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PHILOLOGICA 2

TRANSLATORS' TECHNOLOGICAL COMPETENCE IN THE DIGITAL AGE: A FOCUS ON MACHINE TRANSLATION AND ARTIFICIAL INTELLIGENCE

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ABSTRACT

The study examines the technological competence of specialised translators, in the light of academic competence models from the past decade (PACTE 2003/2017 and subsequent papers published by PACTE [2018, 2020]; EMT 2017/2022; eTransFair 2018; TEKOM 2018; CIUTI 2018) and of various industry surveys conducted in international and national contexts (HUNNECT 2021; ELIS 2023 and 2024 [with a brief outlook on ELIS 2025]; as well as Proford and SZOFT 2024). It examines technological competence with a focus on machine translation (MT) and artificial intelligence (AI), predominantly from the perspective of market players and training institutions. The paper also briefly revisits a few studies that discuss the issue of technological competence from different perspectives and puts forward general recommendations for training institutions.

Keywords: technological competence; machine translation; artificial intelligence; training institutions; industry surveys

Introduction

In the field of language mediation, language professionals, language service companies (LSCs) and training institutions are all striving to keep pace with the constant changes in the market and to identify, on the basis of available research, surveys and trends, what new competences and skills are needed to be successful in the labour market. The first group, professionals in the field (freelance and in-house translators and interpreters) want to know how to stay ahead of the competition, which skills to develop, what training courses to attend and what tools to invest in. The second group, LSCs and translation agencies, are interested in making their workflows as fast, optimal and cost-effective as possible; their translators and interpreters need to be able to use the tools that will help them achieve these goals, and they must have the competences and soft skills that will give them a business advantage. And thirdly, the role of training institutions is to prepare their students for the realities of the marketplace so that their skills are not outdated when they enter the workplace, and to instil in them an attitude that enables them to build

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on the knowledge and skills they have already acquired and to take responsibility for their own progress. All three groups of stakeholders in the translation and interpreting (T/I) market are striving to achieve the same goals, but it is predominantly the training institutions that lay the foundations for further progress. In my view, only those training institutions can stay ahead of the curve that are able to constantly update their curricula and teaching materials in response to current market needs; that employ trainers who are themselves in tune with market changes and are ready to acquire new skills the industry needs most; and willing to invest in resources and new tools. To ensure that training content reflects market realities, academics need to monitor competence models that are updated from time to time to reflect market needs, as well as keep abreast of national and international industry surveys and research that can provide a picture of the current market conditions for the hard and soft skills required. As technologies have been given a prominent role in the work of translators in recent times, it is worth examining technological competence as a highly relevant construct.

Methodology

This review study falls into the category of secondary research; therefore, it does not offer new evidence or empirical data, but rather seeks to offer an overview of the technological competence of specialised translators with a focus on selected academic models (PACTE, 2003/2017 with subsequent modifications/additions; EMT 2017/2022; eTransFair 2018; CIUTI 2018), a model derived from a professional platform (TEKOM 2018) and various industry surveys HUNNECT 2021; ELIS 2023 and 2024 (with a brief outlook on ELIS 2025); Proford and SZOFT 2024) with a specific focus on MT as well as MTPE on the one hand, and the use of AI on the other.

Academic competence models – a focus on technological competence

In the following, the main competence models designed for professional translators from the past decade will be briefly reviewed with a focus on technological competence. The scope of this study does not allow a full description of each model; only an emphasis on technology-related competences.

The PACTE Group's Competence Model for Translators

The first model of competences for professional translators was developed by the PACTE research group in 2003 (see Figure 1), with two modifications (2011 and 2017), the latter of which falls within the past ten years (i.e. the approximately 10-year interval under study).

Both the model published in 2003 and the one revised in 2017 (PACTE 2017) mention technological competence as part of the instrumental sub-competence, which mainly includes the ability to use tools that assist the translation process. Because the 2017 revision was published before the advent of neural MT, the model only mentions a narrow

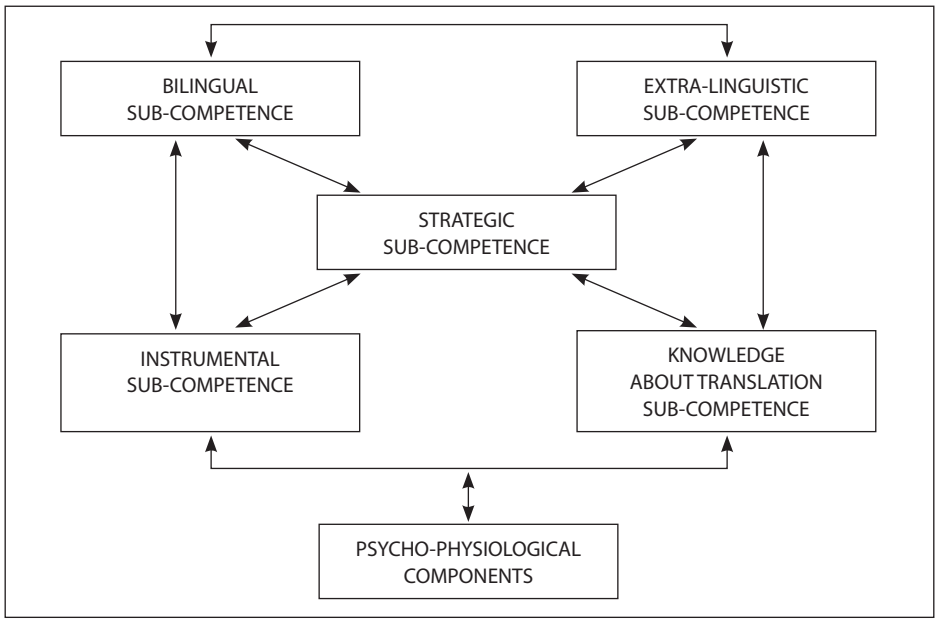

Figure 1 PACTE Competence Model for Translators (2003: 60)

range of tools, which have recently been supplemented with the use of MT engines and terminology management systems. Papers published by the group in the past few years (PACTE 2018, PACTE 2020) still mention technological tools as part of instrumental competence and although they do not specifically define what exactly should be meant by technological tools; the descriptors include examples such as "specialized search engines, computer-assisted translation, text alignment, corpus linguistics applied to translation" (2018: 20). The PACTE Group's next paper (2020) further specified translation technologies and extended the definition of instrumental sub-competence to include assisted translation software, machine translation software, terminology database management software and post-editing software (Appendix 6).

