TRANDIX: PROACTIVE TOOL FOR TRANSLATOR TERMINOLOGY SEARCHES AND EVALUATION[1] [2]

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Abstract

This paper analyses current trends in the terminography field and translators' needs regarding terminology resources. In this context, the *Trandix* tool is presented as a novel software application that pursues efficiency in terminological searches conducted by translators. This tool is based on Tarp's Function Theory of Lexicography (2008a) and Spohr's proposal concerning electronic multifunctional dictionaries (2009). A further goal of this paper is to serve as an example for future research in terminological resources aiming to meet translators' requirements and expectations when carrying out terminology searches.

Keywords: Function Theory of Lexicography. Terminological search. Evaluation of terminological resources. Editing terminological resources.

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1. Introduction

Current trends in the development of terminological resources are aimed at the creation of dynamic and flexible resources which meet their end users' needs. Hence, the terminography work that used to be static and homogeneous has become more personalised and flexible than ever and it may vary from one project to another. Before each project the terminographer must decide several aspects, such as the communicative purpose of the final producct, i.e., if the resource has a coding function (rewriting) or a decoding one (understanding); the cognitive purpose, which refers to whether the purpose of the resource is to provide knowledge or, on the contrary, to solve any type of problem; who the potential users are (specialists, laymen, students, etc.); the required infrastructure and equipment to carry out the terminography project (software, corpus, storage capacity, etc.); and the eventual edition of the resource (paper, CD-ROM, etc.) (Brekke, 2001: 181).

These variables are the basis for the Function Theory of Lexicography (Bergenholtz and Tarp, 2002, 2003, 2004, 2010; Tarp, 2008a, 2008b), developed by researchers at the University of Aarhus (Denmark). This theory provides a set of principles regarding the lexicographical work and places special emphasis on the observance of the variables of the different lexical projects, in order to achieve optimum results in the final product. One of the main conclusions of this theory states that users do not usually need general information, but information appropriate to their needs and expectations. Thus, the type of information required is always concrete and depends on both potential users and the specific situations in which dictionaries are used. In other words, the information needs of potential users cannot be defined without specifying *who* needs *what* and in *what context* (Tarp, 2009: 46). Nielsen clearly sums up this view in the following quotation: "Dictionaries are utility products that are designed to help specific types of users in specific types of situations to solve specific types of problems" (2010: 69). The foundations of this theory can also be extended to terminography and, thus, to the development of dynamic and flexible terminography resources that change from one project to another and that take into account end users' needs at all times.

In this regard, we recognise the advances that are occurring in the terminography field. However, if we analyse the resources with translators as a group of end users in mind, the adaptation efforts and attempts to improve results are not sufficient. In this paper, we focus on this particular group of users and their needs in order to present a new tool for terminology search and query, *Trandix*, developed as part of a wider investigation (cf. Durán Muñoz, 2011). As discussed below, this tool offers great advantages to translators from the point of view of efficiency while searching terminology as it is a proactive application for search in context.

2. Terminological resources aimed at translators

According to a previous study on translators' needs regarding the use and content of terminology resources (cf. Durán Muñoz, 2010), it is observed that the current resources are far from the needs and expectations of this specific group of users, especially regarding access to content. Most projects include a very thorough and complete terminography work regarding content development (definitions, reference sources, etc.) but they lack innovation in the editing phase, that is, the searching options have not changed greatly as they are mainly carried out through a conventional search by terms or alphabetically. In other words, much effort is devoted to information management and the development of the database, but the final phase, the product edition, is fulfilled in a conventional way and, thus, ignores the requirements of end users with respect to terminology querying and searching. In this vain, despite the use of

numerous tools for managing corpus, concordance searchers, terminology mining, etc. during the creation of the database, terminographers are still performing database editions in .rtf or .pdf format for edition on paper or .html for edition in electronic format. Fortunately in recent years we have witnessed the appearance of electronic tools and resources that are improving this situation, such as metasearchers (*Metalemán* or *Metainglés*), computer applications (*IntelliWebSearch*), online translation memories online (*Glosbe* or *Linguee*), among others. Nevertheless, much further work is needed in this direction to provide new resources that reduce the search time of translators, improve outcomes and, therefore, increase the quality of translations.

At the moment of editing a terminology database for translators as the group of end users, it is noticeable a great need of providing flexibility and dynamism, in addition to enabling quick and easy access. In this regard, we consider essential that the final resources for professional translators include the following aspects:

- Cross-references by means of hyperlinks to other terms included in the database belonging to the same semantic framework;
- Various ways of access to information, such as search by entering the desired term, alphabetic search or, if possible, search in context.[3]
- Flexibility to select the information displayed on each input according to the needs of users.

Regarding the first point, cross-references to other terms within the resource prompt no discussion, since it is generally considered an appropriate way to expand the information contained in each entry and provide further insights into the semantic framework which the concept in question belongs to. In paper-based resources, the possibility for faster cross-references through hyperlinks is not possible, although these are made by including information on related terms at the end of the entry, which must be explicitly sought by the user.

