Chapter Five

Conclusion & Recommendation

5.1 Brief Overview

This chapter presents a logical concatenation summary to the findings of this research. It, briefly, summarizes the major finding of the research passing by its prospective contributions in language and translation, in particular, and other aspects, in general. It also enumerates the limitations, the recommendations and the suggestions for further research.

5.2 Major Findings of the Research

Research questions, formulated in the abstract and reiterated in the third chapter, are recapitulated here, but in a way they are, briefly, matched together with the results recapitulation illustrated, elaborately, in chapter four. It summarizes the results of each question of the research as follows:

5.2.1 Question one

Do Yemeni teachers and students of translation use MT? And what kind of MT they actually use?

Results revealed that Yemeni teachers and students use different kinds of MT for both translating and post editing texts. 73.33% of teachers have the access mechanism to
translate and post edit texts using MT, whereas 90% was the percentage of using MT by the students. Google was the commonly used MT by the majority of both teachers and students.

5.2.2 Question two

To what extent do Yemeni students and teachers of translation use MT in their classrooms activities?

In fact, results of this question were, inferentially, deduced from the answers and reflections given by students and teachers as a factual ambit of using MT in general.

With regard to students, results revealed that majority of them demonstrated a positive attitude towards MT and MT post-editing as the following:

- 80% of students had a very good impression, 13.7% had a good impression and only a percentage of 6.7% was recorded for those who had bad impressions. Generally, they indicated that MT is always providing them with more awareness for error detection and correction. More confidence, accuracy and fluency were observed in their reproduction of the ready machine translated texts they have edited. Some students said that MT post editing experience could serve as a starting point in writing; thereby it could provide them with a better attitude towards producing an eligible translation.

- 86.7% of students provided varied answers reporting that MT is a helpful language tool. They argued that MT helps in getting rapid translation and it provides a first draft that could be modified, in some text types, with a less effort comparing to translation
from scratch. They, also, stated that MT is very useful with vocabularies, especially with terminology.

**With regard to teachers**, results collected show that:

- 73.33% of the translation teachers, who actually recorded 60% as a frequency of using Google Translation System, indicated that they use MT several times a week, whereas 13.6% are using different online MT systems, and 26.7% had reported that they never use any of them.
- 73.3% of them gave a positive impression that machine translation is improving professional training.
- 73.3% of them said that they use MT for drafting, revising, and sometimes grasping texts of other languages as an indication that they are realizing the use, effectiveness and importance of such tasks, but they don’t, practically, apply it in their classes as a result of shortage of items, equipment and possibilities. Thus, 93.3% of them reported that they don’t use MT in their classes.

**5.2.3 Question Three**

Can post MT editing and error analysis usher students to recognize some distinctive linguistic features and improve the translation quality and quantity?

Results of this question were discussed from two points of view:

- Quantitative view,
- And qualitative view.
5.2.3.1 Quantitative Finding

Five different texts were given to students in both groups in two versions. Texts of version one that were provided with Google Translation, were assigned to the WRMTT group as a ready MT output material to be edited by them. On the other side, the same texts, but without any automatic translation provision, were allotted to NRMTT group as a version two to be translated from scratch. Results found from the texts analyses are, briefly, shown as follows:

Text one

A high performance of producing an accurate, eligible, and stylistic translation output was achieved by the WRMTT students who scored a total percentage of 83.61% with an average of 3.34 comparing to the NRMTT students, who only scored 62.77% with an average of 2.51.

Text two

71.38% with an approximate average of 2.9 was scored by WRMTT students comparing to 60.83% scored by the NRMTT students in a clear indication to the feeble performance of NRMTT group that comes below the normal standards of the translation intelligibility.

Text three

64.16% with an approximate average of 2.7 was the total suitability of translation output by the WRMTT group in this text, whereas 77.22% with an average of 3.8 NRMTT group. Accuracy in WRMTT side appears as the lowest score in this text, which averaged only 2.5.
Text four

Performance in text four reflects the extreme absence of NRMTT translation; it gained a total average of 1, which, categorically, means “not understandable” translation. On the other hand, table shows an excellent translation production on the side of WRMTT, which scored an average of 3.7.

