (20.9%) answered it is negative. This is justified because of the trust students put in these sites as they are prepared by scientists and experts in the field.

Conclusion

In conclusion, even though machine translation is made to facilitate the job of translators by helping them do their tasks quickly, its product needs to be evaluated and post edited. The reason behind this is that the process of translation is done by a computerized system that lacks the logic or the comprehension needed to translate some contexts, which is done only by the human mind. Moreover, due to the significant differences between the languages, especially those of remote origins, many grammatical and structural mismatches may appear. Those mismatches are discovered when revising the product which will enable the translator to correct them thus making the TLT more accurate and understandable.

As can be seen from the results of the survey conducted, majority of the students

===
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite University as a Case Study   36

who did the survey are aware of this fact believing that the product of machine translation
is not sacred, or highly reliable as it may produce unnatural, and many errors of translation that
require the interference of the human mind.
==

References

- A.B. As-safi, Translation Theories, Strategies And Basic Theoretical Issues, Petra University, 2011.

- Grace Hui-chin Lin, Machine Translation for Academic Purposes, Proceedings of the International Conference on TESOL and Translation 2009.

- Hutchins, W. John. Machine Translation: A Brief History. From: *Concise history of the language sciences: from the Sumerians to the cognitivists.* Edited by E.F.K.Koerner and R.E.Asher. Oxford: Pergamon Press, 1995. Pages 431-445

- https://www.merriam-webster.com/dictionary

- https://en.wikipedia.org/wiki/Comet

- https://www.bing.com/translator

- https://www.modernmt.com/translate/

- https://translate.google.com/
==

==
Language in India www.languageinindia.com **ISSN 1930-2940 22:2 February 2022**
Mai Malkawi
Machine Translation: The Question of Appropriate Use - The Students of the Hashemite
University as a Case Study   37