MACHINE TRANSLATION: PERCEPTION OF TRANSLATION AND INTERPRETING STUDENTS IN TURKEY

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Abstract

This paper focuses on how machine translation is perceived by students in the Department of Translation and Interpreting at Marmara University in Turkey. For this purpose, a total of 140 (95 females and 45 males) third- and fourth-year students were recruited through a random sampling. They responded to a paper-and-pen questionnaire with 16 statements about their perception of machine translation. Descriptive statistics was performed to analyse the data. The findings show that most students are knowledgeable about machine translation. In addition, students perceive that using machine translation has benefits, such as saving time, making the translator's job easier, and improving translation competence. However, more than one-third of the student's knowledge level on this subject is partially sufficient. This study can contribute to creating course content for the more effective presentation of machine translation (MT) courses taught in translation and interpreting departments.

Keywords: machine translation, translation, translator, translation technologies, translation training

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1. INTRODUCTION

Entering public life in the aftermath of World War II, machine translation attracted great interest with projects carried out from the 1950s until the mid-1960s. However, the insufficient processing and storage capacities of computers and other technical inadequacies made it impossible for these new implementations to live up to initial expectations. However, in the last 20-30 years, great progress has been made in machine translation studies in parallel with developments in computer technology. Advances such as the increase in the storage capacity of computers and the creation of huge corpora required for machine translation, faster and easier processing of data, and new methods have increased the success of machine translation and made these systems a field of great expectations again.

Moreover, machine translation has expanded its area of use by utilizing different technologies and working in integration with various applications, thus becoming a field of interest not only for translators but also for a variety of others. This drew out the experts who provide translation education; they have begun to teach students all aspects of these technologies by including machine translation in the translation education curriculum. This is no easy

task, as scientific research on machine translation is increasing day by day.

In the literature, some studies deal with this issue from different angles, examining various aspects. Ardila (2021) examined the usability of machine translation via an online dictionary. He found that when learning English, students turned to machine translation to help them translate words, sentences and paragraphs from English to Indonesian or from Indonesian to English. They experienced great benefits from this technology. Sujarwo (2020) examined the ways foreign language students consider and use machine translation in his study. Findings showed that students not only use machine translation for translation purposes but also as a dictionary. Such tools are very useful, especially in learning the pronunciation of words. In their three-week study to understand the perception of machine translation in the French language department of the European Commission, Rossi and Chevrot (2019) revealed that participants saw machine translation as a useful tool.

Çakır and Bayhan (2021) focused on the role of machine translation in translation classes and tried to uncover the most notable difficulties encountered in the implementation process. The research showed that machine translation is used intensively by the

students despite some negativities in the lessons. Yamada (2019) examined the impact of Google neural machine translation on post-editing by student translators and expressed the opinion that translation training is essential for effective final editing. Delorme-Benites and al. (2021) conducted a study on the use of machine translation with university students and teachers in Switzerland and revealed that they did not see machine translation as an alternative to language learning, but as a tool to improve their language skills.

Undoubtedly, these studies will contribute to the enrichment of course content and the more effective use of technology in classrooms. Machine translation courses are among the most popular courses in the Department of Translation and Interpreting. As students' learning interests and needs have an important place in the preparation of course content, it is beneficial to obtain student opinions and feedback.

However, there are deficiencies in the creation of course content. Especially in recent years, great progress has been made in the field of machine translation in parallel with the developments in computer technologies and the remarkable increase in translation quality is one of the main reasons for this interest. How machine translation, which

attracts a lot of attention, is perceived by students is an issue that needs more research. Because revealing this situation, determining whether the prejudices and negative perspectives towards this technology match reality, and eliminating misperceptions, if any, in the light of scientific studies, are important in terms of both using machine translation correctly and effectively and preparing the course content according to the interests and needs of students.

