

Insights into the Impact of Non-Human Intervention on the Translation Process: A Review of Relevant Literature

Raihane KHOUISSAT¹
University of Blida 2, Blida-Algeria
raihanekhouissat@gmail.com

 [0000-0001-9843-4779](https://orcid.org/0000-0001-9843-4779)

Sofiane DJEFFAL
Mustapha Stambouli University, Mascara – Algeria
sofian.djefal@univ-mascara.dz

 [0000-0001-7121-0468](https://orcid.org/0000-0001-7121-0468)

Received: 04/06/2025

Accepted: 25/10/2025

Published: 01/12/2025

Abstract

Human translation is of higher quality compared to fully automatic machine translation. The value of human output is at stake, parallel to the advent of technology. Pedagogically, the authors raise concerns about the way teaching translation will be approached, since instant automatic translation is available and omnipresent. Therefore, the question raised: will the use of computer aids affect its quality or help preserve this high level? In order to find out, a careful analysis of previous international studies on CAT tools and the translation process has been conducted. The authors argue that the use of CAT tools may be a source of distraction for translation students, as well as a factor that hinders their creativity, limits their capacities, and prevents their teacher from doing an authentic assessment of their final work. Such intervention is likely to interrupt the students' cognitive processes and may mitigate or increase cognitive efforts. The study aims to pinpoint specific landmarks to assist translation teachers and help students concretize their conception and vision of translation, taking the effect of the intervention into consideration. The analysis goes through a number of studies investigating the attitudes of both professional translators and translation students towards CAT tools. The collected data were provided by translation practitioners from different nationalities, cultures, and backgrounds, with different language mastery levels. The findings emphasize the necessity to go back through the existing literature on CAT tools, machine translation, and AI translation. It invites translation scholars to bridge the gap between human translation and machine translation. Moreover, it is recommended to conduct future research scrutinizing the attitudes of translation students (from different departments and nationalities) towards interactive translation.

Keywords: cat tools; computer - aided translation; translation process; translation studies.

¹ Corresponding author: Raihane KHOUISSAT/raihanekhouissat@gmail.com

Journal of Languages & Translation © 2025, Published by University of Chlef, Algeria.

This is an open access article under the CC BY license <http://creativecommons.org/licenses/by/4.0/>

Introduction

The human translator can be a professional or a novice translation practitioner. The task appears easier for professionals. It takes a relatively short time to skim the text, identify its type, pinpoint the terms, and start translating, taking the translation brief into account.

For a novice translator, translation is a three-phase process. First, the source text (ST) is scanned: identification of difficult terms, idioms, phrasal verbs, cultural expressions, codes, and the use of punctuation marks, i.e., all that a text could reveal. Second, the extralinguistic elements of the ST are examined: the author and their ideology, the purpose of writing the text, the context, the setting, the audience, and the target culture. Third comes the phase that we would like to call "pre-TT"; meaning the study of the TT (Target Text) before its production. Here, the translator carefully enquires about the purpose of the translation (why this text is being translated), the target audience and culture, the day this translation will be published, and the restrictions (which ideologies the commissioner and the final user impose).

Such an analysis is of great importance since translation is, as Palma Zlateva (2010) defines it, "a process of extracting the meaning of a source text (ST), and rendering it through the language units and structures of a target language (TL), preserving (ideally) its message/communicative goal".

The novice translator concept is emphasized, assuming that 'professional translators' have all been through this stage at the beginning of their career. They are indeed "more willing to make major changes to the text structure (transforming sentences, justified omissions), and their decisions are most influenced by pragmatic and functional aspects" (Obdržálková, 2016, p. 324). These three phases are of major importance before starting to translate. With that in mind, a novice translator (translation student/trainee) performs their task eloquently and articulately.

In a technologized workplace, this suggested three-phase process might take much longer or less when aided by computer tools. Professional translators rely much less on external resources and spend more time resorting to their internal resources (thinking), and that is why they spend more time typing on their keyboard rather than using devices, which helps them produce their target texts faster. Novice translators and students, oppositely, tend to rely more on external resources, which makes their translation process longer (Maureen & Gary, 2014, p. 6).

