

The importance of including Post-Editing of Machine Translation in the curricula of translation student, in light of other's experiences

أهمية إدراج مقياس التحرير اللاحق للترجمة الآلية في مناهج تكوين طالب الترجمة، في ضوء تجارب الغير

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Abstract

This paper investigates the validity and importance of integrating a Machine Translation Post-Editing training into the translation curricula in the Algerian universities. To this end, this study relies on a descriptive approach based on criticism and analysis, by reviewing some relevant experiments conducted in various universities worldwide, then comparing the results of those experiments. This study has revealed that although all the deficiencies and weaknesses of the MT, learning how to post-edits its output can help, in some circumstances, achieving human-like quality. Therefore, a specialized training in PEMT is a key factor for preparing the new generation of translators to take advantage of what technology offers us.

Keywords: Post-editing, Machine Translation, Translation quality, Translation didactics, Translator's training, Translation skills.

ملخص

يبحث هذا المقال وجهة وأهمية إدراج التدريب على التحرير اللاحق للترجمة الآلية في برامج تدريس الترجمة في الجامعات الجزائرية. ولتحقيق هذه الغاية فإن هذا البحث يقوم على المنهج الوصفي ويعتمد على آليتي النقد والتحليل، وذلك باستعراض بعض التجارب ذات الصلة التي أُجريت في مختلف الجامعات على الصعيد العالمي ومراجعتها، ثم مقارنة نتائج هذه التجارب مع بعضها البعض. ولقد كشفت هذه الدراسة أنه ورغم نقائص وعيوب الترجمة الآلية، فإن تعلم كيفية القيام بالتحرير اللاحق لنتائجها قد يساعد في ظل بعض الظروف على تحقيق ترجمات ذات جودة شبيهة بالترجمة البشرية. وعليه فإن حصول الطلبة على تكوين متخصص في التحرير اللاحق للترجمة الآلية يعد عاملا مهما لتحضير الجيل الجديد من المترجمين للاستفادة بأكبر قدر ممكن مما تتيحه لنا التكنولوجيا.

كلمات مفتاحية: التحرير اللاحق، الترجمة الآلية، جودة الترجمة، تعليمية الترجمة، تكوين المترجم، مهارات الترجمة.

1. Introduction

Post-Editing, henceforth PE, was and still is inherent in Machine Translation, henceforth MT, for there is no PE without MT. On one hand, the low quality of the MT product was the reason why PE was required. On the other hand, the catastrophic results of MT in its beginning, has led to a drop in the PE interest. Nevertheless, in the last two to three decades the translation field has known great and important advances thanks to the exponential technology breakthrough in all aspects of life. Hence, it was necessary for the universities to keep up with this advancement by changing and adapting their academic curricula.

The technology has led to major changes in the translation field, mainly in the translator's task and its working methods. For centuries, the translator's work was relying on only his linguistics and extralinguistic knowledge, and his memory capacities to fulfill the job's requirements. However, the translation competency is no longer confined to the mere translator's ability of employing the linguistic knowledge within different communication situations, but it extended to his ability to use modern translation tools such as electronic corpora and its processing software, terminological data banks, electronic dictionaries and glossaries (عابد و العياشي، 2021). In other terms, these personal competencies are no longer sufficient to keep pace with the growing demand for the translation services. Correspondingly, the translator found himself compelled to have recourse to the machine with the view to increasing the productivity and lowering the cost.

Consequently, the use of new technologies, especially MT technologies, has seen a significant acceleration in the translation field, mainly, in the biggest Linguistic and Translation Services companies, as well in the international institutions like the UN and the EU. Technical, economical, legal.... etc. translation remains the optimum field where MT can best perform in the quest to meet the market's needs of "*greater speed and lower cost*". Moreover, those companies and institutions now consider PE to be indispensable in order to produce a publishable-quality output (Kliffer, 2005). Some others have even considered that PE (he used the word «*Revising* ») as the new *Translating* : New MT-based business models, in which translation is reduced to the revising of electronically recycled patch-work texts, are already changing the business of translation (Austermuehl, 2013). According to *Mordor Intelligence*, the Post-editing of machine translations (PEMT) is expected to be a major trend in the translation services domain during the forecast PE period (Language Services Market - Growth, Trends, COVID-19 Impact, and Forecasts (2022 - 2027), 2022). And given that today's students of translation are tomorrow's market professionals, it seems fundamental to equip those students with the necessary weapons to face the market's future, on which the required productivity will constantly increase (Pires Faria, 2018). Thus, we can assume that the decisive factor in translation's development, now, is the relationship between the translator and translation tools, and not between the translation and the text (عابد و العياشي، 2021). These ideas led to launch a debate on the process of adapting the academic programs for a better preparation of the translation student to enter the labor market.

