Methodological and professional challenges posed by new technologies in the teaching of technical translation

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Abstract
The need to be familiar with and to know how to use new technologies is making it necessary for those who train technical translators to rethink their teaching objectives and methodology, with a view to offering more complete and professional education. This presents teachers with a series of challenges which must be carefully reflected upon.

Key words
Technical translation, translation didactics, new technologies, translation tools.

Introduction
Over recent years, translation didactics has been promoted considerably as an independent area of study, to such a degree that it is now regarded as one of the main lines of research in the general field of translation. A number of studies, projects and publications have appeared, which have contributed to providing teachers with a pedagogy that is more effective and systematic and which caters better for students' requirements.

Nonetheless, there is still little didactic research that focuses directly on technical translation, although the list of publications of this nature has clearly become more extensive as a result of research into new tools for translators, whether due to their usefulness for teachers, for students or for professional practice. In principle, it seems paradoxical that, despite the fact that technical translation constitutes the largest single part of the market in Spain, this status is not reflected by the bibliographical resources available. If we consider how necessary it is to train professionals in such a way as to enable them to deal with the huge quantities of technical translations generated in Spanish, it is surprising that it was only as recently as a few months ago that a monograph (Jiménez Serrano: 2002) dealing comprehensively with this subject was published.

The aim of this article is to carry out a precise examination of the methodological and didactic challenges that the influence of the tremendous development of new technologies poses for the teaching of technical translation. The professional and methodological focus proposed herein is based on observations arising from professional work performed, market conditions and the confirmation of critical opinions from various sources as regards the product of the activity.

1. Technical-translation didactics in Spain
In Spain, technical translation has recently undergone a development that is, in itself, sufficient to testify to the need for new parameters for teaching in this area and for different plans for the training of competent professionals. The overwhelming dominance of English, a genuine *lingua*

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franca in this field, means that the English-to-Spanish combination is the most relevant, as reflected by the percentages of scholars currently studying in this area.

Generally speaking, it is clearly necessary to rethink certain vital elements, such as the definition of educational objectives; the pursuit of the standardisation of the content of different subjects; the selection of resources that are suitable both in terms of motivation and of linguistic imperatives; the selection of an appropriate method; the establishment of a complete and appealing syllabus; and the pace at which the subject is taught, in accordance with a timetable and certain determinants, among other factors. However, there is not enough reference material available to technical-translation teachers to enable them to undertake these tasks, partly because virtually no specific tests have been carried out, but also because authors of general translation manuals tend to avoid examining the topic of technical translation. Various explanations have been given for the lack of solidity of these didactic foundations, including the newness of the discipline in general; the switching and renewal of study plans; the disparity of profiles within the teaching profession and the lack of specific didactic training available to teachers within the technical field; the imbalance between the world of teaching and the job market; the frequent use of pedagogical plans designed for philology and linguistics in technical-translation classes; the scarcity of empirical work on the skills or competencies required by technical translators; shortcomings in terms of the very analysis of technical texts; and a number of others.

A factor that is essential to understanding the form that the training of technical translators should take in the society of the new millennium consists of the importance that this society assigns to the professional opportunities open to those with university studies. The job market awaiting newly-qualified translators has a limited absorption capacity, as each year's graduates from approximately twenty universities aspire to being incorporated into it. This fosters an evident increase in competition between classmates, growing disillusion and a fall-off in incentives as regards the future. However, there can be no doubt that one of the main obstacles that translators have to overcome in this field is the need to become an expert in state-of-the-art technology, as quickly as possible.

It goes without saying that the emergence of new tools, new tasks and new resources in the field of technical translation is essential for the professional activity. However, the influence that all these elements have had on the development of the activity of teaching in classrooms is of equal importance. As noted by D. Kenny (1999: 78), the effect on both fields is such that in addition to teaching students to work fluidly in this new environment, we must consider to what degree new tools are altering the very work of translators.

Translator-training centres thus need to modernise and upgrade their IT resources in order to tackle the new situation within this field. IT suites equipped with a sufficient number of computers and a selection of the most common programs must be available. It has therefore now become almost indispensable to have programs that incorporate a wide variety of functions, namely text processing, databases, assisted translation or translation memories, internet connections and email. Furthermore, the technical facilities relevant to technical-translation classes should be completed by multimedia suites with television and video equipment, headphones, a satellite-television signal, subtitling programs and other, similar devices.