The second point refers to a more complex issue, since there is no exact information about the best search option for users in general. Each user may prefer one access type or another, so this should not be generalised. Usually electronic resources often provide more than one type of search, which are mainly based on term search, i.e. the term to be consulted is typed and the entry of said term is displayed, and on alphabetical search, that is, the query results are listed in alphabetical order. In our paper, we present another search option, which would expedite the consultation and access to information by professional translators, as well as other users. This type of search has been named *search in context*, as the search is carried out on the working text itself where the terms to be consulted appear.

This search in context consists in highlighting on the working text the terms contained in the database, i.e. the working text is displayed on the application with hyperlinks, which indicate the terms included in the database. Therefore, the translator can, at a glance, check which terms are included in the database and which are not, as well as access the terminology entry by just clicking on the links. With this type of search, a faster, quicker and easier access to the term entries is possible and, hence, fruitless searches for terms that are not included in the database are avoided.

At this point, it seems relevant to underline two main aspects: on the one hand, the fact that end users (in this case professional translators) are not always satisfied with the information contained in a resource and need to consult other resources to complete or confirm the information found; and on the other, sometimes the resources available do not provide all the necessary terminology for the translator, either because it is a neologism or because it was not included at the moment of creation of the database. Therefore, we also emphasise the need to facilitate external searches for the user wherever possible, either by providing direct access to other resources or even direct connection to general search engines like *Google*.

[3] Another sort of search would be an onomasiological search, which consists in searching for properties and semantic relations of terms (cf. Alcina Caudet, 2009).

The third point to be discussed, which concerns the flexibility in selecting the information displayed on each input according to users' needs is related to Tarp's Function Theory (2008a) and multifunctional electronic dictionaries (Spohr, 2009). Briefly, these two proposals indicate that the contents of the inputs should be adjusted to the needs of each group of recipients, so that the product meets the functions for which it is to be used, for example understanding or reproducing a message. Also, the second proposal suggests the creation of a generic terminological database consisting of complete information and that, when the final resource is to be edited, terminographers make a selection of the information to be displayed to end users. This second proposal is relevant to the context of our research, since in a previous study (cf. Durán Muñoz, 2010) it was found that not all users need the same type of information. This choice depends mainly on two aspects: first, the translator's background with respect to the domain in which he/she is working, and secondly, his/her preferences when making inquiries. Also, one translator may need one sort of information at a given time and change his/her need at another. Therefore, we suggest that, prior to the product being accessed by end users, the possibility to select the information they wish to have displayed is provided in the term entry. For example, a translator might select that the entry simply displays the searched term accompanied by its equivalent in one language and its definition; but another could choose the searched term, grammatical category, equivalent, definition and context, or simply the term and the equivalent. In this sense, a resource is achieved that offers the possibility of flexible, dynamic and quick queries, as well as reuse of the information according to the preferences and needs of the end users.

As far as we are concerned, these features are essential in meeting translators's needs and expectations as end users. Hence, terminography projects should take into account these aspects when editing final products. In this regard, the shortfalls have led us to propose *Trandix*, a software application that aims to streamline translators' consultations by making them more flexible and efficient.

3. *Trandix* and translator **terminology** support

Some previous applications of *Trandix*, particularly comprehension assistants,[4] pursue the goal of providing more accessible and flexible resources to users of electronic texts and preventing them from losing time in consulting a great number of resources while reading. Departing from this idea, and taking into account the positive evaluations that its predecessors have received, we developed a software application similar to comprehension assistants, but with a different purpose: a multilingual terminology resource (Spanish, English and German) for a particular specialised domain (adventure tourism) and aimed at a specific group of end users, namely translators.[5] To achieve these objectives, it was necessary to include a number of specific functions that would make *Trandix* an innovative tool in the field of information search, both terminological (in a specialised field) or lexical (more general in scope) search. Among other advantages, *Trandix* facilitates the comprehension of the original text and the encoding or rewriting of the target text (i.e. translation), reduces the search time required to find terminological information through the textual search, provides the option of customising terminological entries, and allows the consultation of external resources without having to change the application. This tool can serve as an example of innovation to continue research on terminology resources and applications to expedite and improve the translator's work. The main features offered by the tool are discussed below.

[4] These comprehension assistants emerged with the main objective of decoding an electronic text in another language to make it understandable to a user with insufficient knowledge in said language. Ever since their appearance, they have been considered an alternative to machine translation as well as a more flexible and useful resource than conventional paper dictionaries. Examples of these assistants are Compass (Feldweg and Breidt, 1996), MobiMouse Plus (Prószéky and Földes, 2002) and Smarty (Arnaudov and Mitkov, 2008).

[5] We remind the reader of the fact that this research is in the framework of a greater project whose main goal is to create a multilingual terminological database (English, Spanish, German) on adventure tourism.