Many universities, in keeping with the new changes, have hastened to change their academic curricula and programs, thus, they introduced new modules and changed or terminated others. In our country, however, most, if not all, universities are left behind when it comes to keeping pace with the changes and advances in the translator's training, especially with the new role and effect of technology on that matter. The result, to my knowledge, no university has ever included MTPE in its curricula.

2. Machine Translation

Machine Translation, which is based on two approaches ; one linguistic and the other mathematic (Rémillard, 2018), involves the use of computer programs to translate, automatically, texts from one natural language into another (Ping, 2009), in other terms, the complete absence of any human intervention during the translation process. The first appearance of MT goes back to the first half of the twentieth century. And *Warren Weaver's memorandum* in 1949 is considered to be the stimulus for MT research in the United States (Hutchins, 2006).

At its beginnings, research in translation was restricted to applied or contrastive linguistics. Thus, translation was considered as a purely linguistic transfer from one natural language to another. This

definition made the idea of a mechanical transfer very applicable. But soon it was clear that full automation of good quality translation was a virtual impossibility, and that human intervention either before or after the computer processes (known from the beginning as pre- and post-editing respectively) would be essential (Hutchins, 2006). Despite this fact, the world witnessed, in 1954, the first output of MT ever; a translation of 49 Russian sentences into English. Since then, the research in this field has spread all around the world.

This first period has known three basic approaches; the '*direct translation*' model, the '*interlingua*' model and the '*transfer approach*'. Despite the huge funding of research, the MT advances did not meet the expectations, and the results, due to the complexity of the linguistic problems and given the state of the computer systems, were catastrophic. This situation has led to the famous *Automatic Language Processing Advisory Committee report (ALPAC report 1966)* that put an end to the funding of research in MT in the US. Fortunately, the research continued in the other continents.

In the years that followed, the advancement in the MT, enhanced by technological development, introduced new approaches and programs. And the first great leap is owing to the spread of the Internet, and the increasing computational power and storage capacities of personal computers. While the credits of the second great leap goes to the advent of the *Artificial Intelligence (AI)* and the *Neural Networks*, this new paradigm was a real game changing-player. Here are the four main MT approaches.

- a. Rule-based MT (RBMT):** is essentially based on various kinds of linguistic rules (Ping, 2009).
- b. Corpus-based approaches:** exploiting corpora of already translated texts for automatic translation, it is based on a mathematical and statistical analysis of the data contained in the corpus (Rémillard, 2018). It can be categorized into two categories: example-based MT and statistical MT.

Example-based MT (EBMT) : based on the collect of a bilingual corpus of translation pairs and then uses a best match algorithm to find the closest example to the source phrase in question (Rémillard, 2018).

Statistical machine translation (SMT): the machine learns how to translate from already existing human translations (henceforth HT), by involving the induction of statistical models of translation from parallel corpora, that is, source texts and their HTs (Dorothy & Stephen, 2014).

- c. Hybrid approaches:** add statistical MT (SMT) capabilities to correct the results produced by commercial rule-based MT (RBMT) systems (Do Carmo, et al., 2021).
- d. Neural Machine Translation approach (NMT):** it utilizes neural network techniques to predict the likelihood of a set of words in sequence. This can be a text fragment, complete sentence, or with the latest advances an entire document (Omniscien Technologies Team, 2023). It is trained on huge corpora of pairs of source language segments (usually sentences) and their translations, that is, basically from huge translation memories containing hundreds of thousands or even millions of translation units. In this sense, it is similar to the statistical machine translation technology that was the state of the art until very recently, but uses a completely different computational approach: neural networks (Forcada, 2017). In short, it uses artificial neural networks to learn MT from parallel data (Bérard, 2018).

3. Post-editing :

PE is possibly one of the oldest, besides *Pre-editing*, form of human-machine cooperation in the translation field since it has been a common practice for just about, as long as operational machine translation systems have existed (O'Brien, Balling, Carl, Simard, & Specia, 2014). It means simply the revision of an MT output by a human. Thanks to the huge advances in MT and the increasing demand for the translation services, the PEMT has established itself as a translation service, as reflected in the International Standard (ISO 18587:2017) specifying standardized requirements for the PE process and post-editor competences (Yamada, 2019)

4. Previous studies and experiments

In this section, data from the literature of PE and MT, especially from the various studies and experiments conducted on the students of, mainly, translation field, in different departments, institutes and faculties in many countries all over the world have been collected. Afterward, It has been processed and the different results were compared in order to make a conclusion whether or not it is worth including PEMT in the translator's training curricula in the Algerian universities.