2. New technologies and professional technical translation

The professional technical-translation market has undergone transcendental changes due to a range of factors that have altered the worldwide panorama in general, but have constituted a specific catalyst where technical translation is concerned. Of particular note among these factors are the sector's link to the emergence of the process of "globalisation" and the increasing internationalisation of markets (see, for example, Sprung: 2000; Schäffner: 2000; or Bosley: 2001). However, there are also other highly relevant factors, such as the overwhelming development of the internet, the implementation of remote working, and the boom in multimedia translation and the localisation of IT products (Esselink: 2000). This latter type of translation has

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dominated the business over recent years, but other new fields of work have also taken on great significance, such as licences for the granting of telecommunications services (fixed and mobile telephony, cable, wireless local loop and others) (Jiménez Serrano: 2000), translation for digital platforms (an offer of dubbed and subtitled products in various languages, DVD, etc.) and the translation of web pages (for different types of users and with varying objectives).

All the above has led to it being necessary for technical translators to have a proper knowledge of the tools that are available today. In the interests of descriptive clarity, I have suggested that new technologies' offerings as regards technical translation be divided into two main categories of tools (Jiménez Serrano: 2002). The reasoning behind this suggestion is that while it is true that some of the tools in question may be classified in both groups, these are the two categories that have the greatest relevance for technical translators. The first category consists of terminological tools and tools for the purpose of consultation, while the second is composed of tools for working and support.

Firstly, technical translators cannot avoid working with cutting-edge equipment for consultation and terminological purposes, as they need to have access to terminology that is consistent, reliable, linguistically acceptable and, most importantly, useful as regards professional communication. The technological advances of the last few years have led to particular relevancy being taken on not only by instruments such as computerised (or computer-assisted) terminological management, but also by specific aspects of the progress brought about by computer-assisted and automatic translation.

While technical dictionaries may have been the means of consultation used most frequently by translators prior to the emergence of the internet, they have an evident defect, due to the staggering rate at which technical disciplines develop. As these disciplines evolve constantly, it is impossible to establish terms that are reliable in dictionaries, even in the medium term. Nonetheless, the new formats (optical disks, online dictionaries) in which instruments for consultation are presented allow for renewal that is swifter and more useful for translators. Furthermore, the great advantage that optical disks represent for translators is not restricted to dictionaries, as their benefits can be applied to various instruments, such as encyclopaedias, archives, newspapers, journals, bibliographical databases and other publications.

Terminological databases and databanks also play a relevant role in this area, and have become very valuable consultation tools for technical translators. Despite the fact that not even major multilingual databanks, such as Eurodicautom, are immune to gaps or errors as regards standardised terminology, their importance for specialised translation can be demonstrated by the overwhelming protest from the collective of translators in response to news of the imminent (although, hopefully, temporary) disappearance of the aforementioned databank.

Lastly, among the tools that fall into the first of the categories that I have referred to, special mention should be made of a medium that is drastically altering the panorama in terms of the transfer of information, namely the internet. Students have been quick to adopt it as their preferred consultation tool, although it is necessary to meticulously check any data obtained from this new source. The internet has established brand-new concepts of communication, such as email, interactive chat, electronic journals, newsgroups, debate forums and mailing lists. The effect of these elements on the part of translators' work that consists of research and documentation is such that it is obliging us to reconsider traditional teaching plans.

Certain devices that also draw upon progress made in areas that are common to other linguistic disciplines fall halfway between the two categories that I have established for the classification of new tools. The first type of such devices worthy of highlighting consists of tools for the creation, selection and management of corpora. Also worthy of note in this area are devices for the extraction of terminology. However, special mention has to be made of all the progress made in fields such as computational linguistics, language engineering and the design and processing of natural languages. Thanks to the IT instruments created in these areas in recent

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years (lemmatisers, advanced tools for textual analysis, etc.), texts have become a much more productive and malleable object.

The second category of new tools includes the various means of combining the full range of IT programs designed to facilitate, speed up and improve the work of professional translators. In this respect, technological development has led to the existence of a wide range of elements, the use of which requires some degree of knowledge of the product, or at least of is basic functions. There can be no doubt that the ability to use such products has come to constitute a solid competitive edge within the sector. There are various elements that are usually quoted in this category, which is almost always identified with CAT (computer-aided translation) tools, but is normally associated to a more specific term, that of translation memories.

In recent years, translation memories have undergone spectacular proliferation and development. They are based on a memory that stores original texts and their corresponding translations in the form of databases. When undertaking the translation of segments (the descriptive unit used in this field) of the texts in question, the program locates identical or similar segments in the source and target languages alike. It displays the results of the search and offers them as an option to the translator, who can also use the lexical information provided in the case of there being no appropriate concordance. This process entails various quantitative and qualitative advantages, as well as others related to reusage. However, the benefits that the ability to translate more words, with a higher level of quality, and the possibility of reusing them in subsequent texts or projects represent for customers are frequently contested by translators. This is essentially due to the disadvantages involved from a technical and financial perspective, as translators are thus required to master new technology that sometimes involves multiple elements (as they may be obliged to work with different products) and which eventually obliges them to revise a large quantity of words for which no payment is forthcoming; to devote time that they cannot always spare to learning how to work with tools; and to make investments in equipment that they cannot always afford. In any case, new tools are most useful in the working environment of a translation company, as they prove to be effective, rapid and, in particular, profitable when applied as a solution on a larger scale.