3.1 Search in Context

The main purpose of *Trandix* is to streamline the consultation of terminological information in context, i.e., by consulting the working text itself, without having to open or look for other external resources, and with no the need to type or copy and paste the term of interest. In other words, the main objective is to minimise user effort when searching for terms.

For this it is necessary for the user (in this case, the translator) to upload the text he/she wants to work on to the application in plain text (txt). Once uploaded, the text is automatically preprocessed by a POS Tagger,[6] in order to bind the working text with the terminological entries included in the database. When the preprocessing is complete, a window is displayed divided into two parts: on the left-hand side, the working text previously uploaded appears marked with all the terms that are in the database underlined by hyperlinks; and on the right side, a blank box can be observed (see Fig. 1).

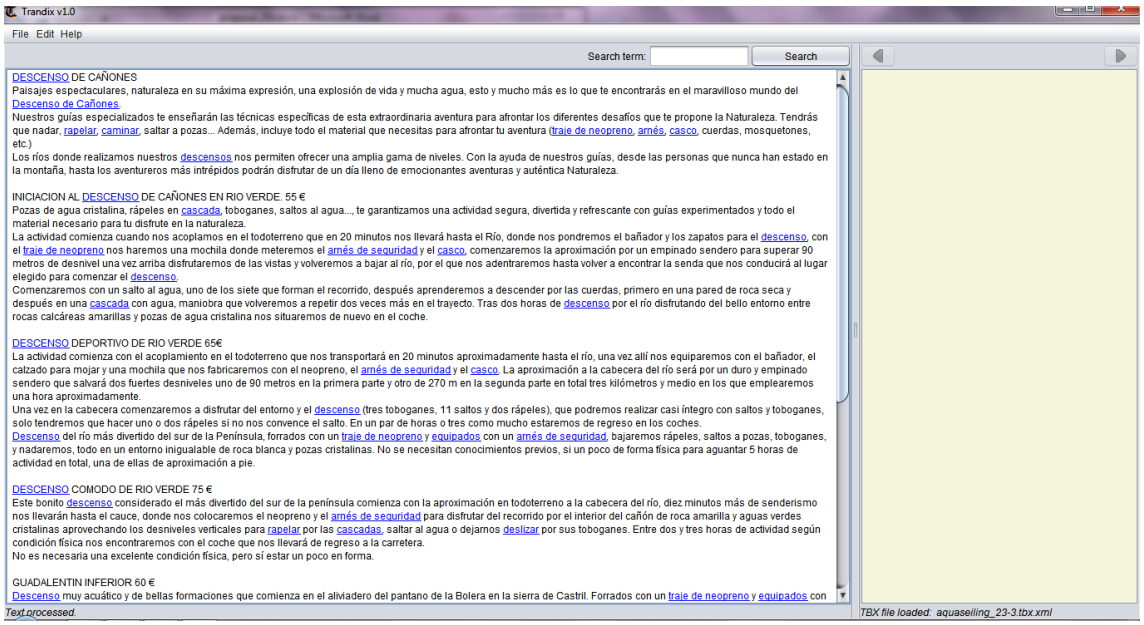

Figure 1: *Trandix* displaying the marked text on the left-hand side and the blank box on the right-hand side

Whether no plain text format (txt) is available to upload into the application, *Trandix* allows users to copy-paste the text (or fragment) directly on the left-hand side of the window. It is also possible to edit the text displayed so as to modify it at any time and even translate the text directly without the need of other external editors.

Once the text is uploaded and displayed, users can at a glance observe the terms that are included in the database, i.e. they do not need to carry out specific searches for terms and expect a satisfactory or a fruitless result. On the contrary, users will have access to all terms that are on the text and in the database at a glance and immediately. They will only need to click on the hyperlinks and the terminological information available will be displayed on the right-hand side of the window (Fig. 2), i.e., without having to leave the application nor losing sight of the working text and context of the information being sought.

[6] POS tagging is performed by *TreeTagger* (http://www.ims.uni-stuttgart.de/projekte/corplex/TreeTagger/), a morphosyntactic tagger and lemmatiser developed in the context of the TC project at the Institute for Computational Linguistics of the University of Stuttgart. It works on a variety of languages, including German, English, French, Italian, Spanish, Greek and French.