Kliffer (2005) has found that the difference in scores between the students and the machine translation program (PowerTranslator Pro, henceforth PTP) was not significant; however, the categories of huge mistakes made by human are very different from those made by PTP, which implies that machine and human can complete each other. He has also found a decrease in errors for the post-edited versions (done by the participants) compared to PTP output, and even the weakest student showed marked improvement over PTP's score. In regard to the student's attitude toward the PE exercise, according to their answers to the survey, they find the exercise in general useful if not for the abundance of stupid mistakes.

Kliffer (2008) in this study (which is a sequel to the previous experiment) has concluded that the MTPE exercise is a double-edged sword. On one side, the good students consider PEMT output to be exasperating due to the low-level and repetitive MT errors. On the other hand, the average and even poor students see it as a confidence-building exercise because it increases in them motivation, participation and, consequently, higher confidence in expressing themselves.

Depraetere (2010) concluded from her experiment that translation students, unlike the professional translators, do not make too many changes (do not make a complete post-editing) on the output of MT as long as the translation seems correct to them. Their other concern is the post-editing guidelines; since they consider that sticking closely to those guidelines is important to avoid consistency errors. To address these matters, she suggests that with proper training, the students can adapt very quickly, and carrying out an MT error analysis in the course would be useful to them.

Şahin (2013) has provided an experimental course from which he deduced no statistically significant difference between the participants' performance in PE of MT output and translating from scratch for all three texts. According to the results of the survey administered just at the end of the experiment, almost all participants reported that they found MTPE a difficult and an irritating task, and preferred translating texts from scratch rather than PEMT output. Therefore, they do not think that it is necessary to have MT and PE courses. The relatively "bad" output for the English-Turkish language pair might have contributed to this line of thought. Nevertheless, as the participants got used to the practice of post-editing, they openly declared, after resuming traditional translation, that the level of negativity they felt towards this activity has decreased.

Yamada (2015) comparing the results of the professional translators and the students, he found a considerable gap in performance between the two groups. The professional's results showed that they have registered a considerable time reduction (26,7% less than HT) and only one accuracy-related error. Whereas none of the students could meet the professional translators' level (the number of errors ranged from 2 to 18). With regard to the students' ease toward the PEMT, most of them (mainly those who made fewer errors) considered the PEMT to be easier than HT. Considering the students' grade, it was concluded that the students with bad grades had the worst results in PE, however not all good students had better PE, which suggests that PE requires different skills from HT.

Koponen (2015) after the training (the course), he noticed that all the students have grasped the basic principles of MT and found both versions surprisingly understandable, although not perfect. Whereas some of the students consider MTPE to be of a great help in saving time, others do not share with them their point of view. Most of the students agreed on two things: the first one is that working without the source text (working on the output of MT only) is not helpful, nor the pre-editing is particularly beneficial. The second thing was how to determine what changes were necessary for the "good enough" quality. At the end of the course, the students seem to have at least learned some basic notions and principles of MT and PE. Their attitude towards the tools and workflows was positive, but they also evaluated them critically.

Witczak (2016) the results of the experiment indicate that most of the students consider MT to be of usefulness although the limited options when working on MT output compared to CAT tools, and that the outcome of MT differs depending on the type of text. The other point that the students raised is that using MT while still being a translation trainee (in the first years) would be cheating because, this way, they would not learn how to translate. However, they believe that learning through experience was an effective choice because the students could determine their attitudes in the process of exploring the MT on their own, empowered them to take responsibility for their own choices and enabled them to develop their own attitudes rather than follow blindly the instructions and opinions provided in the form of a lecture.

Stasimioti & Sosoni (2019) found that the training has a positive effect on the trainees because after receiving the training, a significant change in the participants' perception of MT was observed; Most of the students thought that MT is useful, and almost half of the total number consider it to be time saving. For the PE as well the perception of the students toward it has changed positively and dramatically after taking the training. They find it faster than translation from scratch and useful for their work. Moreover, the PE training helped them carry out the tasks more efficiently, with greater accuracy, more easily, and more quickly. With regard to the temporal effort, after the training, the students needed less time to PE the text compared to prior the training. The same results for the technical effort, the students made less keystroke after the training. As for the quality of the final post-edited texts, the results were also in favor of the post training, i.e. the quality of the produced texts was higher than before the training. At the end, the students declared that they find that having a training in PE is more effective.