The EMT Translation Competence Framework

The European Masters in Translation (EMT) network has so far published two frameworks for translation competences (2009, 2017/2022), which are considered important reference points not only for training institutions but also for the translation industry. The revised model of 2017, updated in 2022, defines a set of competences in a consolidated way and uses cogwheels to illustrate the need for competences to build on one another. The model may seem a little simplistic, but the annex details the learning outcomes expected of graduate translators in five broadly defined competence areas: (1) language and culture; (2) translation; (3) technology; (4) professional and interpersonal; and (5) service/market competences). In the current EMT, technological competence is defined as "all the knowledge and skills used to implement present and future translation

technologies within the translation process". It also includes basic knowledge of machine translation technologies and "the ability to implement machine translation according to potential needs", and among the six learning outcomes under technological competence the authors highlight students' ability to "understand the basics of MT systems and their impact on the translation process and integrate MT into a translation workflow where appropriate" (2022: 9). To achieve this end, translators need to activate a host of interpersonal or soft skills. While the EMT offers a short list under the heading of *professional and interpersonal competence* (2022: 10), a growing number of studies demonstrate the variety of other soft skills that need to be considered when discussing technological competence and teaching translation technology. Some authors emphasise basic skills such as "knowing how to act" (Hurtado Albir 2015), while Tao (2012) stresses that they should demonstrate analytical, synthetic, and holistic thinking skills. In their 2022 study, He and Tao propose a complex set of competences referred to as Translation Technological Thinking Competence (TTTC), which places a strong emphasis on critical thinking as recently also discussed by Li et al. (2023). In their paper, Ramírez-Polo and Vargas-Sierra (2023) link translation technology with ethical considerations, coining the term 'translation technology and ethical competence'. It follows, therefore, that training institutions should not only focus on technological competence as a separate hard skill in isolation, but also link it to soft skills such as flexibility, creativity and teamwork, and to other, perhaps more complex soft skills such as analytical, synthetic, holistic skills, critical thinking, and ethics.

The eTransFair framework of reference for the fit-for-market training of specialised translators

The eTransFair profile, developed in 2018, was one of the main outcomes of a three-year Erasmus+ strategic partnership, in which the Centre for Modern Languages of the Budapest University of Technology and Economics (BME) participated as project coordinator (Krajcsó 2018; Szabó 2020)[1].

The model was developed taking into account the most relevant market aspects, highlighting a wider range of translator competences [than the EMT model] that play a key role in the market environment and should therefore be emphasised in the curricula of training institutions. Such specifically highlighted elements in this model are the *info-mining and terminology competence* (included as part of translation competence in the EMT 2017/2022 model) and *revision competence* (which did not appear as a separate item in the EMT). The eTransFair framework also significantly extended the list of professional (market) competences (eTransFair 2018). Several (distance) learning materials, so-called e-modules, were developed in the context of the project with specific areas identified as key by market actors (i.e. CAT[2] tools, revision, translation project management, localisation, quality management, entrepreneurial skills). Although the project led to an upgrading of the academic content and the learning materials of BME's translator training, it did not bring a great deal of innovation in terms of technological compe-

[1] https://ec.europa.eu/programmes/erasmus-plus/project-result-content/b8a55faa-9157-4ea3-9766-e17999db7870/ETRANSFAIR_COMPETENCE_CARD.pdf

[2] Computer-assisted translation tools.

tence. The review and revision competence, which is not explicitly mentioned in the EMT framework but is highlighted in the eTransFair model, should now, based on recent developments, be broadened to include Machine Translation Post-Editing (MTPE) competence (Pym 2013; Declercq 2014; Cid & Ventura 2020; Vasiliauskienė et al. 2024, etc.). Alternatively, MTPE could be listed as a separate element on the list of specialised translators' competences. Similarly, as AI tools are increasingly being used to support or even replace CAT tools, Artificial Intelligence (AI) competence should also be considered a major component; either listed under the heading of info-mining competence, or as part of technological competence. The latest ELIS Surveys (ELIS 2023, 2024, 2025) reveal a clear tendency to use MT and AI across the board by LSCs, individual freelancers and translation companies, so there is clearly a need for universities to incorporate these skills into their curricula.

TEKOM Europe's Competence Model

As the present study focuses on technological competence, it is worth taking a look at the competence model of Technical Communication Europe (TEKOM, 2018), which identifies the key competence areas required for technical translators and technical writers (also referred to as "technical editors", "technical authors," or "technical communicators"). A 90-page working document is available on TEKOM's website, detailing the specific steps they recommend following when preparing a technical specification for a product. Translation is included in the model as part of the localisation process, while MT and revision are specifically highlighted in the description of the translation process (TEKOM 2018: 48). Regarding the technological competences required for the production of technical content, the list includes knowledge and skills in machine translation (MT), translation memory (TM), localisation software, CAT tools, and the use of relevant terminology databases (TB). TEKOM stresses that the boundaries between technical communication and translation are rather fluid: technical writing requires knowledge of the translation process, and technical translators need to have skills in technical communication and in the creation process. The line here seems to be somewhat blurred between

Technical translation is a specialized occupation within specialized translation.
The field is distinguished by:
1. Translation of technical content: information on technical products or software systems
2. Special form of language: primarily informative, descriptive and explanatory
3. Use of technical media and multimodality: various input and output media
4. Localization: taking country specifics into account, technical and legal/normative, and the cultural requirements of the target market
5. Specific work processes: modular construction of source texts, translation of updates
6. Use of special software systems: among others, translation memory systems, terminology management systems

Figure 2 TEKOM's list of technical skills required of technical translators[3]

[3] https://www.technical-communication.org/technical-writing/outline-of-technical-communication/technical-translators

knowledge and skills, but "knowledge of tools" for technical translators is seen as a major prerequisite in this skill set, too.

