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Machine Translation Impact on Translation Education and Professional Practice in Ukraine

El impacto de la traducción automática en la educación y la práctica profesional de la traducción en Ucrania

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ABSTRACT: Machine translation technology has significantly impacted the translation industry and education. This study examines attitudes and practices related to MT and post-editing (MTPE) within Ukraine's translation industry and universities. Over the past three years, post-editing tasks in the Ukrainian industry have increased by 20 %, and it is anticipated that they will account for up to 50 % of translation tasks in the near future. In academia, 58,3 % of teachers report offering MT courses, but only 6,3 % assess MTPE skills during exams. Regarding training in MTPE, 26 % of companies provide training to all linguists, and 21 % to regular employees. In academia, barriers such as management constraints and a lack of specialists hinder the implementation of MTPE courses. Aligning academic curricula with industry practices is essential for preparing students for the evolving translation landscape, enhancing their employability, and improving translation quality.

KEYWORDS: machine translation; post-editing machine translation; translation industry; translation competence; translation technology.

RESUMEN: La tecnología de traducción automática ha impactado significativamente la industria de la traducción y la educación. Este estudio examina las actitudes y las prácticas

relacionadas con la traducción automática (TA) y la posesición (PETA) en la industria de la traducción y las universidades de Ucrania. En los últimos tres años, las tareas de posesición en la industria ucraniana han aumentado en un 20 %, y se anticipa que representarán hasta el 50 % de las tareas de traducción en un futuro próximo. En el ámbito académico, el 58,3 % de los profesores informa que ofrece cursos de TA, pero solo el 6,3 % evalúa las habilidades de PETA durante los exámenes. En cuanto a la formación en PETA, el 26 % de las empresas proporciona formación a todos los lingüistas y el 21 % a los empleados regulares. En el ámbito académico, las barreras como las restricciones de gestión y la falta de especialistas dificultan la implementación de cursos de PETA. Alinear los planes de estudio académicos con las prácticas de la industria es esencial a la hora de preparar a los estudiantes para el cambiante panorama de la traducción, mejorar su empleabilidad y aumentar la calidad de la traducción.

PALABRAS CLAVE: traducción automática; posesición de traducción automática; industria de la traducción; competencia en traducción; tecnología de la traducción.

1. INTRODUCTION

The advent of machine translation (MT) technology has significantly influenced the translation industry and educational practices. While numerous investigations have explored business perspectives on MT (Nimdzi 2023; ELIS Survey 2024), the viewpoints of translation instructors remain underexplored. Several studies have examined attitudes towards MT among different cohorts, including students and instructors (González Pastor 2020; Rico and González Pastor 2022; Svoboda et al. 2022). The effects of MT on students' acquisition of translation competence were explored by examining the viewpoints and perceptions of both translation instructors and students (Liu et al. 2022). From a methodological standpoint, translation programs may align with market demands by integrating MT across diverse scenarios: within dedicated courses (Kenny and Doherty 2014) or embedding MT throughout the entire translation curriculum (González Pastor 2021). Isolated courses on translation technologies are insufficient for fully preparing students. The dominant perspective in Translation Studies continues to regard technology as a supplementary tool intended to enhance translator efficiency (Díaz Fouces 2019). However, some scholars argue that a paradigm shift is necessary to fully integrate the numerous advancements in translation technology. This shift would reframe the teaching of technology from being merely optional to being an essential component for simulating and refining the translation process (Rozmyslowicz 2014). Despite these insights, no research has comprehensively surveyed all stakeholders (industry, trainers, and students) within one country simultaneously to determine their attitudes towards MT. This gap indicates the need for a holistic study to capture the perspectives of all relevant parties and better inform the integration of MT in translation education and practice.

1.1. *Data and Objectives*

Our research aimed to capture the opinions and practices related to machine translation and post-editing within the Ukrainian translation and localization industry and

universities. To meet these objectives, we employed the survey with a set of close-ended and open-ended questions tailored to each group of participants.

The first cohort comprised 27 industry stakeholders, categorized into language service providers' representatives. These participants play a crucial role in Ukrainian language services market, offering translation, localization, and related services. Their perspectives provide valuable insights into the practical demands, operational challenges, and emerging trends within the industry. This group's input is essential for understanding the real-world applications and requirements of language service professionals.

The second cohort consisted of academic representatives from 16 universities, comprising 48 translators' trainers and 144 students. The 48 educators included in this study are involved in teaching translation studies, linguistics, and related courses. The 144 students participating in this research are enrolled in relevant academic programs.

1.2. *Methodology*

In our research, we used a mixed-methods approach to gather opinions and practices related to machine translation and post-editing in the Ukrainian industry and universities. When addressing the academy (teachers and students), we asked close-ended (CE) and open-ended (OE) questions, some of which are discussed in the present study:

Questions to teachers (QT):

QT1 Are there any courses in your educational program that teach students to use machine translation? (CE), (OE).

