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## **Meeting translators' needs: translation-oriented terminological management and applications<sup>1</sup>**

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### **ABSTRACT**

Terminography is facing new challenges in the 21st century and is turning into a more user-oriented discipline. Consequently, new and more appropriate applications are being developed to satisfy users' needs. In this context, we encounter several translation-oriented resources and applications which are of great use to translators. However, in our opinion, there is still a lack of concrete and useful tools for them as real users.

In this paper, we discuss translators' needs and expectations, considering them as a specific group of terminology users, and provide relevant details about their preferences to be taken into consideration when carrying out translation-oriented terminological management. In addition, we present a new tool *Trandix*, a translation-oriented resource which tries to fulfil translators' requirements and which offers innovative features and functionalities, such as search in context or microstructure customisation, among others. Finally, we also offer a review of some other practical applications from the translator's viewpoint and provide some concluding remarks about the current situation and possible future lines of research.

### **KEYWORDS**

Translators' needs, research competence, translation-oriented resource, electronic resource, specialised translation, terminology management.

## **1. Introduction**

During the last decades, Terminology and Terminography have been subjected to several changes which have provoked a radical turn in their traditional assumptions and methodologies. This has been due to a number of factors: first, the electronic revolution has affected terminology management (Bourigault *et al.* 2001) and, thus, terminographers' working methods are now based on computers and new technologies; second, the principles and methodologies of the General Theory of Terminology have been seriously questioned by many experts (Gaudin 1993, Cabré Castellví 2000; Temmerman 2000, and other authors), especially regarding its prescriptive approach and idea of univocity between term and concept; third, the influence of some linguistic disciplines such as Corpus Linguistics, Cognitive Linguistics and Computational Linguistics on Terminology has incorporated new management tools and different approaches to theory and practice; and fourth, parallel working methods and mutual interests of ontology engineers and terminologists have led to the inclusion of ontologies in Terminography.

These changes and influences on Terminology and Terminography are also affecting Translation, regarding both practice and theory, since the

connection of Translation and Terminology is bidirectional and constant. In our opinion, one of the most interesting and beneficial aspects for Translation due to the changes which have occurred in Terminography is the increasing number of terminological resources that have appeared in the last few years. These resources, such as specialised dictionaries, glossaries, databases, etc. about a (or several) specialised domain(s), are the fruit of new methodologies and computing applications which favour the creation of these resources as they improve and facilitate terminographers' everyday work. For example, there exists a huge amount of information available in electronic format which can be easily stored to compile and manage textual corpora; candidate terms can be automatically extracted; texts can be automatically aligned; there are tools to create databases in an easy way, etc. Consequently, the number of these resources, especially those in electronic format, is higher now than it was some decades ago.

However, more choice is not always synonymous with improved choice. Although there is now easier access to a greater number of terminological resources on different specialised domains, we find low and, often, very low quality resources which are not reliable at all. The low quality of these resources is due to several factors: they are not systematically developed by their authors, the data included is not concise or correct, the information is not consistent, etc. In this context, translators have to bear in mind that the assessment of terminological resources is essential for their current work in order to deal with the *infoxication* (Cornellà 1999) of so many resources, even more when the purposes of these terminological resources are not to satisfy their needs but often just to help the general public to have a superficial understanding of a text.

In this paper, we briefly discuss the current professional translators' situation regarding terminological resources and the aspects we have introduced above. Subsequently, we examine recent terminological resources and applications that try to fulfil the needs of translators as their target users and which have employed translation-oriented terminology management. And finally we present a new tool, called *Trandix*,<sup>2</sup> a context-based consultation terminological resource aimed at translators.

## **2. Translators' needs regarding terminology**

In modern terminography terminographical projects should cope with users' needs and expectations. The starting point of any terminographical project should be based on a series of decisions: working languages, specialised domain, temporality, and users, among others, as well as an analysis of the content as adequate for the potential users or the skills needed to properly use these resources. Consequently, the results of any terminological project would depend on the target users and satisfying

their potential needs. However, this is not always the case, and particularly for translators.

A considerable number of resources currently available are of little use to professional translators, and therefore many are obliged to resort to the creation of their own terminological resources either from comparable corpora or from existing translations. These inadequate resources often pose a problem for translators since it is well known that they usually work under time pressure and they have little opportunity to create their own resources. This is the reason why terminological resources have considerable importance for them and should meet their requirements as far as possible.