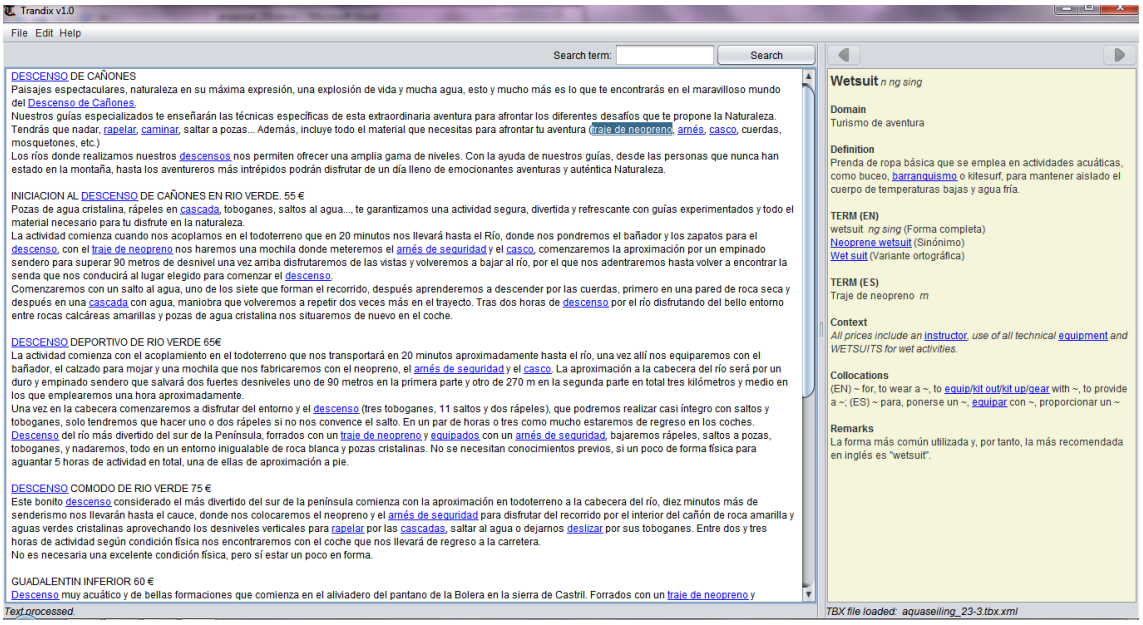

Figure 2: *Trandix* Window with terminological information on the right

The search in context that *Trandix* offers improves translators' work in two main aspects: first, it permits all the terms that are included in the database to be visualised and, thus, it is not necessary to check whether the desired term is in the database, i.e., users will know from the outset all the terms that *Trandix* can offer immediately; and second, it provides the possibility to access terminological information in the same window in which the working text is displayed, without having to change from one application to another or losing sight of the exact context in which the term is searched.

3.2. External and internal searches

In order to improve terminological queries by translators and to meet all their needs, the application, besides the two previous searches, offers two other options: firstly, it enables users to perform a conventional search, i.e., a search for terms; and, second, it permits external search, that is, a function that allows users to consult external resources (dictionaries, search engines, etc.) directly from the application.

By the first type of search case, as mentioned, *Trandix* allows users to consult terminological information through direct search terms in the database as if it were a conventional database, i.e. without accessing terms through working texts. This type of search can be performed in two different ways:

- By means of a quick access on the start page, which allows you to type the term you want to search (Fig 3.).

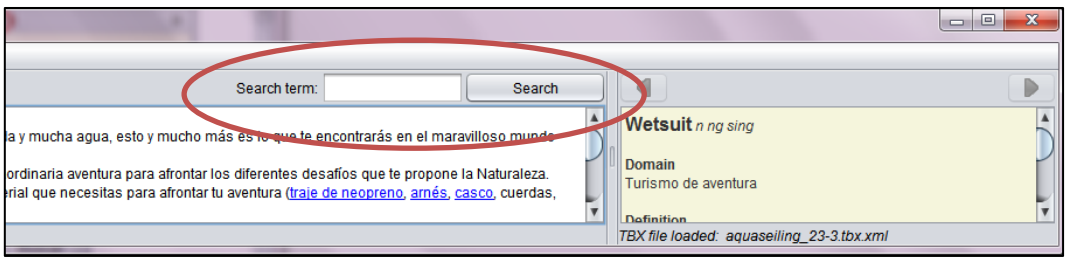

Figure 3. Direct search from the main window

- By accessing the *Edit* menu → Search term, where a new window is displayed. Here users can type a search term and also access a drop-down list of recently searched terms (Fig 4.).

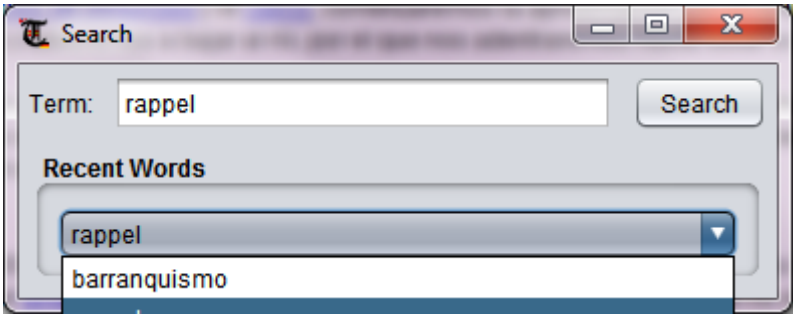

Figure 4. Direct search of a term

The third type of search is the so-called external search, which complements the previous types and is intended to facilitate the task of the translator by giving search access to other resources directly from the application. That is, users will not be forced to leave *Trandix* and open a browser to access other resources, but they will be able to access from the same application, which saves working time when searching.

