Short abstract

The world of translation has experienced a tremendous change with the emergence of neural machine translation (NMT) systems, which have reshaped multiple professional realities in different fields. Their arrival has developed new ways of conceiving translation practice and has led to the birth of post-editing (PE). Our project is framed within the multilingual context and the need to disseminate science and new research advances, especially in English. The GAMETRAPP project is funded by the Spanish Ministry for Science and Innovation (TED2021-129789B-I00) and its main goal is to bring the NMT + full PE of abstracts closer to researchers of multiple fields using a gamified environment. Gamification is an increasingly popular learning technique that helps and motives the student to learn by means of playful activities. In this way, this article is structured in 5 sections. Section 1 introduces the topic of NMT + full PE and gamification, followed by section 2, in which basis of the project is explained. Section 3 describes the protocolised methodology we are following for the classification of abstracts. Section 4 briefly explains the gamified environment we are setting. This will lead us to section 5, in which the conclusions of our research are drawn.

Full abstract

The world of translation has experienced a tremendous change with the emergence of machine translation (MT) systems, and specially, neural machine translation (NMT) systems, which have reshaped multiple professional realities in different fields. Their arrival has developed new ways of conceiving translation practice and has led to the birth of post-editing (PE) to reach the appropriate quality standards for publishing a MT output (Vieira, 2019). Therefore, post-editing is now a part of the translator's workflow (Zaretskaya et al., 2016), as it can sometimes save time and improve quality (Herbig et al., 2019). In fact, the use of MT + PE is starting to be tested in other professional scenarios with promising findings, as some studies have explored the idea of post-editing into a non-native language by non-professional translators (Yamada, 2019) and particularly, by scholars (Parra Escartín et al., 2017; O'Brien et al., 2018; Parra Escartín and Goulet, 2020). Due to the multilingual context and the need for scientific dissemination, scholars are forced to publish their results in English, as is the *lingua franca* in academic writing (O'Brien et al. 2018), within multiple research settings (journals, books, congresses, etc.). In this way, our cutting-edge project was born out of the idea that the use of MT+ PE might improve academic output in scholars.

The GAMETRAPP project is funded by the Spanish Ministry for Science and Innovation (TED2021-129789B-I00) and its main goal is to bring the NMT + full PE of abstracts closer to researchers of multiple fields using a gamified environment. In other words, the contribution of our research is to create a responsive application (for web, mobiles, and tablets) that helps non-professional translations with a high level of English to be able to post-edit scientific abstracts written in European Spanish into American English trough a gamified system. These language pairs are used because researchers from 7 Spanish universities and 2 American universities are involved in this project.

The idea of using gamification lies in its widely use, as it is an increasingly popular learning technique that helps and motivates the student to learn by means of playful activities (video games, escape rooms, treasure hunts, among others). This methodology is growingly use in non-game context, i.e., in professional settings, and it is proved to encourage students to learn and engage in the classroom content (Alsawaier, 2018). Indeed, some gamified activities can boost memorization, as they increase the level of satisfaction of the student (Gutiérrez-Artacho and Olvera-Lobo, 2016). Although recent studies have begun to use gamification techniques with translation and interpreting students (cf. Gutiérrez-Artacho and Olvera-Lobo, 2016; Alcaide-Martínez, and Taillefer, 2022), leading to positive results, the particularity of our project lies in two key points: (1) bringing neural machine translation post-editing to non-professional translators of specialized fields so that (2) they can learn through modern learning techniques (gamification) on an interactive ad-hoc application.

To achieve this aim, we are using a protocolized methodology to collect abstracts from first and second quartile journals from Spain indexed in Journal Citation Report database in 2022. Once selected, the chosen abstracts will be post-edited into American English by professional translators. We will then analyze and compare the human and machine translation output to identify the mistakes made by MT. Subsequently, we will classify them based on their degree of occurrence and difficulty, using fuzzy matches. These errors will lead to create the gamified activities in which users learn two main notions for full post-editing abstracts: (1) identifying the mistakes, and then (2) solving them by using the most suitable strategy. Therefore, the app aims to teach the fundamental skills to correct a pre-translated text in English, following the prototypical structure of an abstract: introduction, objectives, methodology, results, and conclusion. Based on this division, the gamified activities are created by using a system of points and rewards to encourage the user's learning ability.

In this way, this paper is structured in 5 sections. Section 1 introduces the topic of NMT + full PE and gamification by conducting a literature review, followed by section 2, in which bases of the project (participants, methodology, and expectations) are explained. Section 3 describes the protocolized methodology we are following for the selection and classification of abstracts in Spanish. Section 4 briefly explains the gamified environment we are setting for the future application. This will lead us to section 5, in which the conclusions of our research are drawn, particularly, the proposed PE guidelines and the need of NMT + full PE in some research contexts to enhance productivity and disseminate science.

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