Text five

Both NRMTT and WRMTT scored a quite good and understandable translation, which averaged 3.7 & 3.6, respectively.

5.2.3.2 Qualitative Finding

Qualitative analysis phase in chapter four demonstrates, in detail, many detected errors and linguistic problems. These errors were categorized and discussed as a trouble caused by MT. For instance, lexical error choice, inflectional errors, re-ordering errors, missed words, extra words and incorrect lexical choices, let alone, the polysemy with or without reserving meaning and so on. Prominently, supplementation was applied in many aspects of students’ post-editing as a result of substituting or adding a word or morph to the ready machine translated output for purposes of expressing or clarifying concepts that don’t actually exist. Therefore, supplementation could, conceptually, enhance the ability of grasping the target meaning.

Sometimes, students provide two lexical equivalent translations for one word as a technique of employing more than one relevant meaning in TL for illustrating a word or an item of the SL. They used this technique when they have a problem to find the exact equivalent lexical term in the target language. Such techniques are usable in translation to
provide two terms as an exegesis for a single word as it gives more sufficient interpretation of a certain word in ST, especially when a lack of exact term equivalent in TL exists.

### 5.2.4 Question Four

Will using ready machine translated texts reduce the time needed for translation?

In this section, results indicated that WRMTT group finished doing the tasks in a measurable time comparing to the NRMTT as it clearly appeared in the performance percentages in the part of WRMTT group.

- 60% of WRMTT students finished the task within 10 minutes, whereas only 23.3% of NRMTT students finished the same task within the same time.
- Likewise, only 16.66% of WRMTT finished within 20 minutes (the maximum time given to students to finish translation) but 40% of NRMTT finished within 20 minutes, which clearly indicates that less students (16.66%) of WRMTT needed the maximum time given, whereas (40%) of NRMTT required that maximum time.
- In addition, a percentage of 13.33% from NRMTT students needed more than 20 minutes to finish the task, whereas no one from WRMTT needed any extra time to finish the task.

Our research comes to a finding that time spent in translation required in translation using ready machine translated texts is, significantly, less than that required for translating texts from scratch. In other words, translation supported by Ready Machine Translated texts saves more time in translation tasks. Approximately, group of WRMTT in this research would
have probably used the half time required by NRMTT group by to finish the translation tasks when they used ready machine translated texts.

5.3 Contributions of the Research

No doubt that this research has to provide a contribution to the structure of recent research focus on utilizing technology in the field of language and translation since technology suggests a credible assistance for human being in every aspect of life. It is an attempt to discover or suggest ways of increasing and developing the productivity of the whole automatic translation process (MT plus human work). It is conducted to incorporate the human correction activities within the translation practice itself, thereby shifting the MT paradigm to that of computer-assisted translation. It absolutely insists on the essential role of the human since s/he is the inventor of the MT itself. In fact, MT has become a crucial issue that introduces human translators to several technological support as to help them producing whatever needed in the field of translation effortlessly and appropriately.

This research would contribute towards the existing literature in certain aspects as follows:

- It would contribute in practical utilization of machine translation systems in the field of translation as well as the development of the translators’ post MT editing skills and strategies. Consequently, it becomes a must for utilizing and employing the available facilities offered by technology such as computational linguistics, websites translation and software translation applications in the process of translation.

- Results of this research would also contribute in reporting MT technical problems to the software programmers who are required then to put certain manipulations and remedies as well as developing a useful data processing for improving MT production.
In fact, throughout the process of identifying the issues of post editing and correcting MT outputs, software programmers are going to be able to take hold of a deep understanding of post MT progression that, actually, leads to improving the production of the MT engine itself as well as developing the automated post editing technology paradigm in general.

- Conducting such a research helps in prioritizing issues for improving MT output, streamlining MT workflow, and developing post editing guidelines and training materials.

- Using post MT editing, effectively, would make it possible for us to specify the acceptable translations and determine several translation problems produced by MT, thereby we will, exactly, know how to be benefited from MT.