This search is designed to help users in case the term to be found is not in the terminology database or if additional information is needed. Again, access to this type of search is very simple and only requires three simple steps: (1) select the desired term or phrase on the working text, (2) click on the right mouse button on the selected term or phrase and (3), select "Search in..." and the desired resource from the list from the contextual menu that appears (see Fig. 5). After selecting the application, the default browser will automatically open and the results obtained will appear on the chosen site. As we shall see in the next section, *Trandix* currently gives direct access to seventeen resources.

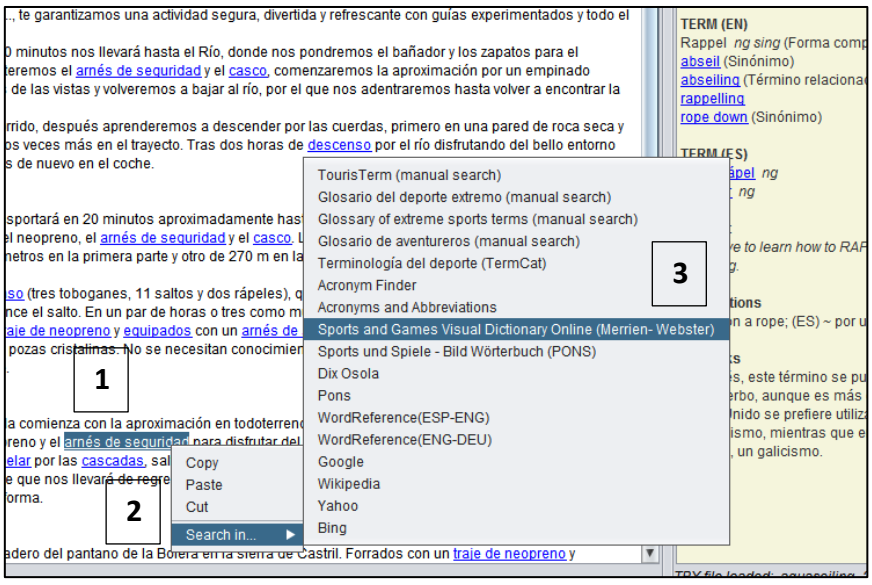

Figure 5. Steps for external searches

In short, the various possibilities of searching offered by *Trandix* help speed up the documentary task by saving translators' time and effort, even more when they are currently forced to use and get many different resources to find the information needed.

3.3. Customising Preferences

Another major objective of the application is to make their use easier and give the user the opportunity to adapt it to their needs. To do this, *Trandix* allows users to customise some aspects of the application and set the search and consultation criteria that best suit their

demands. Consequently, through the *Preferences* menu, in the *Edit* menu, users can set their criteria on different aspects: interface language, available resources and terminological entry fields (Fig. 6).