In our opinion, professional translators' needs have usually been put on a level with those of other users (foreign language students, general public, etc.), which causes a problem regarding their specific needs and expectations. Hence, professional translators are obliged to carry out multipurpose tasks and, thus, translate, compile corpora, do research, create databases, store their terminology, etc., which increases the time they have to devote to each translation, and requires good research competence.

### **2.1. Translators' research competence**

In order to guarantee good quality in any type of professional translation, the European Committee for Standardization (CEN) developed the European Standard for Translation Services (EN-15038), which was published in 2006 (CEN 2006). According to this standard, professional translators should have the following competences when translating:

- Translating competence, which "comprises the ability to translate texts to the required level" of specialisation and meet customers' requirements;
- Linguistic and textual competence in the source language and the target language, which "includes the ability to understand the source language" and translate it into the target language by following its textual conventions and rules;
- Cultural competence, which includes the ability to develop suitable strategies for the efficient use of the information sources available;
- Technical competence, "which comprises the abilities and skills required for the professional preparation and production of translations" regarding technical aspects; and

- Research competence, which refers to the “ability to efficiently acquire the additional linguistic and specialised knowledge necessary to understand the source text and to produce the target text.”

All these competences included in the mentioned norm ensure a more efficient and precise translation, i.e., the acquisition of these competences by translators ensures a high level of translation quality and thus, appropriate communication with the target audience.

Although these competences define a professional translator, in our opinion, research competence is one of the most important. Along the same lines, Hurtado Albir (2001: 62) states:

La capacidad para documentarse ocupa un lugar central en el conjunto de competencias, ya que permite al traductor adquirir conocimientos sobre el campo temático, sobre la terminología y sobre las normas de funcionamiento textual del género en cuestión.<sup>3</sup>

Therefore, research competence can be also understood, in a wider way, as the key to finding all the information that translators need when doing their work and filling gaps that they may have regarding cultural issues, textual conventions, technical problems, phraseology, etc., apart from assisting them with specialised knowledge acquisition and transfer.

In this context, it remains clear that research competence is constant and present during the whole translation process, that is (1) during the pre-translation phase, where it can become more intense so as to understand the original text and the specialised terminology, (2) during the transfer from the original message to the target text, fulfilling the pragmatic requirements and looking for equivalents, and (3) during post-translation, when translators are carrying out the final revision and need to check terminology and other specific aspects to ensure the quality of their translation. In short, we can confirm that research competence is essential throughout the whole translation process, and translators are required to have good skills to deal with the current *infoxication*.

### **3. Translators’ preferences regarding terminology**

Research competence combined with technical competence (that is, the competence referring to the abilities and skills required for the professional preparation and production of translations regarding technical aspects) is very useful for translators as they are frequently obliged to compile and manage corpora and extract terminology or create databases by themselves due to the lack of available or suitable terminological resources. In this sense, we can state that the more skilled a translator is in these two competences, the better it is for their work.

According to previous research on translators' needs and expectations (Durán Muñoz 2010) and also taking their working conditions into account, it becomes clear that translators prefer solving their terminological problems by means of the consultation of ready-made resources, either paper-based or electronic, i.e., consulting available specialised dictionaries, databases, glossaries, etc. However, as we mentioned above, they do not always have the possibility to do so because of the lack of resources to fulfil their needs or because of the low quality of available resources. Hence, they are obliged to search and compile their own data and carry out *ad hoc* terminology management.

Apart from translators' preference for ready-made resources, the 2010 study offers a series of conclusions regarding translators' needs and expectations, which we briefly present below (cf. Durán Muñoz 2010):<sup>4</sup>

- Translators prefer online resources (56.47%) to any other type of resource (electronic resources, such as CD-ROMs, accounted for 24.71% and paper-based 18.82%) mainly due to easy and quick access, as well as their usually open access and update.
- Translators prefer bilingual (39.45%) to monolingual resources in the target language (25.56%) and source language (24.12%), and above all to multilingual resources (10.88%). This is due to the fact that they consider multilingual resources as being of lower quality and less useful in their work.
- The five most frequent resources used by professional translators are the following: (1) Bilingual Specialised Dictionary/Glossary (18.65%), (2) Searches in search engines (like *Google*) (16.13%), (3) Terminological Databases (8.84%), (4) Monolingual specialised dictionaries (original language: 8.63%), and (5) Wikipedia (8.63%). In the following positions, we find other resources, such as monolingual specialised dictionaries (target language: 7.83%) or parallel corpora (5.09%), but with a lower percentage.
- Regarding microstructure, translators were given the opportunity to classify the most frequent ISO fields (ISO 12620:1999) found in the microstructure of terminological resources into three different categories: essential, desirable and irrelevant; the results obtained are shown in Table 1:

Essential data	Desirable data	Irrelevant data
Clear and concrete definitions	A great variety of units (n., v., adv., adj.)	Etymological information
Equivalents	An explanation of each translation equivalent	Pronunciation
Derivatives and compounds	A greater variety of examples	Syllabification
Domain specification	Grammatical information	
Examples	Semantic information (semantic relations, frames)	
Phraseological information	Pictorial illustrations	
A definition in both languages (if bilingual) (45.11%)	A definition in both languages (if bilingual) (45.38%)	
Abbreviations and acronyms	Instructions for use	

**Table 1. Classification of translators' preferences regarding microstructure**

- Translators also had the opportunity to express their opinions regarding their needs and expectations of terminological resources. These were the most repeated arguments: Terminological resources should: (1) Permit exportability and/or importability in different formats (.txt, .tmx or .tbx); (2) Include more pragmatic information about usage and tricky translations (old usage, false friends, specific usage in a domain or region, etc.); (3) Offer links to other resources to improve or increase the results, (4) Improve search options, and (5) Provide examples taken from real texts.

Having presented translators' needs and preferences regarding terminological resources, we can confirm that most of the terminological resources that are currently available (especially in electronic format) do not fulfil their requirements. They do not include the information needed by this group of users; nor do they ensure reliability or good quality. They are mostly devoted to helping with message de-codification, i.e. understanding the original message, but not to assisting with message codification or re-writing, which translators' tasks are based on.

Nevertheless, we must highlight the fact that there have been some good efforts to improve the working environment of translators in the last few years and nowadays several translation-oriented resources and applications can be encountered, as we discuss in the next section.

#### **4. Translation-oriented terminological resources**

Despite the fact that most of the available terminological resources do not fulfil translators' requirements, there are different applications and resources which are aimed at translators or, at least, can be considered as somehow translation-oriented which have been developed in the last few

years (cf. Bowker and Corpas Pastor, 2012/forthcoming). These resources claim to be reliable information sources or improve the consultation of terminological data so as to fulfil professional translators' requirements and make their life easier.

For example, we find the meta-search engine *Metalemán*, a search engine aimed at translators working with the German-Spanish language combination. Its basic aim is to provide quicker and easier access to the usual monolingual and bilingual resources employed in this type of translation (dictionaries, databases, acronym and abbreviation resources, etc.) by means of a repository of links to these resources. It is a simple resource but very useful and helpful, since translators have access to different resources from only one application.

A sophisticated bilingual search engine is *Linguee*, a so-called 'intelligent dictionary.' The running process is very intuitive as the user just has to type the term or the expression in the search bar and click on Search, after having selected the corresponding language combination. This application combines an editorial dictionary and a search engine which permits searches for words and expressions through bilingual texts in the language pairs English-German, English-French, English-Spanish, and English-Portuguese. The search results are offered in two different parts: one offers the results obtained from the dictionary, and the other includes example sentences from other sources to provide terms and expressions in context. According to the authors, the dictionary has been checked by their editors and is constantly enhanced manually; the majority of the example sentences come from bilingual websites, particularly from professionally translated websites of companies, organisations, and universities, such as texts published by the European Parliament. We must also highlight the fact that *Linguee* rejects all translations detected as automatically made and, therefore, they are not displayed as results of the bilingual search.

*IntelliWebSearch* is also a very interesting and useful translation-oriented application, describing itself as a "Term Searcher's Paradise". It was designed by M. Farrel, a technical translator working in the Italian-English language combination, with the aim of saving time when browsing the Web for terminological information. It consists of a dictionary management system which can be installed on the user's own hard drive and which can be configured to search websites or dictionaries. The idea is to reduce the steps required to access the terminological information, that is, the steps needed to consult a frequently used dictionary, a database, a website, etc. These steps are reduced thanks to the use of shortcuts to access the tool and the different resources.

In our specific case, we undertook the design and implementation of a new tool, called *Trandix*. This tool is not just a terminological resource, but



also an innovative software application aimed at translators which offers the possibility to access data in different ways and to customise the results displayed, which makes it flexible and target-oriented. The design of its functionalities and features was based on the results obtained in the survey presented in the previous section (Durán Muñoz 2010); the methodology followed to elaborate the terminological content was systematic and translation-oriented and was conducted within the framework of corpus-based terminography.

