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**COMPARATIVE CONCEPTUAL ANALYSIS
IN A LEGAL TRANSLATION CLASSROOM:
WHERE DO THE PITFALLS LIE**

Abstract. It is a well-acknowledged fact in legal translation studies that when searching for terminological equivalents, translators should make use of comparative conceptual analysis (e.g. Sandrini 1996; Chromá 2014; Engberg 2015). Thus, legal translation trainees should be equipped with the necessary tools to carry out such analysis, but the question remains: are they? This paper is a follow-up to a study published in 2017 (Klabal, Knap-Dlouhá and Kubánek 2017), where modified think aloud protocols were used to explore the following research question: to what degree are university students doing a course in legal and economic translation able to apply the methods of comparative conceptual analysis to translation of terms not accounted for sufficiently in legal dictionaries or terms with no straightforward equivalents. The results showed that major issues involve non-linearity of the analysis carried out and insufficient use of the resources available. The present study involves a different group of 29 BA students of the same course two years later, who were assigned the same task. As the retrospective protocols fail to simulate real-life conditions, this study uses screen recording and keystroke logging to track the processes leading to the identification of the conceptual equivalent in a more detailed and less subject-dependent manner. The results suggest that the steps most challenging for students include identification of relevant (essential) features defining the source and target language concepts, comparison of these features and selection, or creation, of an equivalent term reflecting the results of the analysis. Students also frequently show Google-driven searching, which influences the order of the steps performed in their analyses and the sources used. To address these challenges, translation training should include a range of tailor-made exercises focusing on the critical steps of the analysis as well as on improving web searching skills.

Keywords: legal translation training, comparative conceptual analysis, legal terminology, legal translation process research.

Introduction

It is an undisputed fact in legal translation that “translators of legal terminology are obliged to practice comparative law” (de Groot 2006: 424). This is because of the incongruity between the source and target legal systems and languages, or as Cao (2007: 53) puts it “many legal words in one language do not find ready equivalents in another, causing both linguistic and legal complications.” Therefore, the methods of comparative law are needed to find terminological equivalents. In an ideal world, legal translators would have at their disposal bilingual legal dictionaries prepared with the use of the methods of comparative law. In the real world, however, such dictionaries are rather scarce (cf. Šarčević 1989; Biel 2008). Even if such dictionaries exist for the respective language pair, they will not include all terms encountered by translators, or may become outdated as a result of developments in legal terminology and law in general. This poses a problem for professional translators and even more for translation trainees as observed by Sycz-Opoň (2019: 164), whose research into their information-mining habits revealed that “the trainees were not prepared for situation where an entry was missing in a dictionary and had no established strategy for such situations.”

Therefore, it is logical that legal translators (and translation trainees) need to master comparative conceptual analysis (CCA)¹, which is the tool of art used in comparative law to compare legal concepts or institutions. Naturally, the objectives of comparative lawyers and legal translators overlap, but only to some extent. Sandrini (1996: 150) makes a difference between the comparison of legal concepts, which is what is required of and by translators, and comparison of legal rules, which is the essence of comparative law, whereas the former is more an instance of contrastive terminology. In a similar vein, Simmonaes (2013: 151) admits that “when having to compare pertinent legal institutions, one obviously cannot expect a translator who is not a lawyer to be able to apply the chosen method (i.e. a functional method of comparative law) with all its subtleties.” In other words, comparative law may be useful to translators as long as the needs of comparative law and the translators coincide (Engberg 2015). According to Husa (2015: 126), “functional comparative law and legal translation could be considered virtually the same thing” with the difference being the knowledge interest. In his opinion, both involve a serious attempt to understand foreign law by edging with subtlety under the surface of legal language.

In order to incorporate CCA training in a translation curriculum, it is necessary to see how well (if at all) students are able to perform it, and what steps cause most difficulties. Therefore, this paper will frame the CCA in the process-oriented translation pedagogy. The refocusing from product to process has been present in translation training for more than a decade. For example, Lee-Jahnke (2015: 361) argued that “the shift from products to process ... can help to improve quality through a better understanding of the different ways – processes of obtaining the quality of the final product.”