2. THE IMPORTANCE OF MACHINE TRANSLATION IN TRANSLATION

Machine translation is categorized as one of the main translation technologies. Although translation technologies are understood in various terms, it would be correct to classify them into two main categories: main technologies and assistive technologies. Technologies produced for direct translation purposes are the main technologies. These include machine translation, translation memory, glossaries, and dictionaries. Assistive technologies, on the other hand, are not produced for direct translation purposes but include all technologies used by translators in the translation process. Hardware such as printers, scanners, word processors, spreadsheet software, and many different technologies such as e-mail are given this classification.

Today, machine translation has become the fastest-growing field in the language technologies industry. So much so that the size of machine translation in the industry has exceeded 1 billion US dollars today and this figure is estimated to reach 1.5 billion dollars in 2024 (Statistica, 2019). Because faster and cheaper translation opportunities are becoming more successful, translators, employers and customers tend to prefer this application more. In addition, these applications have become quite popular with the public because machine translation can be used with mobile devices such as smartphones and tablets, which offer valuable content. Furthermore, as applications integrated with machine translation increase and diversify, the amount of data required by these systems also increases. This means that the success rate of machine translation is continually rising. The higher the amount of data processed, the higher the translation quality.

Another factor affecting translation quality is the training data of machine translation systems. Whichever type of text these systems are trained in, the translation quality in that field will be higher. This is because machine translation is based on artificial intelligence technologies called machine learning. A common belief is that the translation

quality of machine translation is lower in literary text types such as poetry, novels and stories. However, a machine translation system trained in the type of literary text is thought to be able to translate with high quality in this field as well, and studies are continuing to contend for this issue on a scientific basis. In addition, research interested in machine translation and literary translation (Albiz, 2022; Ayık, 2022; Özcan, 2020) is increasing day by day.

No matter how good the translation quality of machine translation is, the translation output to be used for professional purposes must be approved. In other words, the translation must be checked by a translator. As Yamada (2019) stated, "Translation, as Human-Computer Interaction (HCI), must maintain a complementary relationship between human translators and machine translation, in that both need to compensate for each other's weaknesses to achieve optimal results." This work, which is also called the final arrangement, is carried out to improve the quality of the translation output, eliminating errors and arranging the translation in line with the expectations of the employer. A translation without any approval may retain errors, strange situations and some negativities. Çetiner (2019, p. 467) considers, "the machine translation output as raw text and states that translators are no

longer the source text but an intermediate text, that is, an incomplete, half translation". Therefore, it is necessary to make the final editing process to increase the quality of this text and make it ready for use.

Today, machine translation is expanding its application area by making use of various technologies. Using voice recognition systems in verbal language translation and optical character recognition systems in image translation, machine translation works in integration with semantic network and cloud technologies and diversifies its field of application. This undoubtedly comes with a rise in popularity. In addition, machine translation continues to add innovations to our lives with some applications that are still under development and will be announced shortly. One of them is glasses possessing augmented reality technology. They will be able to convert spoken language into subtitle translation. This application, which comes with microphones to reflect the speech of the person it is listening to as subtitle translation, has caused more waves in the field of machine translation. Another new technology is the conference system capable of instant translation. Although the success of these systems, which instantly and mutually transfer the spoken language between the speaker and the audience, is not yet at the desired level, it is evident

that a new era of translation is dawning. As a matter of fact, in a report prepared by TAUS (Translation Automation User Society) in 2017, some predictions were made about both the stages of machine translation from past to present and the technologies to be used in this field in 2030, and in the next 10 years, technology will now be integrated with almost all kinds of technological tools. It is predicted that technology will be used in all areas of our lives and that the limitations of web content will also disappear and all kinds of content can be used (Taus, 2017, p. 9).