Paradoxically, the debate continues regarding the use of dictionaries and whether one can be called a translator even when one still uses dictionaries. From the author's point of view, no consensus states that the use of print or digital dictionaries marks the limitations of translators or their capacity. Yet, one is advised not to rely completely on them as they may become a source of distraction, which may affect the time frame and quality. Especially since translation services are best known for rapidity and high quality; a condition pair that has become a prerequisite in the market. Indeed, the use of dictionaries as external resources can have an extended impact on the student's performance, as cited in Mariona (2003, p. 35): Honig (1988; 1999), and Kusmaul (1995) found that students (the subjects of their study) could often infer the correct meaning of a word from the context, but when they could not find the same meaning in their dictionaries, they were hesitant and could not adhere to it.

After the invention of Machine Translation (MT), translation practice has become more challenging. With the assistance of AI, MT has found its way into the translation industry, and translators have found themselves reliant -or even obliged to rely- on computers; especially when working on long documents or massive translation/localization projects.

Until the present day, MT can produce either raw target texts (TTs) which need human revision, or raw translations for specialists without further editing. This makes MT a mere translation aid in human translation (as Guerra 2000: 22 states) because even if the rationale behind it appears to be the simplification of the translation process, human intervention cannot be substituted by any machine (Han, 2020, p. 7).

1. Objectives of the Study

Most language learners are tempted to use machine translation engines to understand foreign texts or translate them, but if translation students themselves resort to machine translation engines, how will they learn how to translate? Translation students are supposed to be taught how to translate, not how to proofread automatic translations. They are not merely proofreaders or post-editors.

The process of human translation demands cognitive processing of the text at hand. In this process, interruption is a key element. To clarify, an interruption happens when the translator puts the source text aside and resorts to external devices such as e-dictionaries, term banks, and machine translation engines to search for the correct correspondent or equivalent. The search may take longer than expected, which will likely influence the flow of the translator's ideas and consequently influence the quality of the output. Moreover, when the teacher evaluates their students' translations, the evaluation will not consider this interruption, but will examine the final output only. This is why it is significant to introduce the concept of "non-human interruption" into translation studies to help both teachers and students identify areas of difficulty and improvement.

The present study aims to serve as a notice, as the title indicates, for translation teachers and translator trainers, and calls for collaboration with cognitive sciences specialists and education psychologists to achieve a concrete advancement and level up the students' performance and production of target texts.

For pedagogical purposes, it attempts to formulate a hypothesis derived from the analyzed findings. It argues that the use of CAT tools could be hindering the teacher from knowing the competencies of their students and the students from exploiting all their cognitive baggage and creativity.

2. Significance of the Study

Applied Translation Studies is a field that calls for action, in contrast to pure translation studies. Therefore, this review paper is perceived as a call to action and aims to:

- Bring forward the impact of using CAT tools while translating;
- Draw attention to the necessity of putting CAT tools under scrutiny;
- Enable teachers and translation students to reflect on their use of external devices while translating;
- Invite professional translators to share their experiences and help aspirant translators make the right decision concerning the use of translation technologies.

3. Methodology

As the vision of the present paper could stagnate until relevant tools and resources for its investigation are available at the authors' institutions (the paper's limitations), such as think-aloud protocols, keystroke logging software, a secondary analysis of previous international studies has been conducted. It is a review of the most relevant research studies to the research argument.

The review adopts a descriptive approach, critically analyzing several key concepts: cognitive processes, decision-making, internal vs. external devices, effects of CAT tools, and output quality.

The analysis is preceded by a theoretical review of prominent theories on the translator's cognitive efforts and thinking processes.

The data collected are of major importance and such an interesting resource to clarify the study's objectives and emphasize its significance. First, the effects of CAT tools, as stated in recent studies, are presented. Second, the findings of surveys questioning the attitudes of translation practitioners towards the use of CAT tools are descriptively analyzed. Third, important questions are inferred. Fourth, recommendations are sorted out deductively.

4. Theoretical Underpinning

Studies on cognitive efforts, thinking processes, and effects of interruptions on the decision-making process are intriguing; in a way that their findings strongly invite researchers in Translation Studies to focus more on these perhaps overlooked aspects of the translation process (Brazzolotto et al., 2021; Cyril & George, 2017; Wang, 2019; Junzheng, 2022; Hooijdonk et al., 2022). The goal is to tailor the translator training to such factors or to help reveal more clearly what happens in the translator's mind when translating, pre-editing, or post-editing.