Arenas & Moorkens (2019) found that most of the students were satisfied with the course and the task. They appreciated the PE course, but what they appreciated more was the idea of finishing the year by applying, in a real life situation, all that they have learned. They consider it to be the best way.

Çetiner & İşısağ (2019) they found that before the PE course, the students were not really into the MT, nor the MTPE, however, after they got a training on MTPE, their attitude has significantly changed, they

saw it more positively. They trusted more the accuracy of MT, got better comprehension of the source text, needed less time compared to HT, and less feared the MT as a competitor.

Dede (2019) He found that in general there was not a significant difference between the results of the two groups. However, it seems that, despite the very limitation of the experiment (mainly the limited sample size, the short length of the text used, and the lack of supervision during the post-editing experiment), the experimental group (those who received a training on MTPE) identified more errors and post-edited the text more similar to the human quality compared to the control group.

Yamada (2019) this experiment was a sequel to a previous one (Yamada,2015). He compared the findings of both experiments. First, he found that most of the students perceive the task of post-editing the output of NMT or SMT as an easier task, and require less effort compared to HT. Although, with regard to cognitive effort, no significant difference between NMT and SMT has been noted. The participants made less revisions working with NMT compared to working with SMT, which implies that NMT+PE produces human-like errors, in other words it is a case of a few edits that require high cognitive effort. As for the types of errors, it appeared that the SMT made more errors in general, and, particularly, more major errors compared to NMT. For the post-editing quality, the error correction rate of SMT is higher than NMT. Nevertheless, the absolute number of errors remaining in the final product after post-editing of the NMT version is by far smaller than of the SMT one. As a conclusion NMT+PE produces a better human-like final product and it requires almost the same competence as ordinary human translation. Therefore, translation (including post-editing) training is necessary for students to be able to shift their attention to the right problems and be effective post-editors.

Romaniuk-Cholewska (2021) Based on the participants' feedback, the researcher concluded that they benefited from this experiment, and found the training enjoyable. This implies that they would actively learn new skills and it would ease, simplify and improve their future work as translators. Not only that they view MTPE training as positive and would like to have it, but they have also appreciated getting an MTPE training. They mentioned, as well, the advantage of computer-assisted and terminology management tools in the translator's work. (Romaniuk-Cholewska, 2021)

5. What do those experiences show us?

The studies chosen as the literature of this paper differ in many aspects: The time scale that ranges from 2005 to 2019, the different countries, the different sets of languages (English, French, Turkish, Japanese, German, Russian, Swedish, Nordic languages, Baltic languages, Polish, Greek, Spanish, and Catalan), the participants' level, the type of the experiment, the used MT engines, the metrics... The analysis of those studies have led, despite the differences in some of the findings, to determine a pattern: The majority of the above-mentioned experiments rely on "the survey" and this is due to his great ability of investigating the participants' point of view. The most important findings can be summarized as follows:

The first striking observation is that the general tendency of the students is embracing the PE task and its training. They expressed, on many occasions, their satisfaction toward PE, and considered the training to be very useful. Some go even further in favor of PE training. Their perception toward it has changed positively and dramatically after taking the training. Moreover, others found the training enjoyable. Not only that they view MTPE training as positive and would like to have it, but they have also appreciated having an MTPE training. With the exception, of course, of a few participants who believed that using MT while still being a translation trainee would be cheating because, this way, it will

be difficult to learn how to translate. In addition to those who found MT post-editing a difficult and an irritating task, due maybe to the relatively “bad” output for some language pairs, and the type of MT engine (SMT mainly), have, after getting used to the practice of post-editing, changed their attitudes when they went back to the traditional translation.

Also, it seems that the student's level in translation plays a decisive role in his/her attitude toward PE, i.e. the good students find it exasperating because of the low-level and repetitive MT errors, and the average and even poor find it confidence-building exercise. However, although the students with bad grades had the worst results in PE, this does not mean that students with good grades had better PE.