One of the areas where machine translation is effective is social networks. Machine translation, which can be used in integration with these sites and applications, has increased the interaction between individuals and societies by offering users the opportunity to translate messages written from all over the world into dozens of languages with one click. Social media sites, which are generally used as a socialization tool, work in integration with machine translation systems and make significant contributions to interpersonal interaction by automatically translating posts made in different languages on demand. In this way, people interact with wider audiences by following posts from different countries without any language barrier. In addition, machine translation has made diverse

social media sites more interesting and effective, expanding the commercial dimension. At the same time, shares on social media create a dataset for machine translation and this data is processed and used to improve the translation quality of translation. To put it succinctly, machine translation feeds social media, and social media feeds machine translation. Machine translation also functions as a common language of agreement for people speaking these languages, with its one-click ability to translate different languages on social media sites. The bridge language, also known as Lingua Franca, is the common language used by people who speak different languages to communicate. Languages such as English, French and Russian are widely spoken languages that have allowed people to communicate with each other across unique cultural and language backgrounds at various periods throughout history. The term bridge language epitomizes the connecting feature of these historical Lingua Francas. Today, people coming together in the social media environment communicate and interact with each other with the help of machine translation. In this respect, machine translation functions as a bridge language by providing communication and interaction opportunities between people who speak different languages. Despite the increasing success of translation, machine translation needs further development.

Structural differences between languages, intercultural differences, and language-specific dynamics continue to pose problems for machine translation. While studies continue to overcome these problems, experimental studies are being carried out between many language pairs. In addition, the amount of data required by machine translation is increasing day by day. Thanks to technologies such as social media applications, cloud technology, and semantic networks, the amount of data will increase considerably soon, even in rarely used languages. All these developments will significantly increase the ability and success of machine translation.

Machine translation can not only bring new life to the field of translation technology but also expand the concept of translation competence. Technology knowledge in general, including machine translation, is now accepted as one of the sub-competencies that make up translation competence. This umbrella concept is explained by a variety of scientists (Akalın, 2016; Bell, 1991; Durukan & Çelikay, 2018; Neubert, 1994) by dividing them into various sub-competences. New ones can be added to these sub-components according to the needs of the era and the translation. In parallel with developments in the field of technology, benefits from technological tools in translation are everywhere. Therefore,

technology competence has become a part of the concept of translation competence as a sub-competence that needs to be developed.

Despite all these achievements in the field of machine translation, there are still reasons to be critical of this technology. There is a mentality claiming that despite the rapid and important developments in this field, the very low-quality translation produced as a result of the insufficient technology used by machine translation in the years when the Internet was first used continues and machine translation will never be able to provide high-quality translation. Another detracting view explains that new technologies such as neural machine translation and machine learning used by machine translation systems are not sufficiently understood, and the awareness on this subject is not at a sufficient level. As a matter of fact, according to the results of a study conducted in Switzerland, most respondents see MT as another useful tool to improve language skills and learn languages. Also, the panorama of practices revealed through this survey shows the urgent need to include MT literacy in efforts to improve digital literacy among both teachers and students (Delorme-Benites, and al. 2021, p. 85).
It is thought that the perspectives on machine translation are helpful. It is important to reveal how

students perceive machine translation, which makes its weight felt more and more in the language technologies sector, to determine whether the prejudices and negative perspectives about this technology match with reality, to eliminate any misperceptions, and to use this technology correctly and effectively.

3. METHOD

A quantitative method, specifically through a descriptive statistical analysis, was used in this study.

3.1. Study Group

The participants of the study consisted of students studying in the Department of Translation and Interpreting in German, French and English at Marmara University. The sample included 1 total of 140 participants, including the third and fourth-year students selected by random sampling. Some demographic information of the participants is given in Table 1.