The research argues that students may take refuge in computer aids to a) mitigate cognitive efforts, b) check for accuracy of vocabulary, c) choose from a plethora of word choices more 'impressive' ones, or d) follow tradition, i.e., they are used to using CAT tools and seeing translators using them as well. Studies suggest that interruptions (in this case, reaching out to CAT tools) are likely to cause considerable disruption, even if for a few seconds, and may harm both behavior and performance (as stated in Nicholas & Cohen, 2016). In this regard, Jiri Levy 1967's concept could be employed: 'translation as a decision process'. Assuming that the translator is involved in a process in which they must decide either simultaneously or eventually, the use of computer aids and language software is practically considered as interruptions that influence the flow of their thinking, and consequently affect the quality of translation. Regarding novice translators (translation students or translation trainees), such an interruption will incur a cost. Scientific evidence shows that interruptions increase the time and information needed to make a decision (Ibid). Additionally, as translation is already an act of running a deficit (Mejri, 2005) and a "high-focus process of intense cognitive construction via a blizzard of decision-making" (Hendzel, 2012), the output's accuracy and functionality may be put at stake.

5. Effects of CAT Tools

Concerning the effects of CAT tools on the translation process, studies indicate many changes, as Maureen & Gary (2014, p. 2) put it: When translators implement these external devices, they extend their memory by externalizing it, which effectively decreases the load on work and their long-term memory (Pym, 2011). However, these translators would make more cognitive efforts to perform their tasks if found before complicated computer tools (Hansen-Schirra, 2012). They will no longer work on texts as entire units but on segments and sentences inserted into the translation memory (TM) interface (Hansen-Schirra, 2012; Jiménez-Crespo, 2009).

The flow of the translation process is further interrupted and slackened when typing mistakes occur or computer responsiveness is late (Szameitat et al., 2009; Munoz, 2009; Hendzel, 2012). An analysis, supporting this statement, studied the behaviors of three expert translators and found that the most demanding part of the translation process was not the drafting of the text but the constant monitoring and editing of the target text output (Dragsted, Hansen & Sorensen 2009, cited by Martin, 2014).

CAT tools can be used as a teaching tool to foster a range of competencies, namely technical (how translation students should use search engines and effectively master the use of electronic dictionaries), methodological (how they should manage their time when translating starting from the first reading), cognitive (as to the proper way to think and process the information the source text presents), and strategic (as to the use of different tools: when to use term bases, e-dictionaries, and when to content with the translation memory; or else how to deploy them evenhandedly).

Although the integration of such a tool may inevitably interrupt the flow of the translation process, it will probably help students know their capacities and limitations. A further analysis of their outputs (their translations) is needed to infer the causes of successful translation or its non-fulfillment.

6. Attitudes of Professional Translators and Translation Students Toward CAT Tools

Translators are certainly to develop certain attitudes towards CAT tools if we assume that they are using them daily to execute their translations. It is extremely important, at this first stage, to identify the nature of these attitudes for the sake of constructing a solid background for the present paper. The following paragraphs depict translators' attitudes towards the use of CAT tools in different countries; the order of which is not done on purpose. Whenever we came across a study in a given country, we would read it and type in its findings. We also tried to make sure the studies are recent because we believe many changes have happened in the last decade; thus, studies conducted from 2010 and so forth are still relevant.

In Algeria, most sworn translators see both CAT tools and MT as secondary tools and barely resort to e-dictionaries when highly specialized paper dictionaries are not purchased, according to Tassadit (2017). The same study interestingly shows that a great number of sworn translators (90% of the respondents) confuse CAT tools with MT, and others are completely unaware of their existence in the market. This may be because of their long experiences in the field that they are more familiar with pen and paper; or else, as Maureen (2014) states, because humans are by nature resistant to changing habits and procedures that do the job; and that is the case of older translators. To them, computers are merely typing machines.

In Croatia, a great number of professional translators use CAT tools (Vukalovic, 2021). More than half of them report that their clients require them to use a CAT tool. As for the quality of translation, most of the participants in the study report that their translation efficiency increases when using CAT tools (on average, by 40%), and only 4.9% of them disagree (Vukalovic, 2021, p. 27). Significantly, some of those who declare not using CAT tools report not having heard of any, while others say they have already heard of SDL Trados only. Among the reasons for not resorting to them are: the lack of time to learn how to use CAT tools, unsuitable for the field in which they translate, and at last price; though it appears to be an afterthought to them (Vukalovic, 2021, p. 31).