This study is a follow-up to a previous study (cf. Klabal, Knap-Dlouhá and Kubánek 2017), where the same research question was investigated by means of modified think aloud protocols. Staying within the process research paradigm, this study aims to complement the previous study by using different methods, namely screen recording and its analysis, combined with keystroke logging. The aim, well formulated by Lykke Jakobsen (2017: 21), is “to discover regularities from which inferences can be made about the operation of cognitive processes underlying translation, how they can be modelled and how knowledge about these processes can be turned to good use pedagogically and technologically.” In other words, it is believed that the observation of processes used by translation trainees to arrive at their solutions will help us make translator training more effective and address the most challenging steps.

Comparative conceptual analysis and legal translation competence

In light of the above, it is rather surprising that despite numerous hints at the importance of comparative law, no explicit reference to the CCA as a procedure is made in the present-day legal translation competence models (see their comparison in Klabal, Knap-Dlouhá and Kubánek 2017). It seems that the CCA activates different subcompetences as described by the models. In part, it involves the information mining competence in the model by Scarpa and Orlando (based on the EMT translation competence model), namely the following subcompetences:

- knowing how to identify one’s information and documentation requirements;
- developing strategies for documentary and terminological research (including approaching experts);
- knowing how to extract and process relevant information for a given task (documentary, terminological, phraseological information);

- developing criteria for evaluation vis-à-vis documents accessible on the internet or any other medium, i.e. knowing how to evaluate the reliability of documentary sources (critical mind);
- knowing how to use tools and search engines effectively (e.g. terminology software, electronic corpora, electronic dictionaries).

In part, it involves the thematic competence, namely the following subcompetences:

- knowing how to search for appropriate information to gain a better grasp of the thematic aspects of a document (cf. Information mining competence);
- developing a spirit of curiosity, analysis and summary;
- knowing different procedures in the legal systems involved (e.g. levels of jurisdiction, legal structures, institutions, settings);
- being aware of asymmetries between legal concepts in different legal systems and being able to address them.

The importance of the information mining competence is especially acute, and Risku (1998) argues that the emphasis on information research and integration competence (information literacy skills) is a major distinction between a non-expert and expert translator, and therefore a priority in translator education and translation competence research. The problem is that whereas the thematic competence may be developed with experience and professional practice, information mining should be already mastered by the graduates when they enter the translation market. In fact, it may be argued that the weaker the thematic competence, the higher the information mining competence should be as it may help novice translators compensate for the lack of thematic knowledge.

Using CCA to tackle lack of equivalence in legal translation

This section aims to provide a concise background to the rationale for the use of the CCA, and comparative law, in legal translation training, and thus provide a theoretical framework of the study. According to Soriano-Barabino (2016: 158), the application of comparative law to translation has two main stages: (1) the process consisting of the acquisition of the (inter)cultural and subject area competence and (2) the process leading to the creation of new texts. The first stage may be further subdivided into macro-comparison, which is basically the comparison of the two legal systems involved and should be part of both pre- and post-graduation continuous training, and micro-comparison, which involves an in-depth analysis of legal terms, institutions, documents and proceedings. Even though Soriano-Barabino claims that the micro-comparison is performed for every

translation brief, we believe that it can be performed on a more universal level, even for creating bilingual legal dictionaries.

The micro-comparison may result in the following outcomes:

- (a) the legal concept analysed can be found in both legal systems;
- (b) the legal concept analysed can be found in one system but only partially in the other;
- (c) the legal concept analysed can be found in one system but not in the other.

The situations under (b) and (c) are examples of incongruence or asymmetry, which is a symptom of legal translation as confirmed, among others, by Prieto Ramos (2014: 121), who claims that “the culture-bound and evolving nature of most legal concepts, the complexity of their semantic layers and the various degrees of asymmetry between their native legal systems and sources explain the added difficulty of terminology work in this area and the prominent attention devoted to it in Legal Translation Studies.”

In situations of zero equivalence, where not even a partial equivalent is possible, the translator should have sufficient knowledge about the regulation of the respective legal situation in the target system. This may help the translator to opt for one of the compensation strategies, which include, without limitation, calques, descriptive equivalents, using a hyperonym, using a target version with the source term in brackets, using the source term with a footnote, or keeping the source word as a target neologism (cf. Stolze 2013: 66). Naturally, the strategy used depends on the communicative situation as well as the *skopos*, but it may be argued that the CCA should most frequently result in descriptive equivalents accounting for the essential features. Stolze (ibid.) stresses that the choice of the strategy requires subject knowledge, which highlights, once again, the importance of the thematic competence.