The second most noticeable remark is the importance of having, through experience, a good mixed translation and PEMT training. In addition to helping students to determine their attitude by their own selves, empowering them to take responsibility for their own choices and enabling them to develop their own attitudes rather than blindly follow the instructions and opinions provided in the form of a lecture, a practical training will help students to adapt quickly with the post-editor's task. This way the future post-editors will be able to avoid consistency errors and make only the required degree of post-editing, and therefore, ensure high profitability. It has also a great impact on their performance by guaranteeing a better comprehension of the source text, reducing time compared to HT, increasing speed of work, identifying more errors and post-editing the text more to the human quality. In short, it helps carry out the tasks with greater accuracy, and more efficiently, easily, and quickly. It eases, simplifies and improves their future work as translators/post-editors.

Another important finding is that the perception of the students toward the MT has completely changed; they do not fear it as a competitor anymore, instead they see it more as an aid and a tool that can boost their productivity. With a good training it can be of a great help; it will give them the opportunity to be more open to new possibilities, and adequately prepared for any potential changes in the translation field. Besides, due to the variety and the abundance of MT engines on the market, by making them (the students) deal with a good number of MT engines, since each engine has its own types of errors, it will help each and everyone of them to choose the best MT engines that suits him.

6. Why is teaching Post-editing important?

In addition to the above-mentioned findings that point to the feasibility and the usefulness of a PE training for the translation students, we can find in the vast literature of MT and PE many statements that encourage the idea of integrating a PE training in the university curricula. Champollion (2001), more than twenty years ago, believed that the machine would never replace the human, but the human's task will change into revising the machine's output. He stated:

« A decent MT machine is just around the corner. The computer computes chess, while Kasparov plays chess. A computer will never understand, but it can translate, at least to some extent. And, since translation without understanding is meaningless, the future of the human translator is proof-sensing what a machine has pre-translated » (Champollion, 2001).

Another consistent reason is keeping up with the changes that are occurring on market's demand (requirements). Because based on some other studies' statistics (Gaspari, Almaghout, & Doherty, 2015), (O'Brien, 2002) , it was very clear from the beginning of globalization that humans cannot keep pace with the exponential demand on translation services. As a result of this human incapacity of fulfilling the

requirements of the market, the demand for expertise in MT and PE, and other translation aids, has increased significantly.

While Pym (2013) convinced, almost ten years ago, that it was time to start thinking of new approaches in translation training; « MT is destined to turn most translators into post-editors one day, perhaps soon. And as that happens, as it is happening now, we will have to rethink, yet again, the basic configuration of our training programs » (Pym, 2013).

In almost the same vein, Pires Faria (2018) declared that in recent years, the quality of MT engines has significantly improved, and that the PE is much more widespread in the professional context, which makes the idea of a practical course of PE more relevant and applicable. She stated: « we believe that the translator's practice, though it's unlikely to disappear plain and simple, it will be subjected to many changes in the years to come and to become a post-editors practice, except in rare cases » (Pires Faria, 2018).

Like in all other aspects of life, where man collaborates and co-works with machines in achieving the highest productivity with less time and cost, translators should do the same. And PE is an essential element of success in the translation industry and a bridge between machine solutions and skills that so far can only be demonstrated by humans (Romaniuk-Cholewska, 2021). It is the best terrain where humans and machines can interact in the most efficient way.

From another angle, some localization agencies, private companies and organizations are already offering online PE courses in multiple languages to acquire PE skills with a combination of theoretical and practical exercises, alongside their expressed desire to hire translators and interns with at least some basic technical knowledge in PE (Arenas & Moorkens, 2019). This is another solid ground for the claim of the importance of a PE training; i.e. enlarging the university's graduate opportunities.

Witczak (2016) approaches the subject from another angle. In order to raise awareness of the capabilities of MT and PE among translators, post-editors and translation students, and to catch up with the MT and translation technologies, the PE should be included into translation training curricula (Witczak, 2016). This is a very good point of view since it requires some friction with any matter to form an idea of its importance.

Vasconcellos and Leon (1985), almost forty years ago where technology was still in its embryonic stage, have conducted an experiment which the results showed that a full-time trained post-editor, who can produce polished, standard quality output at a rate of between two and three times faster than traditional translation (Vasconcellos & Leon, 1985). This significant difference can imply that with nowadays advances, and new teaching approaches, the gap would be much larger.

The difference in the required skills between the translator and the post-editor implies that the current translator's training is not enough to train qualified post-editors. Because, the translator/post-editor is thought by the industry to be natural post-editors when it is not always the case (Dede & Antonova-Ünlü, 2022). In addition, post-editing skills are different from translation skills and it cannot be assumed that a qualified translator will be a successful post-editor. This means that translating requires different and specific competencies, therefore different and specific training, from post-editing (O'Brien, 2002).