In Yemen, professional translators and translation students are enthusiastic about implementing CAT tools (Mohammed et al., 2020). Most of them agree on the benefits of these tools in terms of productivity and facility. On the one hand, the participants in the study believe that computer skills would not change their attitude towards CAT tools; on the other hand, they assert that these same tools have a great effect on their work and employment. Translators who use CAT tools are more likely to get a job in the market and have higher profiles. Interestingly, more than half of the participants say that these tools raise their confidence, while the rest of them are neutral. The study concludes that the profiles of Yemeni translators (age, experience, computer skills) do not affect their attitudes toward CAT tools.

In Egypt, professional experienced translators and translation students have an overall positive attitude toward CAT tools in terms of compatibility, speed, and user-friendliness (Mahfouz, 2018). However, regarding other aspects, such as affordability, time management, text type, and productivity, the 114 respondents express different opinions. Specialized translators (of legal and financial texts) make use of CAT tools more efficiently than translators of general texts. Yet, both believe these tools are sometimes hindering their creativity and making their target texts incoherent segments. Precisely, this segmentation is viewed either as a feature of time-saving, which enables them to organize translated parts of the text, or as a source of incoherence. Moreover, students believe the creation of files and their updating is time-consuming, while professionals show favorable attitudes toward that. Overall, the findings show that CAT tools are unaffordable.

In Palestine (Abu Dayyeh, 2020), a great number of translators and translation trainees (among 308 subjects) claim to use external tools, namely electronic dictionaries, translation software, and Internet search engines. Only a few reported not resorting to any CAT tool; and the author accounts this for lack of awareness, complexity of the tools, and insufficiency in the development of such tools in the language pair English-Arabic. They resort to printed resources such as dictionaries. The study concludes

that Palestinian translators and translation trainees have a favorable attitude toward CAT tools but tend to use them with precaution; as they believe they are not much reliable.

In Lybia (Bashir, 2019), translation trainees tend to refrain from the use of TMs (translation memories) and do not show any interest in learning about translation technologies, i.e., CAT tools. The study shows that these trainees encounter difficulties when using the translation memory software "SDL Trados 2017" and struggle with text formats as they are more familiar with the MS interface; mainly MS Word. Concerning the integration of translation memories and such tools in the classroom, the researcher suggests more training courses to teach students how to use them.

In Saudi Arabia, (Zemni et al., 2021), translation students at Princess Nourah bint Abdulrahman University have, overall, a positive attitude toward the use of translation software, and 97,7% (among 88 respondents) confirm their utility. The findings of this study show that most translation students utilize contextual e-dictionaries, mainly Reverso Context and Almaany, to translate all types of texts, but only a few resort to them to translate certain text types; namely literary, technical, economic, and political. Interestingly, the majority of subjects use e-dictionary (Reverso Context) to solve meaning-related problems to help generate contextual previous translations, choose terms, and find target equivalents of source language idioms; whereas 9.1% of them use it for proofreading. The study concludes that the students tend to use CAT tools, especially contextual electronic dictionaries, because of the plethora of words and term choices their databases provide. Furthermore, the reason why Reverso Context is the most e-dictionary used is its speed and user-friendliness.

In Turkey, (Çetiner, 2018), translation students develop a positive attitude toward the use of CAT tools, especially after having been trained to use them effectively. The study shows that students may refrain from using such tools just because they are not that familiar with them, and not because they do not want to be computer-aided. The research accounts for such a positive attitude toward the advantage of CAT tools in terms of quality assurance and text alignment.

Many other studies have been conducted in other translation departments in different countries, such as Cape Verde (Semedo Tavares, 2011), Iran (Abdi, 2020), and the United Kingdom (Zafra, 2006); the findings of which approximately boiled down to the same conclusions of the previously mentioned studies as to the fact that CAT tools are welcomed into the translation industry but the process of translation can never be solely dependent of them and is indispensably in need for human production, intervention, supervision, and revision.

7. Inferences

CAT tools will remain a helpful tool and should be regarded as such. Despite their pros and cons, the translator ought to manage how and when to use them and decide when they are an option and when they are a necessity. The previous studies do not, of course, intend to invite translators to use CAT tools or restrain their use, but to help reveal their status in the translation industry and their role in the process of translation.

Being aware of the difference between needs (the translator's cognitive baggage, mastery of language, and prior specialized knowledge) and supplements (computer aids) will enhance the student's performance and will probably position their attitudes toward the use of external devices.

That being said, more case studies should be undertaken in which translation students are thoroughly engaged, aiming to identify their weaknesses and strengths related to their use of CAT tools. For instance, if students tend to rely 70% on computers, questions about their linguistic competence and such must be raised:

- Does this student master the language? if not, what could be added to the translation curriculum to assist them? Modules such as language reinforcement are already an integral part of every curriculum, but the content of the syllabi may need revision or refinement.