The comparative conceptual analysis is the key method used for micro-comparison. The CCA, however, does not include only the comparative analysis of the concept in the source language (SL) and target language (TL), but may also require “comparative research into the wider extra-linguistic and possibly extra-legal context” (Chromá 2014: 286). The CCA is based on the comparison of accidental and essential elements of the concepts (Šarčević 2000: 238) and should account even for slight shades of meaning because “given the legal force of many legal texts, the translator must be particularly alert in scrutinizing semantic nuances in order to scrupulously convey them in reformulation” (Prieto Ramos 2011: 16). The essential elements constitute the core of the concepts and cannot be omitted in its definition. As the full equivalence is extremely rare even between similar

systems and languages, the most likely outcomes of the CCA are the following (Šarčević 2000: 238):

- (a) near equivalence, which occurs when the SL and TL concepts share all of their essential and most of their accidental elements;
- (b) partial equivalence, which occurs when the SL and TL concepts share most of their essential and some² of their accidental elements. In Šarčević's opinion, this is the most frequent situation with functional equivalents;
- (c) non-equivalence, which occurs when a few or none of the essential elements of the SL and TL concepts coincide, and the equivalents thus cannot be considered acceptable.

It must also be stressed (cf. Štefková 2013: 96) that the “translator should not aim only for finding identical concepts and the respective terms, but rather at establishing comparable relations between the concepts.” In other words, the focus of the analysis should be on the function of the concepts and their relations. As clear as the arguments for using the CCA in legal translation are, the explanation of the steps it involves may not be that clear for practising legal translators and legal translation trainees. Some of the approaches to the CCA are described below.

Models of CCA

The method of the CCA has been addressed by a number of authors (e.g. Chromá 2014, Sandrini 1996, Cao 2007, Engberg 2015), whose descriptions of the CCA may serve as models for translators and trainees. Even though the approaches are essentially identical in what they want to achieve, they differ in the number of steps to be undertaken during the analysis as well as the names of the individual steps. This section describes a number of approaches available and tries to provide their synthesis into a single approach for the purposes of this study.

Chromá (2014) devotes considerable attention to the importance of conceptual analysis and shows a number of examples which can be used as models for legal translation trainees. The individual steps identified by Chromá (2014: 287) are as follows: (1) Identifying the concept in source law represented by a respective SL term. (2) Finding a corresponding concept in the target law and a relevant term in the TL, or guessing what a suitable term in the TL may be and identify the concept behind it. (3) Deciding whether the required conceptual equivalence is achieved while balancing the essential and accidental elements of the source and equivalent concepts. (4) If the equivalence cannot be achieved, determining whether any substitute steps should be taken to convey the message from the source text to the target text

in an intended manner determined by the purpose of translation. Substitute steps usually include selecting a suitable functional term, i.e. a term having the same function in the target legal system as the SL term has in the source legal system, but semantically they need not correspond. Non-equivalence could be compensated for by resorting to an appropriate strategy such as using an explanatory or descriptive equivalent as discussed above.

Even though the individual steps are quite straightforward, they rely on a certain degree of subject area competence. For a translator (trainee) to be able to “guess” at a suitable TL term, whose degree of equivalence will be considered, substantial knowledge of the target legal system is required. The same applies to balancing the essential and accidental features. The problem is, as Engberg (2015: 21) states, that the elements may not be clear from the statutory definition or legislative context of the respective term. Therefore, Engberg proposes that the translators must ask two questions: (1) What aspects of the concept are treated in the ST and are deemed relevant to be included in the TT? (2) What aspects stand out in the conversations of legal experts on the investigated concept in primary sources of law as well as in other types of legal discourse? The second question is extremely important as the elements necessary to apply the concept may transpire only from the analysis of the professional discourse, rather than the statutory definition.