It is important to note that TEKOM also published a position paper on the use of AI (TEKOM 2024), which attempts to interpret certain provisions of the AI Act, adopted by the EU in 2023, in the context of technical content production. At the end of the document, the experts at TEKOM raise concerns and questions, including the need for precise guidelines for the use of Generative Artificial Intelligence (GenAI), and request that the regulation define precisely in which cases, and at which stages human supervision is required for technical documentation, and who or what body should be responsible in the case of technical documentation produced using AI.

Report of the CIUTI TIGES 21 Working Group

CIUTI is one of the oldest (1960) and most prestigious professional associations for institutions training translators and interpreters[4]. Its member institutions, which are at the forefront of teaching and research, hold a certificate of excellence and have developed common positions for the implementation of quality training in translation and interpreting. At its 2018 conference, the association's governing body compiled the results of a questionnaire completed by its member institutions (Massey 2018), which defined the profile of the optimal professional translator [and interpreter] in the age of artificial intelligence.

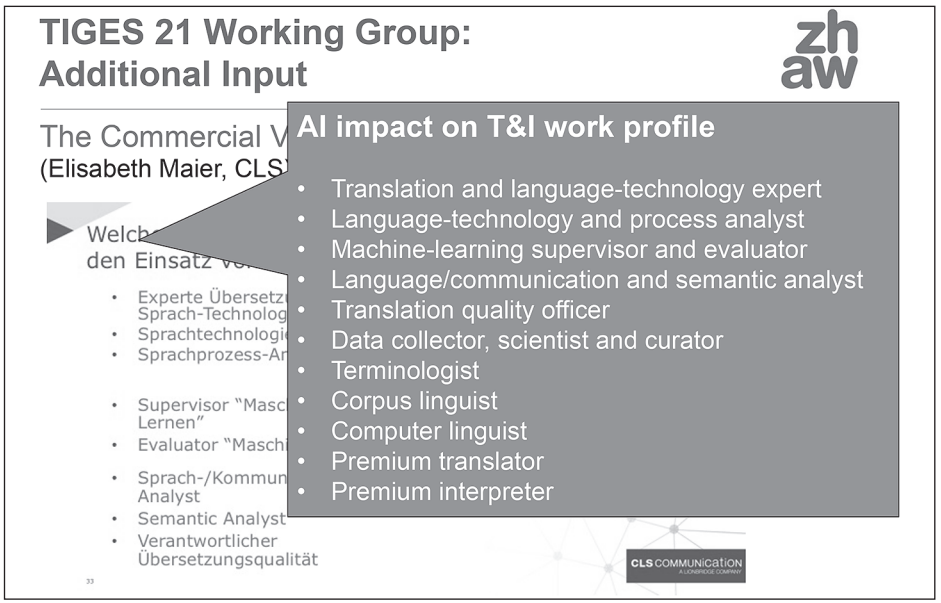

Figure 3 CIUTI report, TIGES 21 working group: translator/interpreter profile in the age of AI (Massey 2018: 30)

[4] https://www.ciuti.org

According to Figure 3, T/I professionals can only thrive in the digital age if they provide premium quality translation and/or interpretation services and ideally have expertise in all of the following areas: language technology, process analysis, machine learning, semantic analysis, quality control, data collection and processing, terminology, corpus linguistics, and computational linguistics.

Industry surveys – focus on technology

International context: ELIS Industry Surveys[5]

The European Language Industry Survey (ELIS) is one of the most important surveys conducted on an annual basis in the continent's language industry focusing on industry trends, expectations and threats, and surveying a wide range of language industry players, including LSCs, freelance language professionals, translation and interpreting training institutions, language departments in private companies, public administrations and language service buyers. The survey is conducted every year under the auspices of EUATC (European Association of Translation Companies) with the participation of several European organisations such as FIT Europe, EMT, Elia, GALA, Lind, WiL, etc. Each year, the results are accompanied by a 50–60-page report which analyses and interprets the statistics in detail.

Trends in the latest ELIS surveys (2023 and 2024)

In the following subsection, some of the major trends identified in two consecutive annual reports (n = 1,164 respondents in 2023 and n = 1,776 respondents in 2024), with a focus on technology, are examined.

On Figures 4 and 5, we can see a steady growth of technology implementation although with some marked divergence in terms of the individual tools and segments (ELIS 2024: 35). Figure 4 reveals that individual translators and universities are quite ahead of LSCs in using AI tools for language tasks and, as Figure 5 shows, LSCs achieved a higher degree of growth (10%) in 2024 year on year in actual MT use than other segments did (0–5%).

With no previous record, generative AI appeared for the first time in 2024 with an average of 17% as shown on Figure 6 (ELIS 2024: 36). The report also notes a marked increase in the use of MT.

In its section entitled "AI – The elephant in the room" (2024: 40), the 2024 ELIS report compared the market's reaction to the arrival of AI in 2024 with that of MT a few years ago and highlighted the similarities. Many see AI as a welcome development (as they did MT in 2023) and regard it as another tool to increase efficiency, while many express fears that AI could "wreak havoc" and raise quality issues if professionals use such tools without training. There are still many concerns that both MT and AI will undermine the perceived value of translators' work, which may be reflected in prices. And while the actual

[5] https://elis-survey.org

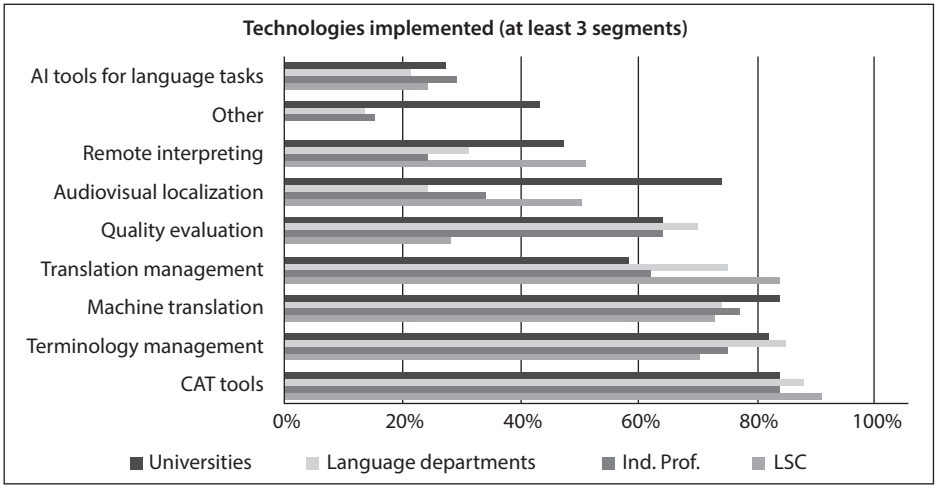

Figure 4 Technology implementation (ELIS 2024: 35)