- Does this student master the language, but use the computer to make sure they are selecting the correct target words? If yes, we could work on their confidence when it comes to decision-making.

A very simple example of such a statement is of a straight A+ student's attitude: it is widely witnessed that most smart students are likely to fail at piece-of-cake exams because they try their best to analyze and reflect deeper in an attempt to sort out something special and score the highest grades. In contrast, average students are more likely to pass such exams because they simply answer the direct questions. Similarly, when confronted with simple general texts, translation students still use external devices to check their word choices, though the vocabulary of the source text is very basic. This is exactly where teachers can offer help, working with their students on prioritizing internal devices (trusting their knowledge).

- Does this student resort to the computer because they feel the need to read more parallel texts to further understand the source text? if so, then it is a good thing, and we could play on this very point to boost the students' tendency toward reading, as we believe reading is one of the factors that contribute to the translator's education.

Commented translation or translation with commentary is highly recommended as a module or at least an exercise to be integrated in the classroom. Commented translation helps the student reflect on the way they approach texts, and helps, in turn, the teacher to know how they should help their students. Hence, future studies should pay more attention to translation students and translation trainees, enabling them to reflect on their thinking processes, decision-making, and linguistic competencies.

It is advisable to take advantage of renowned translators' experiences, as well as the latest findings of parallel disciplines (mainly cognitive sciences, cognitive psychology, think-aloud protocols, human-machine interaction, and ergonomics). Such consideration will likely take translation pedagogy to the next level by providing appropriate education for these aspirant translators. Moreover, teaching students how to manage cognitive load, deal with time constraints, and employ technology should be a priority in the digital era.

Conclusion

The present paper concludes that the process of translation has gone far beyond pen and paper (or ink), and is often interrupted by external devices that may more or less affect the quality of the output. The authors chose to name such an interruption "non-human intervention" to imply that these devices are used either willingly or unwillingly, and are not part of the translator's human processing. Non-human intervention in the process of translation occurs when the whole translation task is done interactively between the human translator and technology. This interaction still needs careful analysis and should not be regarded as indispensable, because students are taking it for granted, believing that 'good' translations cannot be achieved unless they use computer aids.

The questions raised above could be investigated further to help students improve task performance. Instead of exploiting their "language complex", it is preferable to use it to foster their linguistic competency and challenge their learning minds.

One unique insight that could be derived from the present paper is that translation remains a purely human act. In other words, thinking, processing, understanding, cognitive efforts, and human memory, being the translator's internal devices, cannot be considered a source of "interruption". However, computer software (CAT tools) as external devices, even if helpful in different ways as it has been clarified, remain a source of interruption, and sometimes distraction; because it requires full attention by the translator; which pushes to stop reading the text, even if in the middle of its analysis, to look for such and such terms, or check the spelling of the first word that came to their mind as a target correspondent or equivalent of a given source word.

Translation Studies, as a fully-fledged discipline, should comprehend every factor that has to do with translation and is likely to affect it as a process, product, or function. In this regard, computer aids should be put under scrutiny; the purpose for which this review paper has been written.