Table 1. Participant statistics

Department	Year 3		Year 4		Total
	Female	Male	Female	Male	
German	9	5	9	3	26
French	10	6	26	9	51
English	16	10	25	12	63
Total	35	21	60	24	140

3.2. Data collection

A paper-and-pen structured questionnaire was used as a data collection tool. It was administered face-to-face in the classroom by the department professors. The items were prepared according to the questionnaire form constructed by Çakır and Bayhan (2021) and took expert opinions. Students were informed about the purpose of the research. Participants answered the survey voluntarily. The survey was approved by the Social Sciences Institute Ethics Committee at Marmara University. The questionnaire consists of 4 sections with 16 statements and there are 4 statements in each section (see Section 1 in Table 2, Section 2 in Table 3,

Section 3 in Table 4, and Section 4 in Table 5). Each participant was expected to choose one of the three response options 'Yes', 'No' and 'Partially' available.

3.3. Data analysis

The descriptive statistics technique was used to analyze the obtained data. "Descriptive statistics include summary information such as how many times each value or value set repeats in a variable, how the values are distributed around a point chosen as the centre, how far they are relative to the middle point or each other" (Akbulut, 2012, p. 168).

4. FINDINGS AND DISCUSSION

While the rate of those who know machine translation is 62 percent, the rate of those who have partial knowledge is 33 percent. The rate of those who have no relevant knowledge is 4%. While 69 percent of the students use machine translation in translating, 26 percent use it partially. The rate of those who do not use machine translation is 5. While the rate of those who recommend using machine translation in the translation process is 69 percent, the rate of those who partially recommend it is 29, and the rate of those who do not recommend it is 3. While 26 percent of the students follow the developments in machine translation, the rate of those who partially follow is 49 percent, and the rate

of those who do not follow is 25 per cent (see Table 2).

Table 2. Machine translation awareness level (Section 1)

Option	Yes	No	Partially
1.1	I know machine translation.		
f	88	5	47
%	62	4	33
1.2	I use machine translation when translating.		
f	96	7	37
%	69	5	26
1.3	I recommend using machine translation in the translation process.		
f	96	3	41
%	69	2	29
1.4	I follow the developments in machine translation technologies.		
f	37	35	68
%	26	25	49

It was seen that the majority of the students knew machine translation. However, it is understood that the knowledge level of more than one-third of the students who expressed their opinions on this subject is only partially sufficient. This demonstrates that machine translation is not given enough attention in lessons, as some students' knowledge about machine translation is lacking. It

is important to consider machine translation within the scope of the translation technologies course in the Departments of Translation and Interpreting and to raise awareness about these technologies that will be more dominant in the field of translation in years to come. Kenny (2019, p. 508) claims that "as the technologies became more familiar, and as pedagogy embraced competence frameworks that valorize the procedural, as well as situated cognition and other 'ecosystemic' approaches, and as translation studies, in general, began to integrate the material into thinking about translation, these fears appear to have dissipated."

In addition, more than three-quarters of the students use machine translation in the translation process and recommend using these tools. This can be interpreted as a significant acceptance of the idea that machine translation is necessary and useful. Similar results emerged in a study conducted by Su and Li (2023) and in total, 90 % of the students agreed or strongly agreed that translation technology was important to all future professional translators, and felt they must acquire translation technology competence to become translators/interpreters or other language service providers.

However, despite these positive thoughts, it is seen that the developments in machine translation technologies are not followed closely enough. A quarter of the students do not follow the developments in this field at all, while more than half of them do so partially. In today's world where technology develops and changes rapidly, the effective and efficient use of those technologies would be questioned when developments in a certain technology area are not followed closely. Therefore, to keep up-to-date with information, be aware of new and different applications use them effectively and benefit from them at the desired level, it is necessary to closely follow the developments in the technologies used in the field.

In the second part, where the usage purposes of machine translation are asked, the rate of those who stated that they learned different meanings of words with machine translation is 72 percent, the rate of those who say they are learning partially is 19 percent, and the rate of those who gave a negative opinion on this question is 9 percent. While 77 percent of the students chose 'I correct my faulty translations', 17 percent said that they used it partially for this purpose, and 6 percent said that they did not use machine translation for this purpose. While the rate of those who say they understand the subtleties of the language is 36 percent, the rate of

those who say partially is 39 percent, and the rate of those who say no is 25 percent. While the rate of those who agree with the opinion "I am saving time" is 87 percent, and the rate of those who partially agree is 13 percent, no negative opinion has been reported on this issue (see Table 3).