The application of the CCA to translation is also discussed by Sandrini (1996: 6), who proposes a method of functional comparative analysis, which is based on four questions that must be asked by the translator: (1) How does the legal system B regulate this matter? (legal setting in B); (2) How is the legal setting structured? (concept system); (3) Is there a concept within this legal setting with the same function or purpose in relation to the overall juridical goal? (4) What is the position of this concept in relation to the other components of the legal setting? In Sandrini’s opinion, an equivalent may only be found if all these questions are answered.

A slightly different approach is that adopted by Cao (2007: 55) who distinguishes the following three dimensions of a legal concept: linguistic, referential and conceptual. For a concept to be equivalent across languages, the equivalence or similarity in these three dimensions must be considered. According to Cao, there are two major scenarios that may occur in legal translation: either an absence of linguistic and conceptual equivalence in the TL, or a linguistic similarity with only partial equivalence in the conceptual and referential dimensions. While the former situation is a case of zero equivalence requiring the use of a neologism or a borrowing, the latter is a case of near or partial equivalence.

Figure 1. Functional comparative analysis according to Sandrini (1996: 6)

Yet another approach for finding conceptual equivalents is promoted by Foster and Broeren (2014), who see legal translation as comparative definition. In their approach, the process includes three stages: (1) Understanding the concept in the SL and looking for its definition. (2) Knowing where to look for the equivalent in the TL. (3) Comparing the definitions. The authors try to show how concepts may be compared with the use of the componential analysis or prototype theory, and believe that legal translation should combine comparative law and semantics. They note, at the same time, that context is crucial, as long descriptive equivalents may be in conflict with the function. The second stage of their method highlights the importance of information-mining as part of the CCA.

For the purposes of this study, we have tried to synthesize the approaches presented above, and propose the following steps as part of the CCA:

- A. identifying the concept in source law (definition, features);
- B. identifying TL candidates;
- C. searching for definitions/features of the candidates;
- D. comparing definitions/features;
- E. identifying translation equivalent.

These steps are used in the experiment described below for data analysis.

Experiment background

In order to identify the main issues translation students encounter when searching for translation equivalents in which the use of CCA would be desirable and helpful as discussed above and to obtain a more detailed insight into their working procedures and habits, an experiment has been carried out with our students of the translation and interpreting programme at the Department of English and American Studies, Palacký University Olomouc,

Czech Republic. Since the programme is a generalist one, the time and attention that may be devoted to the CCA is naturally limited. In fact, the way the students participating in this experiment had been introduced to the principles applied in the CCA had been rather unsystematic; it had been discussed and practised partially in different courses (e.g. an introduction to terminology, legal English and legal and economic translation courses). None of the courses, however, includes a specific module on the CCA.

To provide a better insight into what the students had been exposed to and what they were supposed to know when assigned the tasks, we will briefly describe some of the activities used. In the translation courses, the translation assignments include terms that need to be tackled using CCA. For example, one of the texts assigned is a *deed of appointment*, which lends to discussing the term *deed* and the equivalence issues involved. When discussing the terms, both as part of pre-translation briefing and post-translation feedback, students are encouraged to find definitions and identify the relevant (essential) features, namely what makes a *deed* different from other legal documents (the presence of witnesses upon execution). This is followed by a discussion as to whether this feature must be stressed or made explicit in all the occurrences of the word in the text: (i) *may execute all documents (including deeds)*, (ii) *Executed as a deed in the presence of*, (iii) *This deed witnesseth*. Similar translation problems are also encountered in other texts used in the course. Thus, students are exposed to what CCA involves even though no specific reference is made to any model.

The terminology course involves projects in which the students are asked to research terms in different fields. They are given lists of suggested terms they should cover. Among them, there are pairs of terms referring to closely related concepts which, nevertheless, differ in an essential feature. The students should identify the feature and provide suitable equivalents. For example, in the field of transportation, there are two types of wrap for packing goods: *stretch wrap* and *shrink wrap*. While the former is elastic by itself, the latter is loose and shrinks only when heat is applied. This needs to be reflected in the Czech equivalents: *průtažná fólie* and (*teplem*) *smrštitelná fólie*, respectively. When the opposite direction of translation is concerned, Czech uses a large array of affixes, in particular prefixes, to create terms from a common root referring to related yet different concepts. Taking an example from the same field, students are asked to establish the difference between *doprava* (physical movement from one place to another, i.e. *carriage*) and *přeprava* (organization of such movement, i.e. *freight forwarding*). In this manner, the students are trained to identify shared and differentiating features in related concepts.