#### **4.1. *Trandix*, an innovative translation-oriented terminological tool**

The main goals of the *Trandix* tool are focused on fulfilling translators' requirements and filling the gaps that were identified regarding terminological resources aimed at translators.

At the present moment, the *Trandix* tool is a translation-oriented multilingual terminological resource (Spanish, English and German) in the domain of adventure tourism and its related terminology. It offers reliable and systematically-managed terminological data according to the translation-oriented methodology proposed in Durán Muñoz (2012),<sup>5</sup> and also an innovative way of consulting the terminological database. Therefore, it provides advantages in two different aspects: terminological data and access to it, as seen below.

Carrying out research on different resources before work started on this tool, we realised that one of the greatest problems of terminological resources, whether reliable or not,<sup>6</sup> is due to the editing phase and the consultation options afterwards. Terminographers devote much time to creating their terminological database (analysing a specialised domain, gathering and managing data, searching collocations, etc.) but, once it is finished, they export their databases in printable format or make them available online, without taking users' needs for searching into account. So these resources frequently offer just a conventional way of consulting the information, either in paper-based or electronic format. That is, they provide access through term search, an alphabetical list, or other conventional types of search, but they do not go further and try to improve the process of data access and consultation by users. Therefore, we detect a lack of research in this respect and also a lack of innovative proposals to improve users' (in our case, translators') access to their data.

The tool *Trandix* was designed in this context. Its functionalities aim to enhance this final phase of consultation by offering several types of searches, different possibilities to customise the results, etc. As noted previously, it is currently available just for the adventure tourism domain and for Spanish, English, and German, but we are working on further improvements, which include a greater range of domains and languages.

In the following sections, the most interesting functionalities offered by the tool are described.

#### 4.1.1. Searching possibilities

The most innovative aspect of *Trandix* is the so-called 'search in context.' This means that the consultation is carried out in the same text which the translator is working in, that is, the translator is allowed to access terminological data from their working text, without using any other kind of resource or writing or copying and pasting the searchable terms in other applications, such as metasearch engines or dictionaries.

In order to work with this tool, translators only need to upload their working text into *Trandix* in plain text or .txt format. Subsequently, they will visualise a window divided into two different parts: one devoted to the text to be translated and the other blank. The source text, now uploaded in the tool, then appears with highlighted terms, which are the ones included in the terminological database (Figure 1).

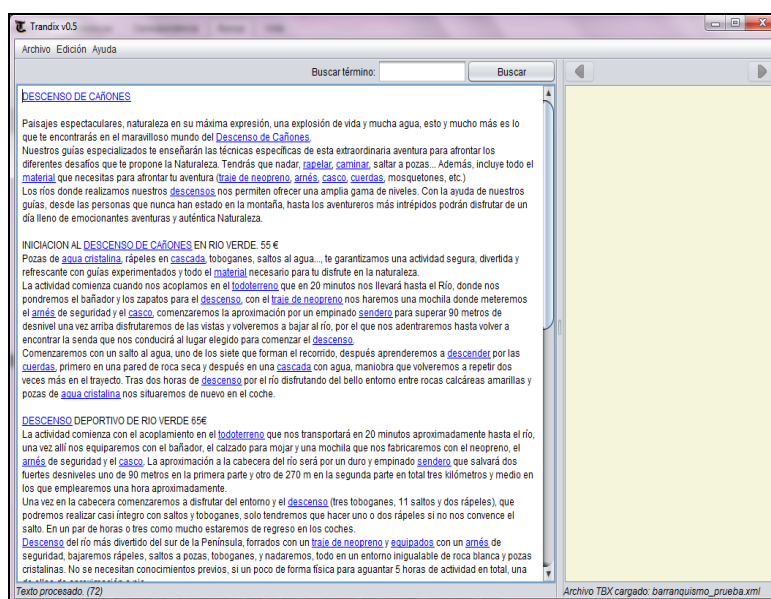
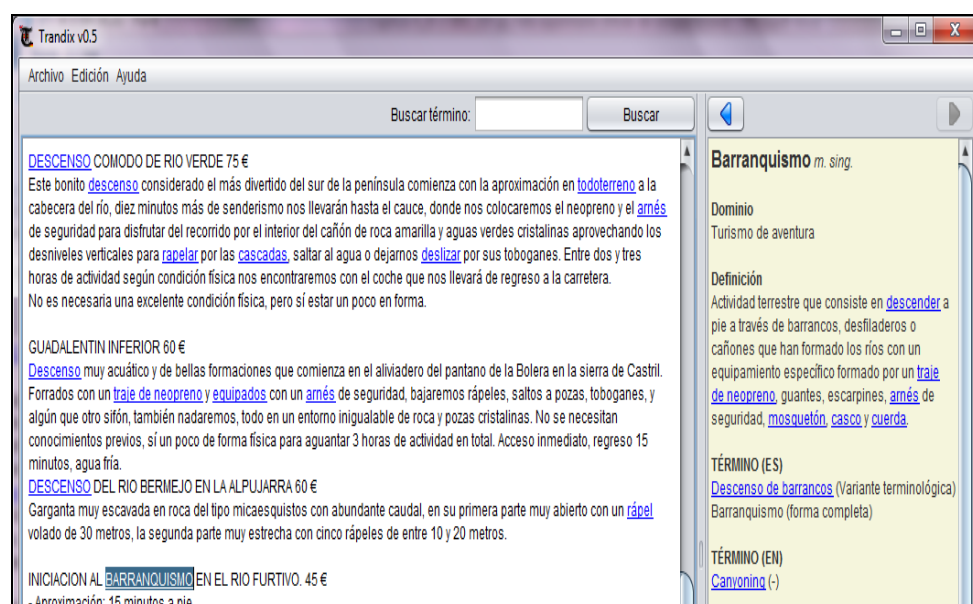