References

- Abdi, H. (2020). Translation and Technology: Investigating the Employment of Computer-aided Translation (CAT) Tools among Iranian Freelance Translators. *Theory and Practice in Language Studies* 10(7), 811-818.
- Abu dayyeh, I. (2020). Use and Evaluation of Computer-Aided Translation Tools (CAT) on the Word Level from the Perspective of Palestinian Translators and Translation Trainees. *Arab World English Journal for Translation & Literary Studies* 4(1), 111-130.
- Bahia, Zamni, BEDJAUI, Wafa, *et al.* (2021). Recherche terminologique et traduction automatique : pour une utilisation optimale du logiciel Reverso Context. *Linguagem e Technologia* 1(1).
- Bashir, M. (2019). Technical Problems Encountered by Trainee Translators in Using CAT Tools The case of (SDL Trados Studio 2017). *A Journal of the Faculty of Languages* (19), 121-139.
- Brazzolotto, P.; Duran, G., & michael, G. (2021). How do we handle interruptions? Investigating the processes underlying the resumption of interrupted tasks. *Psychologie Française*. Consulted on 15 January 2022 <<https://www.sciencedirect.com/science/article/abs/pii/S0033298421000340#!>>
- Çetiner, C. (2018). Analyzing the attitudes of translation students towards cat (computer-aided translation) tools. *Journal of Language and Linguistics Studies* 14(1), 153-161.
- Cyril, C. & George, M. (2017). Failures Due to Interruptions or Distractions: A Review and a New Framework. *The American Journal of Psychology* 130(2), 163–181.
- Granell Zafra, J. (2006). The Adoption of Computer-Aided Translations Tools by Freelance Translators in the UK (Doctoral Thesis). Loughborough University
- Guerra, A. F. (2000). Machine Translation: capabilities and limitations. In F. Fernandez, eds. *Studies in English Language and Linguistics: Monographs* 3.
- Han, B. (2020). Translation, from Pen-and-Paper to Computer-Assisted Tools (CAT Tools) and Machine Translation (MT). *Proceedings* 63(56), 1-7.
- Hendzel, K. (Nov 29, 2012). Confirmation Bias: Why Collaboration is the Path to Translators' Best Work. KEVIN HENDZEL Award-Winning Translator, Linguist, Author, National Media Consultant and Translation Industry Expert. Consulted on 15 January 2022, <<https://kevinhendzel.com/confirmation-bias-why-collaboration-is-the-path-to-translators-best-work/>>
- Hooijdonk, M. V. *et al.* (2022). Examining the assessment of creativity with generalizability theory: An analysis of creative problem solving assessment tasks. *Thinking Skills and Creativity* 43(2022), 1-12.
- Junzheng, L. (2022). Critical thinking of a translator: Expanding the practice of using and editing machine translation. *Thinking Skills and Creativity* 43(March 2022).
- Mahfouz, I. (2018). Attitudes to CAT Tools: Application on Egyptian Translation Students and Professionals. *Arab World English Journal (AWEJ) Special Issue on CALL* (4).
- Mariona, S-C. (2003). Translation as a Process and Translation as a Product in Teaching Translation. *Sintagma* 15, 23-42.
- Munoz Martin, R. (2014): A Blurred Snapshot of Advances in Translation Process Research. *MonTI Special Issue – Minding Translation*. 49-84.
- Maureen, E-D & Gary, M. (2014). Constraints on Creativity: The case of CAT tools. In B. Wolfram *et al.*, eds. *Man vs. Machine?.* (TRANSLATA II Berlin, 4-6 August 2014). Vol. 1. Berlin: University of Innsbruck, 199-207.
- Mejri, S. (2005). Traduire, c'est gérer un déficit. *Meta* 50(1), 120-128.
- Maureen, E-D. (2014). Translators in the Loop: Understanding How they Work with CAT Tools. In *Workshop on Humans and Computer-assisted Translation*, page 28, Gothenburg, Sweden, 26 April 2014. c 2014 Association for Computational Linguistics.

- Mohammed, Othman, Salah, Samad, Shaikh, Suhel, and Mahdi, Hassan, Salah (2020): The Attitudes of Professional Translators and Translation Students towards Computer-Assisted Translation Tools in Yemen. *Journal of Language and Linguistic Studies* 16(2), 1084-1095.
- Nicholas, C. & Cohen, A. (2016). The effect of interruption on the decision-making process. *Judgment and Decision Making* 11(6), 611-626.
- Obdržálková, V. (2016). Translation as a decision-making process: an application of the model proposed by Jiri Levy to translation into a non-mother tongue, 306-327. Consulted on 15 January 2022 <<file:///E:/Journals%20Articles/Research%20Gate/Translation%20as%20a%20decision%20making%20process.pdf>>
- Semedo Tavares, A. (2011). *Le panorama de la traduction assistée par ordinateur : un bref aperçu à Praia*. Master's thesis, published. Praia : Université Cap-vert.
- Tassadit, O. (2017). Wāq' Āljarjama Bi Mosaadat Al-Hassoub Fi Āljazair [The Current State of Computer Aided Translation in Algeria]. *Applied Linguistics* 2, 176-198.
- Vukalovic, N. (2021). *An Analysis of Computer-Assisted Translation (CAT) Tools*. Master's thesis. Mirjana: University Rijeka.
- Wang, F. (2019). Analysis of Translation Bias in the Translation Process Based on Cognitive Psychology. *Revista Argentina de Clinica Psicologica* 24(2), 1413-1424.
- Zlatevza, P. (2000). Text Analysis as a Tool in Translation Training: Why, How and to What Extent? A Response to Anna Trosborg. *Current Issues in Language and Society* 7(3), 261-266.