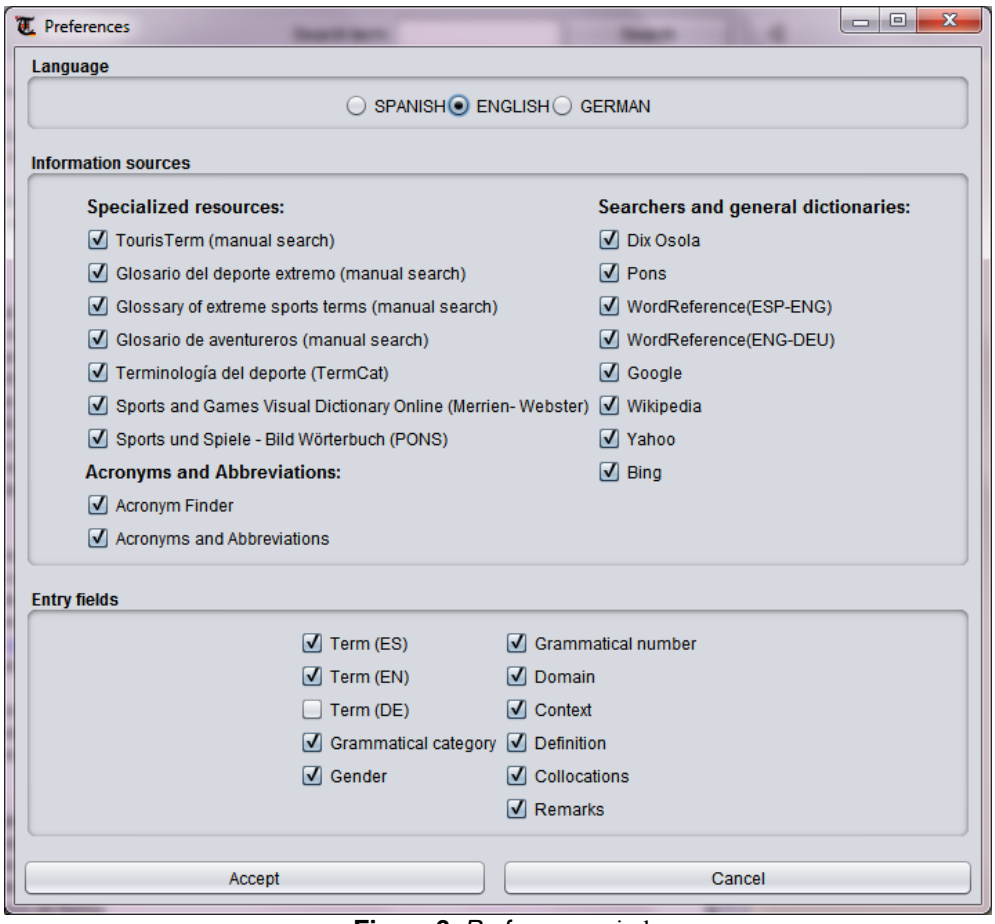

Figure 6. *Preferences* window

In the top part of the window (cf. Figure 6), the three interface languages available on the tool can be seen: Spanish, English and German. With these options, users can change the interface language, and all the menus, buttons and messages will appear in the selected language. In the middle part, the resources indexed in the application to conduct external searches described above are indicated. By checking or unchecking the boxes users can indicate the resources that interest them most. Therefore, when conducting an external search for information about a term the application will offer a list of the resources selected in this window. In this section, we find three different types of resources: specialised resources, referring to specialised dictionaries and glossaries of a particular domain (at the moment only resources related to adventure tourism are included); general search engines and general dictionaries, including dictionaries in Spanish, English and German; and finally, acronyms and abbreviations, which provide links to abbreviations and acronyms resources in different languages. And finally, at the bottom of the window (3), users can select the content that is to appear in the terminology entry when searching a term and, thus, adapt the search to their own needs. As observed, 11 different terminology fields are offered, since they are the most requested fields by professional translators according to a survey previously conducted (cf. Durán Muñoz, 2010), namely: (1), (2) and (3) *Term* in Spanish, English and German (this field is also understood as equivalent, since they can work in either direction of the working languages), (4) *Grammatical category*, (5) *Gender*, (6) *Number*, (7) *Domain*, (8) *Context*, (9) *Definition*, (10) *Collocations* and (11) *Remarks*. In this way, a user can select *Term* in Spanish and English, *Definition* and *Remark* while another might select other combinations, always according to their own needs.

In short, the *Preferences* window allows search results to be narrowed search results and saves time to users, allowing them to suit their own demands.

3.4. Editing the text in the application

The *Trandix* tool allows users to edit the original text uploaded in the same application, i.e., the text that appears with the terms marked by hyperlinks on the left-hand side of the screen can be edited as in any other text editor and, thus, it can be modified, deleted, copied, cut and pasted, undone, etc. Consequently, it is not necessary for the translator to use another text editor, such as *Word* to rewrite the text in the target language, since it is possible to do this directly in the application, saving time and effort again.

3.5. F*eedback*

In order to update and improve the terminology database constantly, as well as to measure user satisfaction, *Trandix* provides the possibility for users to send feedback at the end of the working session. In this way, users can collaborate in the development of this application very easily and effortlessly by sending an email to the administrator of the application. This email will be automatically created in the user's default mailer and will include the external searches carried out during the session, provided that users confirm their interest in participating in the project through the message shown below.

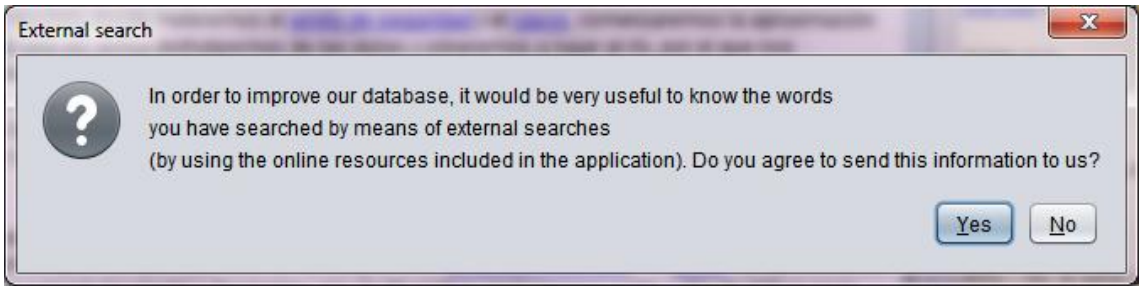

Figure 7. Message requesting collaboration

This information will be received by the administrator, who will immediately perform the changes or adjustments required (if any). Hence, if there are terms that should be included in the database, he/she will proceed to include them; if any information is incorrect or incomplete, he/she will revise or extend it; if an external resource is recommended, he/she will include it, etc.

In summary, this option allows developers to approach users' opinion and needs constantly and, therefore, improve the database and the application.

4. Assessing *Trandix*

After having presented *Trandix* and its most relevant features, it is worth stating that this is a complete, flexible and robust tool, which offers different kinds of search methods, editable options of the working text, customisation of users' preferences, among other advantages. It is also in line with previous studies about translators' expectations, which highlighted the need to create dynamic and flexible resources that facilitate accessibility to information, including pragmatic information about the use of the units, possible differences between languages and specific domain of use, etc. Therefore, we consider that the *Trandix* tool meets the most frequent expectations and requirements from both a technical and a human point of view, taking into account its end users (translators).