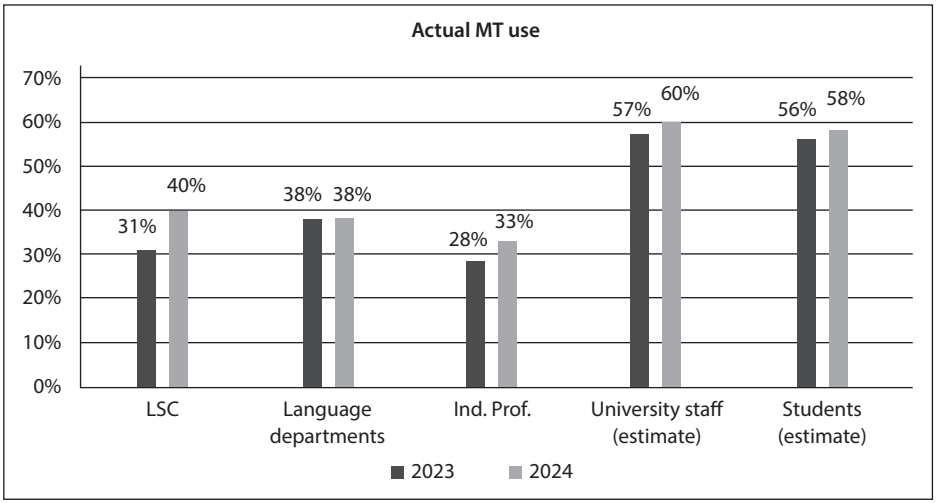

Figure 5 Actual MT use (ELIS 2024: 35)

overall use of AI in 2024 is currently "only" around 15%, the dramatic acceleration of MT has shown how this can change in a matter of a few years or even months (ELIS 2024: 40).

Figure 7 below shows the different uses of AI (as of 2024). The report reveals that quite a few respondents (nearly 40% of LSCs and 45% of freelancers) rely on AI as an alternative to MT, and they report that AI (especially ChatGPT) does not lag far behind other MT tools (e.g. DeepL) that are currently perceived as yielding better quality. Those who see a potential in AI tools see further opportunities, particularly in the areas of quality control and evaluation (ELIS 2024: 41).

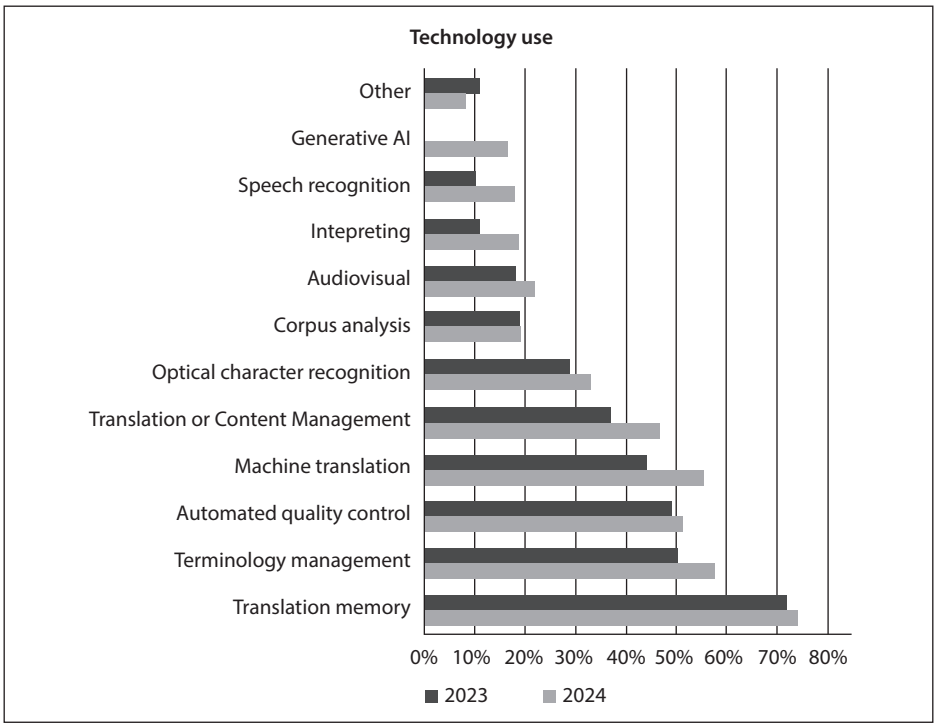

Figure 6 Technology use – independent professionals (ELIS 2024: 36)