QT2 If you answered yes to the previous question, do you assess post-editing machine translation skills during final evaluations? (CE).

QT3 Briefly describe the problems that prevent you from implementing a course on post-editing machine translation, or the problems you faced when implementing this course. If you do not see the need for such a course, please also indicate this. (OE).

Questions to students (QS):

QS1 Are there courses in your educational program where you are taught to use machine translation? (CE), (OE).

QS2 If you answered «yes» to the previous question, do your post-editing machine translation skills get assessed during final evaluations (tests, exams, etc.)? (CE), (OE).

Questions to industry (QI):

QI1. What is the ratio of translation orders to post-editing orders in your company? (OE).

QI2. Has the ratio of translation tasks to post-editing tasks in your company changed over the last three years, and if so, to what extent? (OE).

QI3. Do you train your contractors/vendors in post-editing skills? (CE) If so, in what format does the training take place? (OE).

Using close-ended questions, we obtained qualitative data indicating some general truths about the role and place of machine translation in the Ukrainian industry and

academia. The reactions to open-ended questions were analyzed within the framework of Grounded Theory. We began by posing a broad question within the realm of machine translation and proceeded to collect pertinent data for each cohort on the subject. Each piece of information was examined, compared, and contrasted with responses from other cohorts. The continuous comparison process also facilitated the identification of both commonalities and differences in the attitudes of different cohorts (students and their teachers) within the same sphere toward the same concepts or practices. Eventually, this may lead to the inductive development of a theory that can explain the observations. The combined insights from these questionnaires provide a comprehensive understanding of the current state of MT and post-editing skills in both educational and professional contexts. They reveal the extent of MT integration and acceptance in academic and industry settings, as well as the effectiveness and gaps in post-editing machine translation training.

The survey results revealed several key topics for discussion regarding the training and implementation of machine translation post-editing (MTPE) in both academic and industry settings. First, the prevalence and integration of MTPE courses in educational programs is a significant area of interest. The survey provided data to examine how extensively MTPE courses are included in academic curricula, highlighting differences between teachers' and students' perceptions of course availability. Related to this is the assessment of MTPE skills, where the survey investigated whether these skills are evaluated during final examinations and identified discrepancies between the reports of teachers and students. Another important topic is the structure and details of MTPE courses. This included examining the specific names, credit hours, and status (mandatory or optional) of these courses, and comparing course structures across different institutions. The integration of post-editing activities within traditional translation practice classes also emerged as a key discussion point. The survey looked at how frequently and by what methods post-editing was incorporated into these classes, alongside students' independent use of machine translation for practice assignments. The attitudes of both teachers and students toward the unauthorized use of machine translation for homework and class assignments provide another rich area for analysis. This includes policies and perceptions regarding the use of machine translation during classroom practice and final assessments. Furthermore, the barriers to implementing MTPE courses are critically examined from the perspectives of teachers, identifying reported obstacles and potential solutions.

In the industry context, the survey explores the extent and methods of post-editing training provided by translation companies. Industry satisfaction with the post-editing skills of contractors and vendors was also discussed, focusing on perceived deficiencies and training needs. The survey further investigated industry practices for testing post-editing skills, including the stages at which these skills were evaluated and the criteria used. Changes in the ratio of traditional translation tasks to post-editing tasks over the past three years provide insights into industry trends and their implications for future training requirements. Finally, the effectiveness and formats of post-editing training programs in the industry are analyzed, identifying best practices and making

recommendations for training linguists in MTPE. These topics collectively offer a comprehensive framework for understanding the current state of MTPE training in academic and industry settings, highlighting gaps, challenges, and opportunities in preparing linguists for the evolving demands of the translation industry.

Among the topics mentioned, we will further comment on two specific areas: The integration and acceptance of machine translation in both academic and industry settings, and the training of machine translation post-editing in these settings.

2. MACHINE TRANSLATION ROLE AND PLACE IN UKRAINIAN INDUSTRY AND ACADEMY

2.1. *MT Integration and Acceptance in Academic and Industry Settings*

According to survey data (QI1, QI2), the current ratio of traditional human translation orders to post-editing machine translation orders reported by Ukrainian translation and localization companies and freelancers is approximately 70:30. This indicates that up to 30 % of current translation and localization work involves post-editing tasks. Over the past three years, they have observed a notable shift toward post-editing machine translation (PEMT). Initially, PEMT tasks constituted a minor fraction of their workflow, but their prevalence has steadily increased. Specifically, there has been an increase in PEMT orders by approximately 20 % during this period. Based on current trends and client demands, the participants anticipate that PEMT will encompass up to 50 % of their translation tasks within the next two years.