- It would throw light on the post editing techniques and possibilities for using machine in translating texts. As a matter of fact, analyzing the students’ post editing of this research gave us more clues about the possibilities that post MT editing can offer to complement language training and enhancing foreign language written production.

- Finally, this research validates the views of Ana Niño (2007) that MT can be used as a controlled or determined error correction exercise into foreign language teaching and learning purposes. In fact, it enhances learner to evolve certain systems of rules and relations resulted from implementing several processes based on matching the equivalent connotations, in different levels of parts of speech and sentence structures, in both source language and target language for having a thorough understanding of error typology, which contributes a great deal towards categorizing post MT editing errors in English into Arabic and vice versa.
5.4 Predicaments and Recommendations

- Unfortunately, the view of teaching MT as a course to the students of translation at the department of Arabic and Translation, Faculty of Languages, Sana’a University is almost absent. In fact, this comes as a result of the obvious absence of any MT course in the syllabus\(^1\) of the department in the academic year 2012/2013 (See Appendix 5 Page …). No separate course/material related to MT has been taught during the whole course, which is of minimum four years duration\(^2\) based on the department syllabus description attached in the research appendices (page…). From the researcher’s point of view, this is the main reason for the non-existence of MT practical use by both teachers and students of translation in the finding of this research. Therefore, researcher, strongly, recommends including the MT concept, theoretically and practically, into the syllabus in a form of specially designed MT courses and applications with giving a wide space for teaching and practicing them appropriately in classes and labs. Post MT editing, for example, should be practiced by students as they practice pre-writing, drafting, revising and editing in writing classes.

- Similarly, additional training courses on MT for students are recommended.

- Training programs on MT are recommended for the translation staff concerning the latest about MT and post editing. An Online Course expert, who helps creating and

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\(^1\) An annual plan involves a specific classification and description for the courses taught in the department of Arabic and Translation during the whole course duration, which is of minimum four years duration. The syllabus description determines course titles, course numbers, levels and semesters durations. It gives brief classification for the course objectives and content, intended learning outcome, prescribed reading, required reading, suggested reading and references for each course.

\(^2\) A course of minimum four years duration, two semesters achieved annually with a total of eight semesters of the whole course duration that is to be accomplished in four years.
uploading materials, testing course activities and resolving technical problems, has to be provided while implementing the training course or program.

- Well-equipped labs (net, electricity, computers, qualified trainers, etc.) should be provided as a fit atmosphere that helps in doing post editing in group work discussion at the lab to provide good opportunities for understanding the problems of the raw MT output.

- Researcher recommends using MT as an online educational practice, which is called massive open online course (MOOCA).3

5.5 Suggestions for further research

Implementing similar practical investigations since it, gradually and tolerantly, leads to understanding the nature of certain relations belonging to MT processing and human editing. However, as much as researchers work the better as they find remedies, solutions and rules that control their research problems. Researcher, here, is recommending researchers, self-proclaimed experts and interested parties to:

- Study the Statistical Post-Editing (SPE) as it is more significant suggestion for future work in the field of MT since it concerns the potential solutions of MT codes’ relations and processing. Such efforts would, greatly, increase the accuracy and style of MT production.

- Conduct similar research that investigates pre MT editing texts since the focus of this research was on post MT editing.

3http://en.wikipedia.org/wiki/Massive_open_online_course
Conduct studies in Translation Memory Systems (TMS) as an exploitation of what has been translated previously by professional translators in the translating of new documents. Such tools contain a bilingual database of the source language and the target language. In these tools, data is stored as interval linguistic units of the source language with its equivalent units in the target language.) Equivalent could be word, phrase, compound sentence and/or paragraph.

Conduct studies in developing Electronic Idiomatic-based Dictionaries, Electronic Proverbial-based Dictionaries and Electronic Structural-based Dictionaries that, functionally, based on bilingual structural units corpora for identical/similar text-based translation.

Conduct similar research on different regions and different language pairs since this research is opening wide ranges of discussion and analysis of errors produced by machine translation in a parallel line with efforts exerted by humans all over the world.

Conduct similar research on different text types.