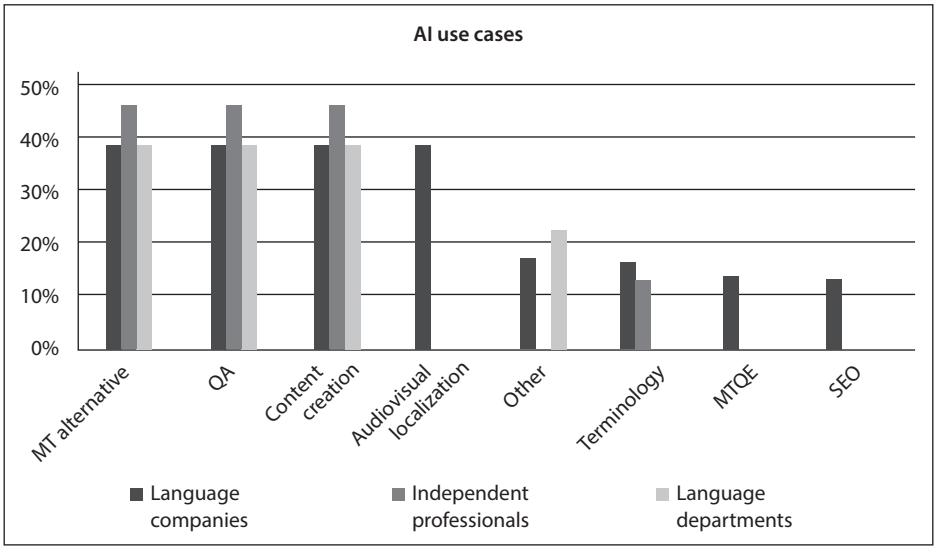

Figure 7 AI use cases (ELIS 2024: 41)

A brief outlook on ELIS 2025

The results of the 2025 ELIS survey were published after this manuscript had been submitted, so a systematic analysis was not possible. Even so, a few points are worth noting at this final revision stage. Firstly, both LSCs and independent professionals confirm that more than half of professional translation work now involves machine translation (ELIS 2025: 6). Among LSCs, 23% explicitly see AI as a route to efficiency gains (ELIS 2025: 20); by contrast, only 13% of independent professionals regard technologies – encompassing both MT and AI – as a positive development (ELIS 2025: 21). This divergence may help explain why almost one in four freelancers (23%) is considering ending their freelance activity (ELIS 2025: 24). On a more positive note, the report indicates that many independents expect clients to recognise that AI is not a "wonder solution", leading to renewed appreciation of human language services (ELIS 2025: 21).

The Hungarian context

Trends in Hungary 1: HUNNECT – A survey on the use of MT among Hungarian translators (2021)

This online survey on the use and acceptance of MT and MTPE was conducted by HUNNECT[6] in November 2021. Based on the feedback received from a relatively large number of respondents (n = 150)[7], a blog post was published online (HUNNECT 2021) that provided valuable insights into the findings. One result was that 69% of the translators involved in the study claimed to have already used MT; 41% occasionally and 28% regularly. 78% of the respondents received MTPE tasks from the client; and a total of 30% already integrated MT into their workflow. As for their clients[8], about 26% facilitated the use of MT, but a very similar percentage (21%) forbade MT use, while one-third (29%) of them "did not say anything about the involvement of MT"; and another 26% claimed that approximately half of their clients approved, and half of them disapproved of MT usage. Even as early as 2021, DeepL was the most popular translation engine (41%), with Google Translate ranking second (25%) and other translation engines accounting for the last third of the "MT pie". Around 40% of respondents already considered MT to be of "fairly good" quality, claiming that it significantly sped up workflows, and 6% considered the quality to be "almost perfect". The same 40% said that if doing MTPE was the only type of job on the market, they would still continue to do it. Overall, for professional translators, MTPE is a justified and acceptable but less popular task than translation, whose main advantage is that it speeds up the translation process and makes it more efficient. Most respondents are seemingly not prepared to abandon their profession because of the

[6] One of the leading Hungarian translation agencies located in Szeged, and a member of Proford, the Hungarian Association of Professional Language Service Providers (the Hungarian equivalent of EUATC).

[7] Individual freelance translators working with a diverse set of clients.

[8] In the survey there was no specification about clients in terms of whether they were LSCs, language departments or private individuals.

growth of MT but would like to see MTPE as an available option rather than a downright obligation.

Trends in Hungary 2: Hungarian Industry Survey 2024 by Proford and SZOFT

The latest Hungarian industry survey, conducted by Proford[9] and SZOFT[10], had been long awaited by the Hungarian professional community, as the last such survey of a similar scale was conducted in 2017. Although the results were presented at a live event organised by the Budapest office of the European Commission's Directorate-General for Translation (DGT), a written summary has not yet been published, so this paper can only rely on and refer to the video recording of that event, held on 8 April 2024, where the representatives of Proford, SZOFT, memoQ and the DGT's Budapest office analysed the results.

Regarding recent technology trends, 88% of the respondents[11], (n = 335) reported using MT, of which 16% also considered it important to devise their own MT engine. 60% of the respondents showed an interest in or experimented with large language models (LLMs) and/or generative AI, but the survey did not reveal the depth or effectiveness of any of the initiatives, and only one agency reported using a GenAI tool in an ongoing project. The DGT representative noted that the EU's translation service has been well ahead of the Hungarian market, it has its own neural engine (e-Translation) and has been experimenting with AI technology for years: they have fine-tuned up to 300 MTs per year, which allows them to meet DGT's MT needs in a cost-effective way. One of the latest developments is a prompt-based GenAI service called eBriefing, which runs in a closed data centre, uses GPT-4 and can produce informative documents based on prompts and uploaded files. DGT's other AI-based services and language databases are available to anyone after registration[12]. The DGT representative stressed that these GenAI models were an excellent prototype and can indeed make processes more efficient, but one should not fear that they would take work away from translators, as no text can possibly leave the DGT unedited. He added: no matter how good a model is, only humans can take responsibility for the quality of the translation.

Developing technological competence in training institutions

Trends and plans

With regard to the general trends observed in training institutions, two (unsurprising) findings should be noted, which are highlighted in all three recent ELIS reports cited above, and which apply in both the national and international contexts. One of these trends is the significant administrative burden and financial problems faced by

[9] The Hungarian Association of Professional Language Service Providers: https://proford.hu/en/start.
[10] The Hungarian Freelance Translators and Interpreters Association: https://www.szoft-egyesulet.hu/en.
[11] Individual translators who either work for LSCs, language departments or private individuals.
[12] https://translation.ec.europa.eu/tools-and-resources/ai-translation-and-language-tools_en

the majority of training institutions, and the other is the steady decline in the number of students interested in T/I programmes. The 2024 report explains this declining interest by clearly stating that "the widespread use of artificial intelligence means that fewer people are interested in language-related careers" (ELIS 2024: 50). Training institutions are already finding it increasingly difficult to match training content with market needs, mainly because these expectations are far from uniform. This may be due to the fact that each advertised position requires different skills (translator, PM, terminologist, vendor manager, etc.), but there are also other factors such as the size, structure, profile, capacity, etc. which may place different demands on candidates.