Research method

A total of 29 Bachelor students in their second or third year participated as subjects in the experiment, which was integrated into their specialised translation seminar focusing on legal and economic texts. The students were familiar with the principles of the CCA in the extent described above, and it was reasonable to expect them to apply the CCA method. The aim was to compare the trainees' workflow with the model of the CCA and to identify common pitfalls which should be addressed in the classes in greater detail.

This research aims to explore the following research question: to what degree are university students doing a course in legal and economic translation able to apply the methods of comparative conceptual analysis to translation of terms not accounted for sufficiently in legal dictionaries or terms with no straightforward equivalents.

The present experiment builds on the previous study (Klabal, Knap-Dlouhá and Kubánek 2017), in which we used modified think aloud protocols. In the 2017 study, the trainees were assigned the tasks described below as their homework with two weeks to complete. They noted down the steps of their analyses and submitted these protocols in written form. Subsequently, based on these notes, we identified individual CCA steps and sources used. In line with the process orientation in translation training (cf. Massey 2017), the present study employs a combination of screen recording and keystroke logging. The aim was to provide the subjects with a more natural working environment in which they could fully concentrate on their tasks with no disturbance in the form of note taking, and thus obtain more direct and objective data for analysis. To control the experiment conditions to the highest degree possible, the subjects³ worked in a school computer lab with full access to the Internet as well as to offline bilingual general and specialised dictionaries. Consultations with other persons in any form were not allowed. The subjects could spend a maximum of 15 minutes completing each of the two tasks. Considering the number of subjects participating in the study, this time limit was introduced to ensure that the data analysis could be done in a reasonable time frame. Further, compared to the previous study mentioned above, the present study is even more process oriented; i.e. the procedures used by the subjects were more important than the actual result. We believe that even a limited time frame of 15 minutes is sufficient to observe and identify such procedures. In fact, a large number of subjects finished the tasks earlier (8 subjects finished Task 1 and 12 subjects finished Task 2 in less than 10 minutes). Therefore, we do not consider the time limitation a serious methodological issue. The collected data were analysed

by playing back the screen recordings and noting down individual subject activities in a spreadsheet. Each activity entry consists of the following data components:

- Source – what the subjects used for their analyses. The list of sources was created based on the most frequently used ones (data-driven approach) and it contains both specific sources, e.g. Google, Wikipedia, Linguee, Eur-lex, etc., and source categories, e.g. legal portal, thesis, online bilingual dictionary, etc.
- Operation – what the subjects performed on the source, e.g. searching, reading, comparing, switching languages, etc.
- Input – what the subjects typed as their queries. Keystroke logs were used to facilitate filling in this entry slot.
- Output – what the subjects found using that particular source. In fact, this slot remained empty for a large portion of operations for two reasons. First, some of the activities naturally resulted in no specific output, e.g. reading through an irrelevant source. Second, the output was observable only indirectly from following operations, e.g. when a subsequent operation involved a search for a definition of one of the equivalents found, such equivalent was marked as the output of the earlier operation. Nevertheless, since the study is process-oriented in nature with the aim to identify individual CCA steps rather than their results, this limitation is not considered significant.
- Notes – additional observations which might be useful for the subsequent qualitative analysis, e.g. that the source used was irrelevant or that the search method was not suitable.

Next, an attempt was made to subsume the activity entries in the workflow records under individual model CCA steps. In this process, each of the steps could be performed by more than one activity, e.g. consulting multiple bilingual dictionaries constitutes step B – identifying target language candidates. Finally, terms provided by the subjects as the task solutions were evaluated to find out whether they reflect the essential features of the source concepts.

Tasks

In the experiment, the subjects were asked to use conceptual analysis to find terminological equivalents for two terms: for a Czech legal term in English (Task 1) and for an English legal term in Czech (Task 2). The subjects were not provided with any translation brief or further context for two reasons. First, we were interested in the features inherent only in the term and its definition, not acquired in the context, since our experience sug-

gested that it was the identification of such features that was challenging for our students. Second, such terms may be encountered in translation assignments as contextless. For example, *trestní příkaz* used in Task 1 may be a title of a document, and *limited liability limited partnership* may be used in a bullet-point overview of legal forms available for business in the US. Therefore, we believe that the tasks were assigned in an appropriate way to answer the research question.