Despite these findings, we have also conducted an empirical experiment with official students enrolled in the final year of the Degree in Translation and Interpreting at the University of Málaga during the second term, with the aim of working with semi-professional translators

according to the terminology employed by Corpas Pastor (2008). This study intends to determine the satisfaction of potential users, and receive feedback on possible improvements or shortcomings of the tool.

4.1. Description of the experiment

The experiment was conducted as part of a seminar given to groups A and B of the *Specialised Translation English / Spanish-Spanish / English (b): Scientific and technical translation* course, consisting in official students enrolled in the final year of the Degree in Translation and Interpreting at the University of Málaga. The students were asked to translate two specialised texts in adventure tourism with similar characteristics concerning the number of words, text genre, level of specialisation, terminological density and source language. The first translation was performed free-style, that is, participants were allowed to use all resources, material, etc. on paper or online available, while the second one was performed only with the *Trandix* tool. The purpose of this study was to compare the time of execution and the quality of the translations produced with the tool and without it. Thus, on the one hand, the experiment allows us to observe the benefits of the tool when translating a specialised text and, on the other, to check that the tool fits translators' needs (in this case, semi-professional translators) according to our own expectations.

Before both translations, students received a document with the customer's translation guidelines, indicating the communicative situation of the target text and, in particular, detailing its purpose, so that they knew from the beginning the extra-textual conditions that influence the translation and were able to adapt its translation to achieve the best results of their final product. At the end of each of the translations students answered a survey providing feedback on both methods, i.e., with and without the use of *Trandix*. Finally, it is important to note that the students had the same amount of time for the two translations, namely 20 minutes each, in order to objectively compare the results obtained.

4.2. Experiment results

The total number of translations produced in both seminars amounted to a total of 61. All were anonymous for confidentiality reasons, but they were assigned an identification code to link the questionnaires with their translations.

Besides approaching user satisfaction towards *Trandix*, other criteria for comparing both translations were also applied: (1) Completion of the task, which takes into account whether the translation was finished or not within the time given (20 minutes); (2) Time of execution, which measures the time needed to deliver the task; and (3) quality of the translation, which is determined by applying an assessment template of analytic and holistic criteria. With respect to the three established criteria (two regarding the time needed for completion and one based on the quality), the results obtained with the tool *Trandix* were much higher than those obtained without the tool.

We begin by observing that only 14.75% of the participants managed to complete the translation in due time during the exercise without *Trandix*, while 86.9% did with the application. This criterion allows us to observe the differences over time between the translation carried out with and without *Trandix*. With this experiment, we can draw the conclusion that the terminological assistance offered by the *Trandix* tool, along with their search options and flexibility, reduce the time needed to translate a text thanks to the rapid and accurate access to terminology and other external resources, which implies an increase in the number of words translated in the same amount of time. Given that professional translators work in terms of number of words translated, we believe that this conclusion is essential to demonstrate the validity of *Trandix* in this regard.

Considering the second criterion, the time of execution, it is worth emphasising that no student completed the translation before the time set in the first exercise (without Trandix), while 68.86% did so in the second one (with *Trandix*). In this regard, we confirm again that this tool is very helpful when performing terminological research, both within and out of the tool,

which speeds up documentary work and reduces translation time. All of which directly results in an increase in the number of translated words or at least a reduction in the time required for completing a translation assignment.

The third criterion concerning the quality of the translation is applied to the correction of the translations in the experiment for the two phases, that is, with and without the tool. In this phase, two different templates were used in order to reduce the level of subjectivity and concrete the grade obtained: an analytical and a holistic template (cf. Durán Muñoz, 2011). The end result of the application of these quality assessment templates was as follows: 91.8% of subjects achieved a score of *Fail* in the first exercise,7 while 93.44% passed the second task (with the tool), confirming the advantages offered by *Trandix* in the translation task.

Finally, after having studied these three criteria, the responses obtained in the two surveys about user satisfaction conducted after the exercises were also taken into account. These surveys explicitly seeked the users' opinion on *Trandix*, the working protocol followed and their overall satisfaction.

In the first part of the experiment (without *Trandix*) all participants were dissatisfied with the terminological resources used, with the lack of time to finish the translation, with their level of ability in performing the translation adequately and with the quality of the translation they had achieved. Furthermore, they found that the original text had a medium-high level of difficulty. On the contrary, when analysing the survey conducted after the second phase (with Trandix) a change in attitude is noticed. In this questionnaire, the level of difficulty of the translation decreased (having used text equivalents in terms of their features), their satisfaction with the outcome was much higher as well as with the time given to perform the translation, among others. That is, a clear improvement of the situation between each phase of the experiment is observed, which allows us to confirm the usefulness of the Trandix tool. Table 1 shows some of the survey questions and given responses.