Trends in using and regulating MT and AI at training institutions

By 2024, machine translation had already become a routine element of professional translation work, and training institutions were therefore trying their utmost to integrate it into their teaching materials (ELIS 2024: 31). Although generative AI is currently the only language technology more extensively used in translator training programmes than in the language industry itself, its position remains ambiguous, as it is seen both as an opportunity and a threat.

Figure 8 below shows that 47% of teachers and 63% of students already use AI tools, while the proportion is particularly low among LSCs and freelancers: 11% for the former and 8% for the latter. In concrete terms, this suggests that AI adoption is currently higher in educational settings than in the market – probably because teachers and students have the time and inclination to experiment, unlike translators, who are under market pressure.

The question of which specific AI tools are being used is not easy to answer, as the questionnaire only contained a limited list of tools to choose from. It is certain that

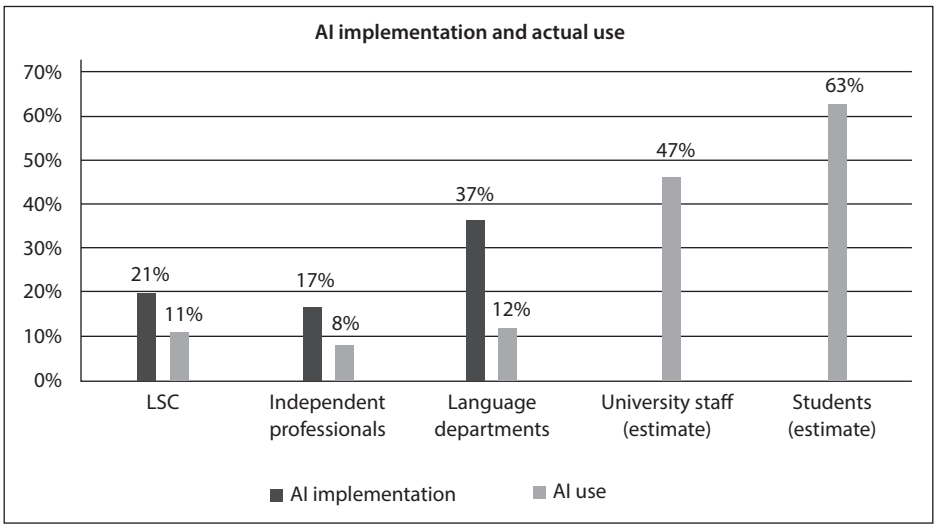

Figure 8 AI implementation and actual use (ELIS 2024: 40)

ChatGPT is currently the most widely used AI tool, but a narrower range of respondents also use lesser-known tools (Claude, Llama 2, Perplexity) and have AI technology built into other technology environments (e.g. cloud platforms), such as AWS Bedrock, developed by Amazon (ELIS 2024: 41).

A significant proportion of institutions (43%) have already defined rules for the use of AI and are working to integrate these elements into their curricula and teaching materials, but the same proportion (43%) say that they have not yet introduced such guidelines (2024: 41). According to the survey, universities in the EMT network are ahead of the curve in terms of their use and regulation of AI (ELIS, 2024: 35). The topic has also been addressed by two Erasmus+ projects (ELC SIG and CLARIN ERIC), which involve European universities (ELIS 2024: 42). Regulating the use of MT and AI tools has also been a challenge for Hungarian universities. Following a discussion at the "Trainers Meet Trainers" forum held at the BME TFK Autumn Conference in 2022, Hungarian academics formulated a set of recommendations for the regulation of MT in their teaching and assessment activities (Robin & Eszenyi 2022, in Hungarian; Fischer & Szabó 2023, in English).

Training institutions' plans and potential tasks

Based on the above-mentioned national and international industry surveys, several ideas can be outlined on how to align content with new trends, and what roles training institutions should play, beyond their educational activities, in preparing students for the market – for example, organising internships, workshops, specialised training schemes, mentoring programmes, etc. (Szabó 2020). A key question arises from the above: what can training institutions do to develop technological competence? In the following, the author's personal opinion will be detailed.

First and foremost, heads of institutions and other decision-makers should follow market trends, read the latest literature and stay in contact with market players to assess how curricula and teaching materials should be modified, if accreditation and other rules allow, and in what direction. Secondly, we need trainers who are aware of new trends and tools, to use such technologies in their own translation workflows and have the methodological skills to incorporate them into their teaching activities. It is an option for an institution to employ translators who are active in the market and work in tandem with university staff; they may be involved in mentoring schemes (Olalla-Soler, 2019; Szabó, 2020: 11) but it is also worthwhile to organise training courses for both in-house and external trainers (in the case of the BME's Centre for Modern Languages, this is the aim of the Fo-To-Shop master course series). Thirdly, maintaining as close a relationship as possible with national and international professional organisations and associations is also recommended, as there is much to be gained from joint research projects with other universities, and the possibility exists of joining international EU projects, as is the case with EMT universities (ELIS 2024: 42). A notable instance of such collaboration in the domain of technology for BME is the EELISA Network[13], which comprises nine engineering universities, thus providing unparalleled opportunities for multidisciplinary

[13] https://eelisa.eu

professional exchange, particularly in the field of artificial intelligence. Within the scope of this collaboration, technology experts and innovators from engineering departments can be involved to cater to the needs of the language industry and likewise, language mediation experts may pass on know-how to AI experts.

Stronger cooperation at the national level is a valid option. With dwindling student numbers, it may be unwise for different universities in the same country (or even city, as is the case in Hungary) to offer training programmes with the same or similar content. It would be better for institutions to "share the cake" and decide which university should run which training schemes.

And finally, a note on financing. Universities will need to recognise that progress in the digital age depends on investing in new tools, subscribing to cutting-edge solutions, and facilitating training opportunities that enable users to master the application of these tools. This imperative applies to all three market groups: individuals (freelancers), LSCs, and training institutions. However, questions remain about the extent to which the usually tight budgets of universities and the cumbersome public procurement processes will allow for improvements, and the extent to which training institutions will be able to maintain contemporary standards.