Task 1: *Trestní příkaz*

The first term has been chosen from the field of criminal procedure as procedural law tends to show greater asymmetry than substantive law (cf. Foster and Broeren 2014). In addition, this particular term is not well handled in the available bilingual legal dictionaries.

Trestní příkaz may be defined⁴ as follows:

*A decision of court (1) **in criminal proceedings** (2) **without a proper trial** (3). **The proceedings to issue this type of decision are simplified proceedings** (4) made in writing (5) Usually for less serious crimes (both as for facts and law) (6). The requirement is that the facts of the case must be proved (7). If appealed within 8 days, a proper trial is held (8).*

To perform conceptual analysis, a distinction must be made between essential and accidental features. The essential features, in the authors' opinion, have been marked in bold. As there is no functional equivalent for *trestní příkaz* in Anglo-American law, a descriptive equivalent accounting for the essential features is needed. The essential features include the fact that the decision is issued in simplified proceedings without a trial, which logically implies that it is used for less serious crimes or that the facts must be proved. Other elements (the requirement of written form, the appeal details) are rather technical details that would make the descriptive equivalent cumbersome. The essential feature may be expressed in several ways: either a premodifying attribute *summary* may be used, e.g. *summary sentence*, *summary criminal disposition*⁵, or the details may be added in post-modification, such as *sentence issued without trial*, *in fast-track proceedings*. The other essential feature, i.e. that it is used in criminal proceedings, is inherent to the term *sentence*, or if a more general word such as *disposition* is used, then it may be added by a premodifier *criminal*. We believe that the calque equivalent *criminal order* is not appropriate as in Anglo-American law it implies a *criminal behaviour order* and is defined as a *legally binding order that protects a person from potential harm*. The most common type of

criminal order is a restraining order, but there are other types available. Another candidate term is penal order or order for written punishment, which is used as an equivalent for the analogous German institution (Strafbefehl), but is not attested in authentic documents. Unlike the descriptive equivalents suggested above, penal order does not reflect the essential features and is also based on calque.

Task 2: Limited liability limited partnership

The second term has been chosen from the field of company law because we concur with Štefková (2013: 89) that even though forms of business may be similar, conceptual analysis may reveal considerable difference among jurisdictions. *Limited liability limited partnership* is a form of business in the USA and is defined as follows:

*A limited liability limited partnership is (1) **essentially an ordinary limited partnership** that (2) elects to become a limited liability limited partnership. The limited liability limited partnership must file a (3) *Limited Liability Limited Partnership Registration* with the Secretary of State to acquire limited liability status. (4) **This status limits the liability of a general partner.** In all respects except liability, the limited liability limited partnership operates and is treated in the same manner as a limited partnership.*

As there is no such form of business in the Czech legal system, a descriptive equivalent must be used to transfer the essential elements of a *limited liability limited partnership*. The essential elements have been marked in bold in the definition: it is a form of limited partnership, which is a legal form existing in Czech law as *komanditní společnost*. However, the difference between the Czech form of business and *limited liability limited partnership* must be accounted for, i.e. the limitation of liability of general partners. Therefore, the proposed descriptive equivalent is *komanditní společnost s omezeným ručením komplementáře* (a limited partnership with limited liability of general partners, or possibly a limited partnership with limited liability of all partners).