Figure 1: Main *Trandix* window with highlighted terms

This procedure helps translators to check the data included in the database from the beginning of the working session and to access the terms by means of hyperlinks, which reduces the time needed for terminological searching within the resource and, therefore, the time that translators devote to their consultation if their search fails. In order to access terminological information, users need to double-click the highlighted terms; the information will then be displayed on the right side of the (previously blank) window (Figure 2).



**Figure 2: Main window with terminological entry on the right side**

The *Trandix* search-in-context option improves translators' tasks in two different ways: (1) It permits the visualisation of all the terms in the working text that are included in the database at a glance and from the beginning of the session, which eliminates unsuccessful searches; and (2) It provides the option of accessing the terminological information from the same window in which the working text is located, without the need to change application or stop seeing the context in which the searchable unit is placed.

Apart from the search-in-context option, the tool provides two other types of searches, so that translators can choose their own way to find the required information. In this sense, the main purpose of the tool is to fulfil their requirement about the improvement of search options indicated in the survey. The first type of search consists of an internal search in the database, that is, a term-based search in which users type the term that they are looking for and obtain the terminological information (if this term is included); and the second one is an external search, which offers the possibility to search in several external resources (specialised dictionaries, glossaries, search engines, etc.) previously set by users (as indicated below).

This second type of search is similar to the one offered by the *IntelliWebSearch* tool as it allows users to consult different resources without having to change or leave the application. That is, instead of having to open their search engine and consult dictionaries or other resources from there, the *Trandix* tool allows users to do it from the same window in which they are working.

In our opinion, this external search can be useful in several ways: first, users are not always satisfied with the information that they encounter in terminological resources and it is important for them to have the opportunity to easily consult other resources; second, there may be terms appearing in texts that are not included in the terminological database, either because they are neologisms or because they were not included at the time of populating the database, and users need to search for information about them. Therefore, we highlight this option as a way of facilitating, to a certain extent, access to the required information, either providing access to other terminological resources or search engines like *Google*.

Finally, the *Trandix* tool also offers the possibility to navigate the terminological entries by means of hyperlinks. This is another type of internal search, as users can jump from one entry to another by using these hyperlinks and, therefore, access related terms or cross-references, either to complete the information found or to gain knowledge on other terms.