Conclusions

The study provided a brief overview of academic competence models and profiles of translators (PACTE 2003/2017; EMT 2017/2022; eTransFair 2018; TEKOM 2018; CIUTI 2018) and some recent international and national industry surveys (e.g. ELIS 2023, 2024; and a brief outlook on ELIS 2025; HUNNECT 2021, Proford and SZOFT 2024), offering a major focus on technological competence and, in particular, the use of machine translation (MT) and artificial intelligence (AI) tools.

Recent industry data indicate a gradual shift towards the use of MT and AI tools. The data unequivocally demonstrate that approximately 50% of translation jobs currently involve machine translation, and MTPE has become a standard service offering (ELIS 2025: 28). A similar tendency is evident in the field of AI, with a notable surge in growth observed in 2024 as compared to the cautious optimism witnessed in 2023. Given the increasing prominence of MT and AI, universities are already working to incorporate these new trends into their curricula. In light of these tendencies, it may be wise to incorporate these elements into competence models and translator profiles, either as distinct competences or as components of existing ones. For instance, MTPE could be classified as a component of revision competence, while AI could be considered part of technological competence.

Technological competence will continue to play an increasingly important role, and in order to equip students with such a complex set of technological skills, training institutions need to be prepared on several fronts: they must keep abreast of trends, adapt their curricula, and provide their trainers with novel training opportunities. Strengthening links with professional organisations and participating in joint research or international projects can further enhance technological competence, and stronger cooperation at both the national and international levels may be a productive way forward.

The profession must also ensure that the market and the public comprehend the fact that, as Pym (2024: 2) observes, just as machine translation has not been demonstrated to be all-powerful, but merely a useful instrument, artificial intelligence will likewise not be capable of accomplishing the task of translation alone, without the human in the loop. "As long as the outputs are not always optimal, post-editing will be needed, and in order to post-edit you have to know how to translate, so it can be business as usual for all of us" (Pym 2024: 2).

Professional translators, we hope, will not disappear; rather they will metamorphose. But to maintain their position, it is not sufficient merely to possess contemporary technological expertise; a repertoire of soft skills is also required (e.g. analytical, synthetic, and holistic skills, critical thinking and ethics, stress and time management, creativity, curiosity, flexibility and resilience). These skills will equip the professional translator with the adaptability to navigate the inevitable changes that are not yet visible but certain to come.

REFERENCES

Cid, Clara Ginovart – Ventura, Carme Colominas (2020) 'The MT Post-Editing Skills Set. Course descriptions and educators' thoughts', in *Translation revision and post-editing*, Routledge, 226–246. https://doi.org.10.4324/9781003096962

Declercq, Christophe (2014) 'Crowd, cloud and automation in the translation education community', *Cultus* 7: 37–56.

Fischer, Márta – Szabó, Csilla (2023) 'Machine translation and post-editing competence: Theory, practice and training. BME Autumn Conference, Translating Europe Workshop, University of Technology and Economics (BME)', *Across Languages and Cultures* 24(1): 145–149. https://doi.org/10.1556/084.2023.00512

Gaspari, Federico – Almaghout, Hala – Doherty, Stephen (2015) 'A survey of machine translation competences: Insights for translation technology educators and practitioners', *Perspectives* 23(3): 333–358. https://doi.org/10.1080/0907676X.2014.979842

Hurtado Albir, A. '(2015) 'The Acquisition of Translation Competence. Competences, Tasks, and Assessment in Translator Training', *Meta* 60(2): 256–280. https://doi.org.10.7202/1032857ar

Krajcsó, Zita (2018) 'Translators' competence profiles vs. versus market demand', *Babel* 64(5–6): 692–709. https://doi.org/10.1075/babel.00059.kra

Li, Xiang – Gao, Zhaoyang – Liao, Hong (2023) 'The effect of critical thinking on translation technology competence among college students: The chain mediating role of academic self-efficacy and cultural intelligence', *Psychology Research and Behavior Management*, 1233–1256. https://doi.org/10.2147/PRBM.S408477

Massey, Gary (2018) 'T&I graduate employability strategies in the 21st century', *Conférence internationale permanente d'instituts universitaires de traducteurs et interprètes (CIUTI), Edinburgh, 29–30 May 2018*'.

Olalla-Soler, Christian (2019) 'Bridging the gap between translation and interpreting students and freelance professionals. The mentoring programme of the Professional Association of Translators and Interpreters of Catalonia', *The Interpreter and Translator Trainer* 13(1): 64–85. https://doi.org/10.1080/1750399X.2018.1540741

PACTE Group (2017) 'PACTE Translation Competence model. A holistic, dynamic model of translation competence', Hurtado Albir, A. (ed.) *Researching translation competence by PACTE group.* Amsterdam/Philadelphia: John Benjamins. http://doi.org/10.1075/btl.127.02pac

——— Hurtado Albir, Amparo (principal investigator) – Galán-Mañas, Anabel – Kuznik, Anna – Olalla-Soler, Christian – Rodríguez-Inés, Patricia – Romero, Lupe (research team, in alphabetical order) (2018) 'Competence levels in translation: working towards a European framework', *The Interpreter and Translator Trainer* 12(2): 111–131. https://doi.org10.1080/1750399X.2018.1466093

——— Hurtado Albir, Amparo (principal investigator) – Galán-Mañas, Anabel – Kuznik, Anna – Olalla-Soler, Christian – Rodríguez-Inés, Patricia – Romero, Lupe (research team, in alphabetical order) (2020) 'Translation competence acquisition. Design and results of the PACTE group's experimental research', *The Interpreter and Translator Trainer* 14(2): 95–233. https://doi.org/10.1080/1750399X.2020.1732601

Pym, Anthony (2013) 'Translation Skill-Sets in a Machine-Translation Age', *Meta* 58: 487–503.