Table 3. The usage purposes of machine translation (Section 2)

Option	Yes	No	Partially
2.1	I am learning different meanings of words.		
f	101	13	26
%	72	9	19
2.2	I am correcting my faulty translations.		
f	107	9	24
%	77	6	17
2.3	I grasp the subtleties of the language.		
f	51	35	54
%	36	25	39
2.4	I am saving time.		
f	122	0	18
%	87	0	13

Students apply machine translation for various reasons. Saving time is chief among them. The vast majority of students stated that machine translation quickens the translation process. Undoubtedly, the concept of speed has an important place today. This also applies to the translation industry. The ability of

translators to compete in the market is directly
related to their speed. While fast translation
inevitably leads to customer satisfaction, it also
means getting more work and generating more
income for translators. For students, it means
completing homework and other studies related to
courses in a shorter time. In addition, machine
translation offers students opportunities to learn
different meanings of words and correct erroneous
translations. Similar results were found in a study
conducted by Schmidhofer and Mair. According to
them, "most students using the software saved time,
it also became clear that the amount of time each
student needed highly depends on the text type and
the individual student translator" (Schmidhofer and
Mair, 2018, p. 178).

However, despite these, it is understood that
machine translation is not yet at the desired level in
reflecting the subtleties of the language, and
therefore needs further development. Nearly two-
thirds of the students agree with this sentiment,
claiming that these tools do not sufficiently reflect
the subtleties of the language. However, advances in
machine translation and especially neural machine
translation have led to the emergence of an
optimistic perspective. Sadıkov and Sarıgül (2021,
p. 201) state that since the basis of neural machine
translation is the logic of machine learning, neural

machine translation improves further with the increase in the number of texts that the machine will analyze and learn from.

In the third section, which focuses on the benefits of machine translation, 89 percent answered yes and 11 percent partially answered the first item, "I think machine translation makes the translator's job easier". On the other hand, 46 percent answered yes, 40 percent partially, and 14 percent said no to the opinion that machine translation improves translation competence. The rate of those who say that they think machine translation can be used as a dictionary is 24 percent yes, 43 percent said partially and 33 percent said no. While 9 percent feel inadequate when not using machine translation, 33 percent partially agree and 58 percent disagree (see Table 4).

Table 4. The usage purposes of machine translation (Section 3)

Option	Yes	No	Partially
3.1	I think machine translation makes the translator's job easier.		
f	124	0	16
%	89	0	11
3.2	I think machine translation improves translation competence		
f	64	20	56
%	46	14	40

3.3	I think machine translation can be used as a dictionary.		
f	33	47	60
%	24	33	43
3.4	I feel inadequate when I don't use machine translation.		
f	12	81	47
%	9	58	33

When the benefits of machine translation are considered, the first thing that comes to mind is that it makes the translator's job easier. Although the translation output quality of machine translation needs improvement, it can be quite applicable with the final editing. This shows that instead of translating a text from beginning to end with human translation, it would be more advantageous to translate it with machine translation and increase the quality of translation through the final editing process. This situation revealed the necessity of having post-editing content in machine translation courses. As Şahin (2013, p. 1) said, "post-editing machine translation (MT) has emerged as a new requirement for translators due to the changing face of the translation industry. This need is augmented by the growing volume of texts to be translated and the constant progress in MT in the last decades."

Using machine translation also improves translation competence. The vast majority of students agree or partially agree with this view. The rate of those who disagree completely is rather low. Based on this, "translator training provides a framework within which students' critical abilities can be honed, allowing them to evaluate the tools themselves, and the contexts in which those tools are best applied; in other words, students need to know not just 'how' to use the tools, but also when and why" (Kenny, 2019, p. 508).