Results

The quantitative results are summarized in Table 1 below. Based on the data analysis, a total of 1,228 activities performed by the subjects were identified and annotated. The total number of activities for individual tasks is comparable: 623 activities for Task 1 and 605 for Task 2. The sources and source categories were classified into two groups; the first group

Table 1

Individual sources and source categories used by the subjects
in the two tasks

Sources	Activities	Task 1: <i>trestní příkaz</i> (CZ-EN)	Task 2: <i>limited liability limited partnership</i> (EN-CZ)
TOTAL	1228	623	605
Google	446	207	239
Wikipedia	196	91	105
A legal portal	175	109	66
A legal service provider	44	6	38
An online monolingual dictionary	36	27	9
Research papers, theses	26	19	7
Legislation	5	2	3
Total concept oriented sources	482	254	228
Linguee	90	36	54
ProZ	74	52	22
An online bilingual dictionary	54	37	27
Glosbe	43	19	24
Google Translate	11	4	7
Eur-lex	7	5	2
IATE	6	4	2
A corpus	5	5	0
Total term oriented sources	300	162	138

includes sources primarily containing information about the concepts, while the second group sources rather contain information about the terms (as differentiated by shades of grey in Table 1). For both tasks, a higher number of activities involved the concept oriented sources. This may reflect the necessity to gain access to the meaning denoted by the terms and ultimately to extract the essential and accidental conceptual features for comparison.

Of the individual sources, Google was by far the most frequently consulted source, and thus seems to be the default entry point for further research activities. Sometimes, Google was even used to find other sources like dictionaries or discussion forums.⁶ In fact, virtually every third activity involved Google search. Nevertheless, we have noted the use of unsuitable

search methods, mainly the lack of quotation marks for multi-word searches or consulting results on the top of the first page only which corresponds with the observations of Sycz-Opoń (2019: 161). Even though such behaviour may seem pragmatic given the time constraints, an efficient translator needs to be able to scan the search results quickly in order to discard irrelevant information and sources, and proceed to the relevant ones. Logically, this may require consulting result pages other than the first one only.

The concept oriented sources included Wikipedia, various portals and company websites providing legal information (epravo.cz; businessinfo.cz; investopedia.com; legalzoom.com). For the tasks used in the experiment, Wikipedia as well as most of the portals and legal service providers⁷ offer relevant information on the source language concepts including the essential feature.⁸ Research papers and theses constitute a bordering category: although they contain definitions of the concepts, subjects quite often compared abstracts or keywords in the two languages when searching for candidate terms.

The term oriented sources included two parallel text search engines (Linguee and Glosbe) used in a high number of activities. In many cases, though, several subjects failed to use quotation marks, which is a feature of search engines the students are repeatedly reminded of both in practical translation seminars as well as IT and CAT seminars. As a result, they obtained irrelevant results. The discussion forum ProZ is included in this group since most subjects apparently did not incorporate the arguments in the discussions into their decision making, but merely took the suggested solutions one by one and checked them in the subsequent activities. The reason for the frequent use of ProZ and Google Translate may be the fact that they were offered in Google results. This is unlike the cases of IATE, Eur-Lex and corpora which had to be accessed directly without Google prompting. In fact, a large number of activities may be described as Google-driven since the subjects not only used the top-page result, but also followed Google suggestions in the search box already while typing their queries.

Figure 2 shows the results of subsuming subject activities under individual model CCA steps, and thus it maps the workflow of the subjects. Even though the subjects were explicitly instructed to use the CCA, not all of them performed step A, which was omitted by approximately 50% and 20% of the subjects in Task 1 and Task 2 respectively. In terms of directionality, this might be explained by the fact that the Czech term in Task 1 may seem semantically transparent, and thus the subjects felt no need to look for its definition. Another important observation is that the subjects did not perform the steps of the model CCA in a linear way, but returned

Figure 2. Percentage of subjects performing individual CCA steps

to the initial steps repeatedly. This may be accounted for in two ways: (1) the subjects eliminated a candidate term for lack of equivalence and had to look for a new one; (2) the subjects seemed to feel the necessity to check the source concept definitions repeatedly, more notably in Task 2 where the English term is less semantically transparent.

The lower number of observable steps in Task 2 may be explained by the fact that the sources used in step B produced one candidate term only. Even

though this candidate term is incongruent, the subjects used it instead of trying to account for the essential features by means of their own descriptive neologism. This is in contrast to Task 1, which involves a term extensively discussed in discussion forums where a number of equivalents, including the congruent ones, were suggested. This is why it was easier for the subjects to identify the translation equivalent, that is to perform even step E.