——— (2024) 'On the end of translation studies as we know it', *Major Problems of Translation Studies and Translator / Interpreter Training*, *VN Karazin Kharkiv National University, Ukraine*, 19–20. https://doi.org/10.17613/GNEB-QX84

Ramírez-Polo, Laura – Vargas-Sierra, Chelo (2023) 'Translation technology and ethical competence: An analysis and proposal for translators' training', *Languages* 8(2): 93. https://doi.org/10.3390/language8020093

Robin, Edina – Eszenyi, Réka (2022) 'BME TFK Őszi Konferencia. Translating Europe Workshop (Budapesti Műszaki és Gazdaságtudományi Egyetem, Gazdaság- és Társadalomtudományi Kar, Idegen Nyelvi Központ, 2022. szeptember 30)', *Fordítástudomány* 24(2): 184–191. https://doi.org/10.35924/fordtud.24.2.10

Szabó, Csilla (2018) 'Szakfordítói kompetenciaprofil, képzőintézményi SWOT-elemzés, és szakfordítói mintatanterv: a BME INYK eTransFair projektjének első eredményei', *Porta Lingua* 61–75.

——— (2020) 'Fit-for-market specialised translator and interpreter training: a Hungarian example', Besznyák, Rita – Szabó, Csilla – Fischer, Márta (eds.) *Fit-for-Market Translator and Interpreter Training in the Digital Age*, Vernon Press, 3–24. https://doi.org/10.54094/b-1e7091ffb6

Tao, Youlan (2012) 'Towards a constructive model in training professional translators', *Babel* 58(3): 289–290.

Vasiliauskienė, Sandra – Lisaitė, Donata – Kasperė, Ramuné (2024) 'On the development of machine translation post-editing competence in translator training', *INTED2024 Proceedings*, 6265–6271. http://doi.org./10.21125/inted.2024.1647

Wang, Shaoshuang – Qin, Jianghua (2018) 'Constructing Technological Competence System for Translators in the Context of Big Data: Review of a Practical Course in Translation Technologies', *Technology Enhanced Foreign Language Education* 1, 90–96.

Internet sources

AI Act (2023) http://www.eur-lex.europa.eu (access: 18. 8. 2024)

CIUTI (2018) CIUTI – Excellence in T&I Training and Research (access: 20. 8. 2024)

EMT (2017/2022) EMT_Competence_FWK_2017_EN_WEB.indd (europa.eu) (access: 20. 9. 2024)

eTransFair. (2018) https://ec.europa.eu/programmes/erasmus-plus/project-result-content/b8a55faa-9157-4ea39766e17999db7870/ETRANSFAIR_COMPETENCE_CARD.pdf (access: 20. 2. 2025)

ELIS (2023) EUROPEAN LANGUAGE INDUSTRY SURVEY 2023 (elis-survey.org) (access: 15. 8. 2024)

ELIS (2024) EUROPEAN LANGUAGE INDUSTRY SURVEY 2024 (elis-survey.org) (access: 15. 8. 2024)

ELIS (2025) https://commission.europa.eu/translating-europe-workshops-old/european-language-industry-survey-elis-2025-2025-03-18_en (access: 22. 5. 2025)

HUNNECT (2021) https://hunnect.com/wp-content/uploads/2021/12/Hunnect-survey-on-Machine-Translation-2021.pdf (access: 21. 2. 2024)

PACTE (2003) 2003_Benjamins_PACTE.pdf (uab.cat) (access: 15. 1. 2024)

Proford and SZOFT Industry Survey (2024) TEW HU – A magyar fordítóipar a számok tükrében (youtube.com) (access: 10. 10. 2024)

TEKOM (2018) Kompetenzmodell-Strukturansicht (technical-communication.org) (access: 15. 10. 2024)

TEKOM (2024) 2024_03_11_tekom_Europe_Position_Paper_AI_Act.pdf (technical-communication.org) (access: 15. 10. 2024)

SUMMARY (IN HUNGARIAN)

A tanulmány az elmúlt szűk egy évtized kompetenciamodelljei (PACTE, 2003/2017; EMT, 2017/2022; eTransFair, 2018; TEKOM, 2018; CIUTI, 2018) valamint nemzetközi és hazai iparági felmérései (ELIS 2023, 2024; rövid kitekintéssel az ELIS 2025-re; HUNNECT 2021, Proford és SZOFT 2024) alapján tekinti át a szakfordítók számára definiált technológiai kompetencia területét. Megvizsgálja a legfőbb trendeket a gépi fordítás (MT) és a mesterséges intelligencia (MI) kérdéskörében elsőként a piaci szereplők, majd a képzőintézmények perspektívájából. A felmérések azt mutatják, hogy a fordítóipar egyre inkább a gépi fordítás és a mesterséges intelligencia eszközei felé mozdul el, az utószerkesztés (MTPE) pedig alapvető szolgáltatássá vált. Az egyetemek már elkezdték ezek integrálását a tantervekbe, ami a kompetenciamodellek frissítését is indokolja. A technológiai tudás mellett fontos az oktatók továbbképzése és az irodákkal történő minél szorosabb szakmai együttműködés. Ugyanakkor az emberi fordítók továbbra is nélkülözhetetlenek; számukra a talpon maradás kulcsa a technológiai jártasság és a megfelelő puha készségek (soft skillek) ötvözése a folyamatosan változó környezetben.

RESUMÉ

Nedávné průzkumy překladatelského trhu poukazují na rostoucí význam nástrojů strojového překladu a umělé inteligence v každodenní praxi překladatelů. Na tento trend již začaly reagovat vzdělávací instituce, které práci se zmíněnými technologiemi postupně zavádějí do studijních programů. Hlavním cílem studie je kriticky zhodnotit, nakolik se proměny překladatelské profese odrážejí v teoretických i profesně orientovaných modelech překladatelské kompetence (PACTE, 2003/2017; EMT, 2017/2022; eTransFair, 2018; TEKOM, 2018; CIUTI, 2018). Autorka rovněž formuluje celou řadu doporučení směřujících k systematičtějšímu prohlubování technologických dovedností budoucích absolventů. Kontinuální inovace výuky v souladu s potřebami praxe by se měla opírat mj. o těsnější spolupráci vzdělávacích institucí s profesní sférou a společné výzkumné projekty na národní i mezinárodní úrovni.

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