There are also other instruments that professionals or teachers who work in the field of technical translation need to bear in mind, as the next few years will see major changes in this sector. Among these changes, particular attention should be drawn to speech-recognition systems, teletranslation (a term that encompasses the new channels of linguistic mediation based on the use of telephones, videoconferencing and other modern telecommunications services) and the emergence of certain brand-new elements, such as translation websites, among others.

3. The work of technical-translation teachers

Practical technical-translation classes and those that combine theory and practice should involve all the above resources. In certain cases, such as that of translation memories, it is even possible to undertake specific tasks focusing on the topic in question. In this respect, the importance of instruments such as workshops that simulate professional situations, the creation of working groups in which students perform the various functions of a professional, and other possibilities, should not be overlooked.

However, taking the above into account, teachers who want to work proficiently in this highly demanding technological environment will have to make a tremendous effort in terms of constantly updating their knowledge of the different products available and minimising the gap that exists between universities and the professional market within this field. The same degree of effort will also be required where selecting and preparing up-to-date material that satisfactorily fulfils its intended purpose is concerned.

The eminently practical nature (which is not always recognised in academic circles) of translation studies in general now involves a qualitative and quantitative increase in teaching work in terms of hours of lectures, tutorials and coordinating work-experience placements and

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exchanges. However, the intrinsic characteristics of the type of translation under discussion accentuate the difficulty entailed by covering an ever-increasing quantity of content with the limited number of credits that current study plans designate to technical translation. Furthermore, given the accelerated rate of renewal involved, teachers are in clear danger of finding themselves out of touch in terms of the required technical knowledge.

The fact that students now have an email address and an account with access to the internet opens up a number of possibilities for the teaching of and tutorials for translation subjects. However, it is necessary to devote a great deal of time to these devices in order to achieve satisfactory interaction with students. Nowadays, searching for documentation and material for classes on the internet usually goes hand in glove with the publication of teaching material on web pages set up for that purpose, with the extra work that this implies.

Electronic contact is not restricted to attendance-based education, as the new didactic avenues being opened up by virtual education cannot be disregarded. Recent progress in the field of non-attendance-based teaching and distance learning greatly affects language-related studies, and there is therefore no alternative for teachers of translation and interpreting but to familiarise themselves with this new educational model.

Lastly, teachers will have to provide a solution to a complex problem, that of how to combine educational work, which is highly demanding in its own right, with the professional practice of the activity, something which is indispensable in this context.

As a result of the above, those who train professional technical translators need to establish new teaching objectives that allow students to successfully respond to the problems that the market will pose them. For this reason, class activities should offer a professional context, whether authentic (recommendable in most cases) or simulated, but always realistic. This must also be a feature of scheduling within subjects, the source of the texts used and the jobs assigned as class translations. It is a good idea to simulate real translation commissions in order for students to become accustomed to the pressure of the real world. Class materials should therefore be authentic and presented exactly as commissioned by the customers from whom they originate, i.e. all the elements present in the original communicative situation should be maintained, as far as possible. Additionally, the translation commission should not only accompany the proposed translation exercises, but should be an integral part thereof.

Conclusions

The conclusion of this article must, necessarily, indicate that identifying the methodological and professional challenges that technical-translation teachers must tackle, as described above, does not constitute an obstacle to the belief that such teachers can and must deal with these challenges in a satisfactory manner. In fact, the various forums in which this topic has recently been debated in Spain have demonstrated the clear desire of teachers to overcome such problems.

Nonetheless, it must be said that while it may be highly recommendable to work with technological tools that facilitate classes and make them more appealing, we should avoid turning the latter into a computerised technical-translation agency where we do no more than reproduce professional conditions. Instead, an appropriate compromise should be found between the use of tools and the irreplaceable work carried out by teachers.

In conjunction with productive cooperation between colleagues, among other factors, the rationalisation of objectives and tasks can help to achieve the desired goals. However, obtaining a perfect balance between the different options open to us, which consist of training students to fulfil the objectives of companies or the industry, those of the students themselves or our own as teachers, is not a simple matter. This makes it necessary to find a compromise between dichotomies that should be taken into consideration, such as those that exist between humanist and specialised translators, between students with culture and those with cyberculture, and

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between students whose editing and orthography are good and those whose typography is of a high quality and who are able to master technical aspects, as well as other, similar dichotomies.

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