In fact, since the beginning of this millennium, a lot of translation scholars and researchers have anticipated the new market requirements and called for adapting new approaches in translation training. One of their main recommendations was integrating MT or PEMT courses or training in the curricula. They all, or at least most of them, have based their recommendations upon scientific or experimental research.

It has been nearly a century of research in the field of MT, in all this period of time, the field has known outstanding advances and breakthroughs in technology in general and computer sciences in particular which led to great achievements in specific domain (modified) engines of MT. However, the results of the pure MT are still far from the publishable products, or human-like quality, especially when it comes to general language texts. Human intervention, to make some adjustments (i.e. post-editing), is usually required. Probably, this state will persist for decades to come, and perhaps beyond.

7. Some PE competences that should be enhanced

In order to guarantee an efficient training for the student, this course must ensure that she/he acquires a set of qualified, refined and subtle skills along with the ones obtained from the traditional translation programs. O'Brien (O'Brien, 2002) has taken the lead in that matter, she focused on Knowledge of MT technology in general, Terminology Management Skills, Programming skills, Pre-editing/Controlled Language Skills, Text linguistic skills. Whereas Pires Faria (2018) thinks that a good post-editor should be at first a good translator, in other words, the training on PE would ideally be at the end of the undergraduate program. (Pires Faria, 2018).

Pym (2013), in his turn, has done much detailed work in showing the three competences that a good post-editor should acquire:

1- Learn to learn: because the technology changes rapidly, the students must not be taught how to use a certain tool or technology gradually, but rather how to search for the new ones and be updated all the time.

2- Learn to trust and mistrust data: one of the drawbacks of the machine is that of proposing wrong solutions for some situations. A student should then be able to know when to trust the machine's output, and when to mistrust it. It contains three specific skills: 1- the ability to check details of proposed matches in accordance with knowledge of provenance and/or the corresponding rates of pay, 2- the ability to focus cognitive load on cost-beneficial matches, 3- the ability to check data in accordance with the translation instructions

3- Learn to revise translations as texts: a student must learn how to avoid revising the segments separately, but instead, to revise the whole text to avoid some errors, and detect other errors.

In order to realize those competences, the course may contain for instance: a concise history of MT, how MT engines work, applications and limitations of MT, PE guidelines (TAUS, the Society of Translators and Interpreters of Canada –STIC-...) and others.

8. Conclusion :

This study attempted to employ existing findings from the field of MTPE training literature with a view of investigating the importance and efficiency of teaching MTPE to translation major students, then projecting these findings onto the Algerian context.

It goes without saying that what works for other people shouldn't necessarily work for us. A field experiment should be of better and more credible results. However, if the results are similar –or at least close- in many societies and conditions, then we can rely –at least for now- on those results

After reviewing the literature available on the PE teaching, they have yielded some interesting findings. Although the effectiveness of an MTPE training for the translation students was not strictly proven in any of the above-mentioned studies, I think it is safe to confirm the validity of integrating an MTPE training into the translation's university curricula. And consider it to be recommendable without undue delay. This is in order to provide the best possible education aligned with the needs of the translation market, while at the same time increasing the employability of translation graduates in the future. Otherwise, each and every class that graduates without getting a proper MTPE training is going to be left behind in the matter of job opportunities in the foreseeable future.

The training on MTPE has proved to have a significant effect on the student's performance. Most of the students liked MTPE and adapted to it quickly. It helped others to achieve a better translation quality than translating from scratch. In other cases, it proved itself to be of great help in reducing time and effort.

Not to mention that it is clear that MT and PE are a fact in the Linguistic and Translation Services field worldwide. Many social media platforms turn to MT to generate instant translation for blogs, posts, comments... and the results are getting better with time. But it still needs human intervention if you need a human-like quality text. Most importantly, the Linguistic and Translation Services companies are providing their own MT and PE training. This evidently shows that the sector that is hiring the greatest number of translators has witnessed the effectiveness and importance of this training.

There is no doubt that humans should keep pace with technological advances and use it in the best possible manner. Any new technology that can help humans, in any domain, translation field included, is solicited. Despite the deficiencies and flaws of MT and adjacent, the translator is more than ever required to adapt with it and have at least some notions about it.

The role of the university is to prepare the student to face the professional world; it is, therefore, its duty to adapt their curricula to the new requirement of the market every time it changes. Measures that have been taken by a lot of universities in many countries around the globe, for many years now.

While the results of this study indicate that MTPE courses are very beneficial to the students and their future career, further research in the Algerian context is required to understand the impact of this kind of training on our students.

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