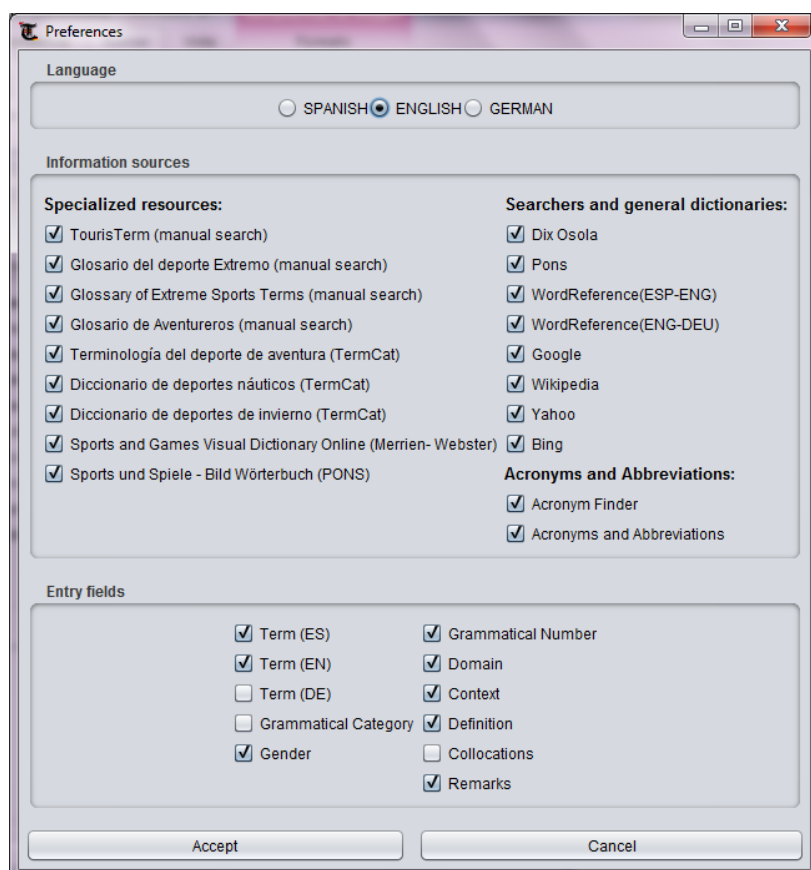
In short, this tool attempts to improve the results of terminological research by offering several types of searches with a view to reducing time and effort, eliminating unsuccessful searches and meeting users' needs and preferences.

#### **4.1.2. Selection of terminological fields**

This functionality is mainly based on function theory (Bergenholtz and Tarp 2003, Tarp 2008) and electronic multifunctional dictionaries (Spohr 2010). Both proposals defend the need to elaborate terminological entries according to the potential users, as in modern terminography, so that resources can fulfil users' needs and expectations. Besides, Spohr (2010) proposes the creation of a generic terminological database from which different data are selected according to the target users and the purpose of the project. That is, the terminological database remains the same but the information it contains will be selected according to the users and the project purpose. For example, it is not the same to elaborate a terminological resource for students as for experts, since the information required by these users differs.

The target users in the study described above (cf. section 3) can be considered a homogeneous group as they all are professional translators. However, by means of the survey results, we detected that translators also differ in what they need (depending on their background, preferences, etc.), and some translators can even need different kinds of information for different projects. Consequently, we state that it is necessary, as far as possible, to give the opportunity to users to select the information that they want to have displayed in the terminological entry.

Taking this into account, *Trandix* provides a range of terminological fields, based on ISO 12620 (1999) and the preferences indicated in the survey, but it also offers the possibility to customise the microstructure of the entries in each session. Hence, a translator could, for example: decide that the microstructure of the terminological entries display only the terms and the equivalents in one language; select the domain, equivalents, and notes to access pragmatic information; or select the definition, collocations, and equivalents fields. In short, the tool is flexible enough to allow users to select the fields to be included in the microstructure (Figure 3).



**Figure 3. Window Preferences**

At this stage, users can also select the tools that they want to use for the external searches in order to carry out the searches outside the application, as also seen in Figure 3.

#### **4.1.3. Other features**

Apart from the above features, we highlight the fact that *Trandix* offers the possibility for users to send feedback at the end of each session. This is done by means of an email which is automatically created when the session is finished and always after users have confirmed their interest in collaborating with the development of the tool. This email contains the

terms and expressions that were searched for using external searches and is also editable by users who want to add any other comments. This functionality allows developers to understand users' satisfaction and needs as well as possibilities to enhance the tool and the content in the future.

Finally, the tool also allows users to copy and paste a whole text or a fragment directly on the left side of the main window, in case they have not uploaded a .txt file at the beginning of the session. Moreover, the text is editable from the same window in which it appears once copy-pasted or uploaded, avoiding the use of external editors and thereby centralising users' work in one application. This results in a significant reduction of users' time and effort when translating.