However, it is seen that the need for machine translation in the translation process is quite low. The majority of students stated that they do not feel inadequate when they do not use machine translation. Along with these, although machine translation allows learning different meanings of words, it is not considered viable as a dictionary for the time being. The number of students who have negative opinions on this subject is not to be underestimated. However, the enrichment of the content of these tools shows that they can be used as efficient dictionaries. This situation may lead to new changes in lexicography, which has undergone drastic changes recently. There may not even be a need for another dictionary where machine translation tools are available.

In the section on the negative aspects of machine translation, 21 percent of the students thought that machine translation could never provide high-quality translation, while 41 percent said partially and 38 percent disagreed with this view. While 13 percent agreed with the opinion that machine translation changed the role of the translator negatively, 35 percent partially agreed and 52 percent disagreed. A total of 8 percent of the students answered yes, 44 percent partially and 48 percent answered no to the opinion that machine translation would make the translator lazy. While 12 percent thought that machine translation would leave translators unemployed in the future, 20 percent thought this was partially true and 68 percent did not agree with this opinion (see Table 5).

Table 5. Machine translation negativity perception (Section 4)

Option	Yes	No	Partially
4.1	I think machine translation will never be able to translate in high quality.		
f	29	54	57
%	21	38	41
4.2	I think machine translation has negatively changed the role of the translator.		
f	18	73	49
%	13	52	35

4.3	I think machine translation makes the translator lazy.		
f	12	67	61
%	8	48	44
4.4	I think machine translation will leave translators unemployed in the future.		
f	17	95	28
%	12	68	20

Despite the many positives of machine translation, the negative aspects must also be addressed. However, when we look at the answers given about the negative aspects of machine translation in this study, it is understood that some concerns are unfounded. Although the rate of those who think that machine translation can never provide high-quality translation is higher than other articles, the developments in the field of machine translation in recent years will reduce this rate even more in the future. The reduction of other concerns about machine translation will increase the confidence in the translation output of these tools. Rossi (2017, p. 57) argues that …"preconceptions and fears of MT are comparable to what was observed with TMs two or three decades ago, and are likely to disappear as MT becomes more and more integrated in CAT tools."

Similarly, while the rate of those who think that machine translation changes the role of the

translator negatively is around 13 percent, the view that these tools make the translator lazy is not widely accepted and more than half of the participants do not agree with this view. In addition, the idea that machine translation will leave translators unemployed in the future is not accepted by the vast majority of participants.

5. CONCLUSION AND SUGGESTION

Machine translation, which plays an important role in translation technologies, attracts attention and is frequently used by students in the Department of Translation and Interpreting. These tools are used both for translation purposes and for various language-related activities. It is possible to use these tools effectively and to get the desired efficiency, not by chance, but with an appropriate curriculum that uses certain methods and techniques that are framed pedagogically. It is seen that the developments in the field of machine translation are progressing very rapidly, both with the investments made in this field and with the introduction of new and different applications into our lives. Therefore, developments in this field should be followed closely by academicians. This is important in terms of updating and developing course content and transferring new information to students.

However, when using machine translation, it should be kept in mind that these tools are helpful resources and the main element of translation is the human translator. Translators continue the translation process by making use of machine translation technology as well as using other tools and auxiliary resources. The development of these technologies and the enrichment of their content make positive contributions to translators and the translation process, making the process more dynamic and making the translator's job easier. It is seen that students benefit from these tools as an auxiliary source in different subjects.

It is seen that students are not hopeless about the limitations of machine translation. As the level of awareness about machine translation increases, what can be done with these tools is better understood. Although the desired level of translation quality is not achieved today, it is clear that the translation quality can be increased to the desired level with the final editing work. In this respect, this study should be placed on a scientific basis by including activities related to the final arrangement in the lessons. It should be noted that there is a need for new and applied studies on this subject.

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