The Academy survey results (QT1, QT2) revealed that a significant proportion of teachers (58,3 %), claimed that they have incorporated courses that teach students to use machine translation tools. However, when delving deeper into how these institutions assess the skills acquired through such courses, particularly in the context of machine translation post-editing (MTPE), the data show a contrasting trend. Only a minimal percentage, 6,3 %, of institutions that offer MT courses evaluate students' MTPE skills during examinations.

The responses revealed a notable discrepancy between the perceptions of teachers and students regarding the integration of PEMT into the classes. According to the data (QT4), 66,7 % of teachers reported that they do incorporate post-editing activities within their «Translation Practice» classes. In stark contrast, only 4,7 % of students indicated that they practice post-editing in their «Translation Practice» classes (QS1). This substantial disparity in responses between teachers and students raises questions about the visibility and emphasis on these activities within the classroom setting. It may indicate that while teachers believe they are including PEMT exercises, these activities are either not being explicitly communicated or emphasized to students, or students may not be recognizing these exercises as distinct post-editing practice. This discrepancy highlights a potential gap in the curriculum. There is a hypothesis that teachers may not be sure how to effectively teach post-editing. When teachers claim they «teach» PEMT, they may be referring to editing raw machine translation output to the level of human translation

without a clear understanding of the specific requirements for this service. They might view the raw machine translation output as a «bad translation» that needs amending. These amendments are made inconsistently by students, as there is no clear roadmap provided for the task. Consequently, efforts to actually post-edit the text are not systematically assessed.

2.2. Training MTPE in Academic and Industry Settings

The survey (QI3) revealed that 26 % of LSP representatives provide post-editing training to all their linguists, while 21 % offer this training only to regular employees. Notably, 53 % of companies reported that they do not provide any PEMT training at all. Among those that do offer training, several methods were identified. Some companies have developed their own in-house training courses specifically focused on PEMT. Additionally, online group sessions are often led by experienced specialists within the organization to train linguists. Another common practice is providing style guides on machine translation from clients with which the companies collaborate, and these guides are used to explain the nuances of PEMT. Furthermore, some companies conduct closed training sessions that focus on analyzing specific cases and offering targeted recommendations, providing a more hands-on approach to learning PEMT.

When answering the question QT7 regarding the problems preventing the implementation of MTPE courses and the reasons for the perceived lack of necessity for such courses teachers mentioned the following. One major barrier is management and curriculum constraints, which can limit the flexibility needed to introduce new courses. Additionally, there is a notable shortage of qualified specialists capable of teaching MTPE, which poses a significant hurdle for many institutions. While some respondents indicated that an MTPE course is of interest, they noted that it has not yet been implemented due to various logistical and administrative challenges. Other trainers reported plans to start the course but have not yet commenced the process.

As seen, educators frequently cite a notable shortage of qualified specialists as the main obstacle preventing the implementation of MTPE courses. This purported lack of specialists is presented as a significant hurdle for many academic institutions. However, the reality within the industry contradicts this claim. The industry is actively training its linguists in post-editing through various structured programs, which implies that there are indeed qualified specialists capable of teaching MTPE.

This discrepancy highlights a critical disconnect between the perceptions of academic institutions and the actual practices within the industry. While teachers assert that the absence of specialists is the primary reason for not introducing MTPE courses, the successful training initiatives in the industry suggest otherwise. The real barriers to implementing MTPE courses in academic settings are more likely related to management and curriculum constraints, logistical challenges, and administrative hurdles rather than a genuine lack of qualified specialists. This misalignment suggests a need for academic institutions to re-evaluate their approach and recognize that the expertise necessary for effective MTPE training is already available and being utilized within the industry.

3. CONCLUSIONS

Our research revealed various approaches to assess translation and post-editing skills within the industry, whereas academia has yet to establish robust assessment methodologies. This absence of a defined approach in academia can be attributed to the emerging nature of post-editing services and a lack of a clear vision for this relatively new service. The industry, on the other hand, has already developed diverse methods to adapt to evolving technological advancements. The findings from this study underscore the importance of harmonizing perspectives and practices in MT and post-editing between industry and academia. As the landscape of translation continues to evolve, it is imperative to align educational curricula with industry demands to ensure the preparation of skilled professionals who can navigate this dynamic field effectively. In conclusion, bridging the gap between industry and academic practices in MT and post-editing is essential for fostering a well-prepared workforce. By integrating more post-editing training into translation education and developing clear assessment methodologies, educational institutions can better equip future translators for the realities of the modern translation industry. This alignment will not only enhance the employability of graduates but also contribute to the overall efficiency and quality of translation services in Ukraine.

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