## 5. Conclusions

In this paper we have tried to identify and review translators' needs and expectations according to a survey carried out in the framework of a larger research project about terminological resources for translators (Durán Muñoz 2010). Following on from the results obtained, we have discussed several tools and resources that are currently available online and also presented an innovative tool, called *Trandix*, the aim of which is to fulfil translators' needs and fill the gaps encountered regarding terminological searches and access to resources.

As final concluding remarks, and after carrying out our review on the current situation of translation-oriented terminology management, we confirm that there is a growing interest in developing translation-oriented tools, either applications to improve searches, such as the applications briefly described in section 4, or terminological resources (specialised dictionaries, glossaries, etc.) so as to offer reliable sources of information. However, we observe that there is still a lack of this type of tool and more research should be carried out, above all on the editing phase of terminological projects and the consultation options provided afterwards. In our opinion, a great number of terminological resources developed by reliable authors (institutions, administration, experts, etc.) do not yet fulfil translators' requirements, although their content is systematically managed and reliable, because of the fact that they do not pay enough attention to the editing and post-editing phases. That is, they work very hard during the whole terminological project, but they limit themselves after exporting the database to printable or electronic format, and offer conventional searches (alphabetical lists of terms, term-based search). Therefore, they do not bear in mind users' needs regarding consultation and data access.

We have tried to contribute to this area of research and, hence, designed and implemented the *Trandix* tool, which we consider to be an innovative and useful tool for translators. Apart from offering a reliable and

systematically managed terminological database, it provides several search options (search in text, external searches, hyperlinks, and internal search); the possibility to customise entry microstructure, language interface and the selection of resources to be employed during external searches; as well as other useful functions such as the possibility to send feedback to the administrator.

To conclude, we argue that it is necessary to continue working on new applications and resources addressed to translators, as a concrete group of users with specific needs and preferences, so as to enhance their translation tasks and reduce the time devoted to research. And finally, we also endorse *Trandix* as a suitable translator-oriented tool as discussed in this paper and also in an evaluation study carried out in spring 2011 with semi-professional translators<sup>7</sup> (Durán Muñoz *et al.* forthcoming).

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## Biography

Isabel Durán Muñoz studied Translation and Interpreting in Málaga (Spain) where she also obtained her PhD (with high honours) in June 2011. Since 2007 she has been a researcher and lecturer at the University of Málaga (PhD Research Scholarship funded by the Spanish Ministry of Education) and member of the *Lexicografía y Traducción* research group. Her fields of interest are: specialised translation, terminography for translators, ICTs and corpus management. Contact: [iduran@uma.es](mailto:iduran@uma.es).





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### Notes

<sup>1</sup> The research reported in this paper has been carried out in the framework of the R&D project BBF2003-04616 (Spanish Ministry of Science and Technology/EU ERDF).

<sup>2</sup> Trandix is an open access tool which will be made available without the need for a commercial licence. A demo version is available on request (the files required and the tool). Please contact Dr Isabel Durán Muñoz.

<sup>3</sup> "The ability to search for information plays a central role in the competence set, since it allows translators to acquire knowledge on the specialised domain, the terminology, and the textual conventions required by the specific text type" (translated by the author).

<sup>4</sup> This study was based on a survey made up of 29 questions, classified in 4 different parts: (1) Professional information; (2) Working environment; (3) Terminological resources, and (4) Assessment of resources used by translators and their views on 'ideal' resources. It was distributed through translators and interpreters associations around the world, as well as distributed lists, discussion forum, etc., such as *Proz.com* or *The Linguist*, in different language versions (English, Spanish, German, and Italian). In total, 402 answers were obtained during the period the survey was open (summer 2008). For more information about the results obtained and the survey, please see Durán Muñoz (2010).

<sup>5</sup> The translation-oriented methodology followed to create the terminological database is in line with modern terminography, i.e. a corpus-based systematic and descriptive methodology. It also has a linguistic-cognitive approach, based on the frame-semantic approach (Faber *et al.* 2006), and includes aspects from function theory (Bergenholtz and Tarp 2003, Tarp 2008).

<sup>6</sup> We consider reliable resources as those which are the result of a terminological project and are systematically carried out by institutions, organisations or terminographers.

<sup>7</sup> Semi-professional translators denote students who are in their final semester of their undergraduate degree and are supposed to have acquired the necessary skills to work as professional translators in real life (Corpas Pastor 2008: 118).