Repeated questions	PHASE **1** **(without *Trandix*)**	PHASE **2** **(with *Trandix*)**
6. Was the translation easy to carry out? Indicate 1- 5 level of difficulty (being 1 very easy and 5 very difficult).	1 → 0% 2 → 21,9% 3 → 60,9% 4 → 9,4% 5 → 7,8%	1→ 32,76% 2 → 44,83% 3 →17,24% 4 → 5,17% 5 → 0%
7. What have the most difficult aspects of translation been in your opinion? - Lack of information sources - Unknown terminology - Grammar and syntax - TO and/or TM format - Adaptation of cultural references - Other	- Lack of information sources: 33% - Unknown terminology: 98% - Grammar and syntax: 11% - TO and/or TM format: 5% - Adaptation of cultural references: 10 Other: 5%	- Lack of information sources: 5% - Unknown terminology: 68% - Grammar and syntax: 29% - TO and/or TM format: 11% - Adaptation of cultural references: 12% Other: 6%
9. Do you think you had enough time to do the translation?	NO: 100%	YES: 84% NO: 16%
11 What is your level of satisfaction with the final translation? - Very satisfactory - Satisfactory - Unsatisfactory	Very satisfactory: 0% Satisfactory: 13% Unsatisfactory: 63% No satisfactory at all: 19%	Very satisfactory: 14% Satisfactory: 78% Unsatisfactory: 9% No satisfactory at all: 0%

[7] At this stage only translations that had accomplished at least 80% of the content of the original text were assessed, i.e., most of the translations of the first exercise were discarded.

- No satisfactory at all		

Table 1. Example of responses in both phases

With regard to their specific opinion about the tool, the results were also very positive. In the table below the questions of a quantitative nature are offered, so as to illustrate exact percentages and totally objective data.

Quantitative questions	PHASE 2 (with *Trandix*)
7. Was it easy to use tool Trandix? Indicate 1- 5 level of difficulty (being 1 very easy and 5 very difficult)	1 → 67,3% 2 → 31% 3 → 1,7%
8. Has *Trandix* been helpful when doing the translation? - Absolutely - A lot - Enough - Not much - Nothing	Absolutely → 50% A lot →38% Enough →12%
14. If you had to choose between the methodology you normally use to produce your translations and using *Trandix*, what would you prefer? - *Trandix* - The previous methodology	- *Trandix*: 97% - The previous methodology: 3%
16. If Trandix were available, would you use it?	YES: 100%

Table 2. Quantitative questions and results from the second survey

In addition to these four questions included in the table, we find another quantitative (question marked from 1 to 5, where 1 is very bad) relating to different aspects of *Trandix*, namely: ease of use, ease of access to information, flexibility, content and interface. As you can see in the figure below, the average of all these aspects is around 4, i.e., a high result, with the ease of handling the aspect that receives the highest score.

Table 3. Results of question 18 from second survey

With these results, a high level of satisfaction among participants is noticed, since 100% of them indicated they would use the tool if available and 97% preferred *Trandix* over the methodology used to conduct the first task (without tool). Also, note that all subjects considered the application easy to use as well as useful and up to 50% believe that it helped them during the entire translation. The good score received in question 18 when assessing the different proposed aspects of *Trandix* is also relevant. At this point, with these data we can reconfirm the advantages *Trandix* offers as a terminological resource and documentation assistant compared to the methodology without the tool, this time reinforcing the benefits from the point of view of use.

Finally, we asked students about the future of *Trandix* and interest in using it in their daily lives, and again we obtained very rewarding answers, since 97% of the participants indicated a preference to *Trandix* against another methodology (i.e., the pursuit of terminological resources and corpus on the Web), and 100% indicated that they would use *Trandix* for their translations if available.

5. Conclusions and future work

The *Trandix* tool offers a number of benefits to the translation process that were illustrated in the previous sections. Mainly, it most important contribution lies in reducing the time in which the translation is done by decreasing the time of documentation and terminology search thanks to both its internal and external searches. All this, in turn, positively affects the quality of the translation as observed, since if the translator takes less time to perform the translation he/she will have more time to review the translated text and, therefore, to achieve a better quality of the final product. We can also highlight more specific aspects of *Trandix*, which have also received positive comments in the participants' responses of the experiment, such as searching for external resources, the ability to customise the information displayed on the terminological entries, as well as the option to edit the text directly in the application.

These results confirm that the tool provides us with a very satisfactory terminological search and documentary support for translators and, in short, *Trandix* is a dynamic and proactive resource that facilitates documentary work for translators. However, further work on the tool's development is needed to extend its features and functionalities according to users' feedback. Basically, the future improvements according to these comments are to expand the number of working languages (currently Spanish, English and German) as well as the specialised domain in which it works (currently only adventure tourism), and to offer the option to add more links to other resources. In short, it is necessary to continue working in this line to offer a more complete, useful and flexible resource for a larger number of specialised fields and languages.

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