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How cutting-edge workplace research can help to improve working conditions for professional linguists.
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Once largely focused on problem-solving and translation products, translation research is transitioning to cover a broader interest in the organisational and societal conditions in which translators work. For a number of years, research techniques have been tested and used in the laboratory to measure, quantify and describe language processing. Many of these, such as logging translators' keystrokes, recording what is happening on their computer screens and tracking their eye movements as they work, are now also deployed in the workplace to examine the complex realities of professional translation. By studying professional linguists

in their normal working environment, we can better understand how factors such as poor office layout, irritating CAT (computer-assisted translation) tool features and time pressure impact on their performance.

The settings that translators and other professional linguists work in differ in many respects, but many share a heavy reliance on language technology. The centrality of technology to the modern translation workplace is amply demonstrated by the latest language industry report by Elia (the European Language Industry Association).¹

Nevertheless, some noticeable differences exist in the ways technology is used by the

various types of users involved in producing translations: language service providers (LSPs), freelancers, institutions, in-house translation departments, broadcasters and non-profit organisations. The use of language technology has resulted in impressive productivity gains, but some aspects of technology can disturb the translation process, hampering efficiency and limiting creativity.

Testing the effect of translation technology is best done in collaboration with users at their workplaces, rather than in the artificial setting of a laboratory, where distortions are likely to be caused by unfamiliar settings, keyboards or screen layouts.

Identifying problem areas

Our research approaches translation from an ergonomic perspective, investigating how translators are affected by, and cope with, their working conditions.² We have found that various features of text-editing software that were originally designed to be helpful to the 'standard user' – i.e. monolingual writers of generic texts – can significantly slow down translation work. For example, inappropriate auto-correction of abbreviations and technical terms requires back-tracking and interrupts the flow of text production.

Although they are constantly improving, spell-checking functions cannot automatically recognise more than one language in a document, and the default language settings for documents can be mysterious. Non-mnemonic shortcuts (e.g. ctrl-v for 'paste') impose a load on memory that can draw cognitive resources away from the close attention to detail that revision and post-editing demand. The tendency for cursors to disappear at times can cause frustration and impede the translation process.

Some of these issues might seem trivial to light-to-moderate users, but have serious implications for the productivity and health of translators, who often spend more than six hours a day glued to their screen and chair. One of the findings of our research has been a desire for easier customisation of tools, so they can be adapted to the translator's needs. Other common problems include overly crowded screens, and general dissatisfaction with the usability of many workplace tools.³ An in-depth analysis of comments by survey respondents indicated that the main issues associated with CAT tools are the complexity and segmentation of user interfaces.⁴

Eye-tracking recordings reveal that searches to validate terms and expressions often necessitate switching tools and tasks. This could be improved by adding useful search features within the user interface of the translation technology. Translators sometimes feel 'trapped', 'blocked' or constrained by the suggestions offered by their tools, which suggests their creativity, decision-making and autonomy might be negatively affected. Becoming aware of these problems is part of the solution, and appropriate professional development courses could help translators to devise strategies to overcome them.

In addition to physical issues (such as poorly designed monitors) and the cognitive aspects of CAT tools (such as the quality of translation-memory matches), the ergonomics of translation workplaces includes organisational factors that can aid or constrain translators. These range from client style guides and time pressure to the imposition of certain types of language technology and the support provided for it. On the basis of workplace studies carried out by our team over the past decade, we have determined, for instance, that professional translators' resistance to the uptake of new technology has more to do with their lack of involvement in procurement decisions than with problems caused by the technology itself.

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Research challenges

The challenges involved with undertaking this type of research should not be underestimated. The speed of technological developments is increasingly becoming an issue, as researchers try to keep abreast with what is happening in the workplace, most notably with recent advances of neural machine translation engines such as DeepL Translator and Google Translate. This is complicated by the long lead time for most public funding schemes for research. Workplace-based research is much more resource intensive than most laboratory research, so it cannot always be covered by the internal budgets of academic institutions.

This problem is compounded by the need to motivate translators and their employers to participate. If the research results in a loss of income because of missed jobs, then the professionals should be remunerated. Being less susceptible to loss of earnings than either freelancers or commercial LSPs, NGOs and governmental institutions with high translation

volumes are more open to workplace-based research. In every setting, confidentiality and anonymity must be guaranteed to make sure there is no reputational risk.

When it comes to the specifics of technology use, key issues that emerge relate to stability and change. For example, most users need to go through a familiarisation or training phase before they feel comfortable using new technology and can reach a level of stability with it. But once they become accustomed to a particular technology, users may simply retain default settings, even though these are not ideal for their purposes. It is always difficult to change ingrained habits, even if they are detrimental to productivity. Such behaviour significantly complicates analysis and can distort results.

Despite these and other challenges associated with gathering, analysing and interpreting our data, the positive reactions of the professional community have convinced us that the effort is worthwhile. We strongly believe that by closely collaborating with practitioners and the organisations they work for, translation researchers can make a substantial contribution to improving conditions at the workplace, and adding value and quality to the processes and products of professional translation.

Workplace research can identify issues even after environments have been designed and technologies have been deployed. Ideally, however, researchers and professional linguists should be involved before implementation, so that they can work with developers, designers and organisations to ensure that users' needs are properly met.

Notes

1 'Expectations and Concerns of the European Language Industry' (2018) Elia; bit.ly/Elia18

2 O'Brien, S & Ehrensberger-Dow, M (2017) 'Why Ergonomics Matters to Translators'. In *ATA Chronicle* 46 (1), 12-14; bit.ly/ATAErgonomics

3 E.g. Ehrensberger-Dow, M, Massey, G et al (2016) 'An International Survey of the Ergonomics of Professional Translation'. In *ILCEA Revue de l'Institut des Langues et des Cultures d'Europe et d'Amérique*, 27; ilcea.revues.org/4004

4 O'Brien, S, Ehrensberger-Dow, M, Hasler, M & Connolly, M (2017) 'Irritating CAT Tool Features that Matter to Translators'. In *Hermes*, 56; tidsskrift.dk/her/article/view/97229/146028