As Figure 3 shows, step D was observed to be performed by the lowest number of the subjects in both tasks. Admittedly, this step, involving mental rather than searching processes, is the least directly observable one from the collected screen recordings. Having said so, the results of this experiment are consistent with the results in the 2017 study where even the mental processes were verbalized in the protocols.⁹ This proves the hypothesis formulated by Lykke Jakobsen (2017: 22) that user activity data (screen recording combined with keystroke logging in this study) can be used to “make reliable inferences about the cognitive processes we assume they are correlates of.”

Figure 3. Total number of subjects completing individual CCA steps

Conclusions

In light of the fact that the “traditional lexicographical tools available to translators provide limited assistance” in dealing with the issues in legal translation (Sycz-Opoń 2019: 155), the CCA is a method that needs to be part of the toolbox of any legal translator or translation trainee. However, the results of our experiment have shown that despite being instructed to use the CCA, students rather opt for “standard term research”. This can

be evidenced by the fact that non-congruent candidates are not discarded even after their definition, which proves their lack of equivalence, has been read. Translation students need to gain more experience and confidence in two steps of the CCA, namely (1) identifying relevant (essential) features and recognize them from accidental; (2) comparing features and reflecting relevant (essential) ones in the final stage of term selection or neologism creation. These steps are critical as they must be practised even when the translator succeeds in finding a translation equivalent to be able to assess the degree of equivalence. Therefore, it is ideal to combine the CCA training with development of web research skills (cf. Enriquez Raído 2011) that complement and may often enhance, but rarely replace, the analysis itself. The development of the web searching skills is acute as the study revealed that the process was Google-driven for many of the students, even involving trial and error.

For the students to master the process of the CCA, it is recommendable to use a variety of exercises (some are suggested by Dullion (2015) or Soriano-Barabino (2016) to practice individual steps of the analysis and become aware of the pitfalls. By no means are the legal terms the only area which offers itself for such practice. On the contrary, applying the tool to different fields may raise the students' awareness of its usefulness. In light of the findings, a step-by-step approach to address some of the issues identified in this study in a legal translation classroom has been developed by Klabal (forthcoming) to make the CCA instruction more systematic. Prompted by the results of this study, we have introduced a dedicated module on CCA in the terminology course and placed more emphasis on CCA-related issues in translation classes. Hopefully, the students would thus be better equipped to perform the tasks if the experiment was repeated in a few years' time.

In addition to findings directly applicable to legal translation, incorporation of the CCA into (legal) translation training is useful as it enhances procedural knowledge and its subcomponents such as knowledge resourcing, problem-solving, solution selection and evaluation. If this is combined with pedagogical experiments such as the one presented, it may be easier for students to recall their own decision-making processes and translation practices (cf. Massey 2017), and thus reflect upon their habits. As Kujamäki (2010) put it replaying screen recordings is also an effective self-therapy.

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NOTES

¹ Different terms are used, but the essence remains the same.

² Chromá (2014: 287) notes that determining how much is “some”, “most” and if “all” means all without any exception will depend on the translator’s experience and his or her ability to identify the elements.

³ To ensure the same degree of experience and training level, the participants in the 2017 and the 2019 studies were not identical.

⁴ The definition is taken from an official website of the Czech Supreme Public Prosecutor’s Office, i.e. from a professional source as suggested by Engberg, and has been translated by the authors.

⁵ <http://www.proz.com/kudoz/czech-to-english/law-general/4193927-trestn%C3%ADp%C5%99%C3%ADkaz.html>

⁶ This habit may partly originate in the common feature of present-day web browsers. Users can type any text in the browser address bar. When the text is not a valid URL address, it is sent to a predefined search engine which is Google in case of the two browsers used in our school computer lab.

⁷ One rather significant exception was the portal *roustetofinance.com* which contains multiple language versions of its articles. The Czech version of the article introducing *limited liability limited partnership* has been machine-translated which the students visiting this website failed to recognize and considered it relevant.

⁸ Nevertheless, the research method does not reveal whether the subjects were actually able to extract these relevant features from the definitions and understand them correctly.

⁹ The 2017 study involved 26 subjects. Step D was completed by 7 subjects (27%) in Task 1 and 4 subjects (15%) in Task 2, which may be compared with the present study results (41% and 28% respectively). In both studies, these numbers are significantly lower than the numbers for steps A–C showing that comparison of essential features of the given concepts causes difficulties and should be reflected in training.

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