

## Students' Information-Seeking Problems during Translation – Observational Study Results

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### **Abstract**

*This article presents the most common information-seeking problems encountered by translation students when translating a legal text. The study group consisted of students from the University of Silesia in Katowice who were asked to translate a complaint from English into Polish using all the sources (printed and electronic) they considered appropriate for the task. The research method used was a combination of observation and TAPs. The students were divided into pairs. One student observed the other and recorded their information-seeking behaviour, asking additional questions when necessary. The students' information seeking behaviour was also documented using a screen recording tool. The aim was to find out how the students searched for information and what problems they encountered. Problems that emerged were related to: (1) defining information needs, (2) establishing searchable units, (3) lack of desired information in a source, (4) locating word clusters in sources, (5) incongruent terms, (6) multiple equivalents of a term in a dictionary entry, and (7) processing the information found. This study forms part of a larger research project: Detailed statistical data are presented in Sycz-Opoń (2019) and individual research styles in Sycz-Opoń (2021).*

**Keywords:** *information-seeking behaviour, translator training, translator's research skills, instrumental competence, dictionary use*

### **1. Introduction**

The aim of this article is to present the problems that translation students typically encounter when translating texts that belong to Language for Special Purposes (LSP). The problems presented here were first discovered in the study of translation students' information-seeking behaviour (Sycz-Opoń 2019) and then recurred with each new year of students attending my translation classes. Although the analysis of information-seeking problems was not the main aim of the study (Sycz-Opoń 2019), I decided to focus more on this aspect because of its pedagogical value. Based on many years of experience in teaching LSP translation, I see that students' problems have not changed much over time. Effective information research is still a skill that only few possess. The majority of students have problems finding accurate information quickly and, what is worse, they may not be aware that they are lacking in this particular skill. Education in this area is therefore crucial. However, in order to teach information skills efficiently, we first need to know what problems students actually have, thus what aspects require educational attention.

Research shows that seeking information is an important part of the translation process. In Hvelplund's (2017) study, information retrieval consumed 19% of total translation time, and in Gough's (2016: 132) study it ranged from 21% in familiar domains to as much as 41% in unfamiliar domains. Whyatt et al.'s (2021: 15) findings indicate that "searching for information adds more cognitive effort to the already demanding process of translation". Hvelplund (2017: 77) goes a step further, stating that "resource consultation is associated with heavier processing than translation drafting and revision" because, as Baddeley (2007: 130–132) explains, it

involves multiple cognitive processes such as image viewing, vertical and horizontal reading, text scanning, decision making, and assessing the quality and relevance of information.

The studies conducted so far support the idea that information-seeking behaviour (ISB) develops with experience. Fernández-Silva & Cañete (2020), for example, observed second-, third- and fourth-year students and found that advanced students used more relevant resources, were better able to judge their reliability and performed more complex searches. Onishi and Yamada (2020) found that professionals more often than students conducted background research to grasp the contextual meaning of the text and understand the topic. They also conducted deeper searches aimed at finding reliable information as compared to student translators who exhibited a shallow searching style. Massey & Ehrensberger-Dow (2011) reported that the main differences in ISB concerned extra-linguistic, subject-specific research. Students' top choice was an online bilingual dictionary, whereas professionals preferred search engines and model or parallel texts. The authoritativeness of sources was more important for professionals than for students. Olalla-Soler (2018: 1293) found that "translation students use a wider variety of resources, perform more queries and spend more time on queries than translators [...] The students' information-seeking process is generally less efficient than that of the translators". If we assume that the ISB of professionals is a standard to which trainees should aspire (and we have to make such an assumption because there are no studies that test the actual information literacy of translators), the comparison between students and professionals suggests that there is work to be done on students' research skills.

The last decade has seen a wider recognition of information seeking as a key aspect of the translation process, especially in recent years, with a significant increase in the number of publications on the subject (below). With an increasing number of voices stressing the importance of information literacy (e.g. Gough 2019; Sycz-Opoń 2019; Onishi & Yamada 2020; Paradowska 2020; Paradowska 2021; Park et al. 2021; Raído & Cai 2023; Castro 2023), the subject is slowly making its way into university curricula. Yet, the key to creating an effective information literacy course is to understand what the students actually do when they search for information, what mistakes they make, and what problems they encounter. The current state of knowledge is that we have findings that shed light on selected aspects of ISB, obtained from studies conducted at the local level, which need to be supported by further studies with different groups and in different contexts.

### *1.1. Previous studies*

Until 2005, ISB studies focused almost exclusively on the use of dictionaries and drew mainly from the field of lexicography. After 2005, research on electronic sources slowly began to appear, and since then we can observe an increasing number of publications on this topic year by year, which now also come from the field of information studies. The majority of studies on the research behaviour of translation students have used surveys as a research method, such as Pinto and Sales (2007) with the involvement of Spanish translation students and Massey & Ehrensberger-Dow (2011) with Swiss beginners, advanced students, and recent graduates (German, French, English, Italian language pairs). Hirci (2013) surveyed two different generations of trainee translators in Slovenia. The main difference observed between the results of the 2005 and 2012 questionnaires was that student translators in 2012 were more likely to look for translation solutions on websites rather than in dictionaries; some limited their search to the internet only. Lu et al. (2022) investigated the correlations between the answers provided in the questionnaire and the quality of Chinese students' translations. The results showed that

the effectiveness of online information research had an impact on translation performance. Chaia (2022) compared the information needs, search strategies and source preferences of 71 students enrolled in an English-Spanish translation programme at different levels of their education. She found, among other things, a decreasing need for equivalence and synonym searches and an increasing need for thematic searches as the students progressed in their training. Buendía-Castro (2023a) studied the use of lexicographic resources by 165 BA and MA students of the translation and interpreting programme at the University of Granada. The results showed significant differences between different courses and insufficient use of resources, even among MA students. The objective of another investigation by Buendía-Castro (2023b) was to examine the dictionary usage habits of 201 students across four academic years. The findings revealed that more advanced students exhibited a greater preference for monolingual and specialised resources compared to their younger peers. Observation studies were conducted by Olalla-Soler (2018), who recorded the ISB of 38 students and 10 professionals as they were translating a cultural text from Spanish to German, Shih (2019), who recorded the web search behaviour of 18 students during translation, Onishi and Yamada (2020), who recorded the ISB of 5 students and 4 professionals during translation, and Fernández-Silva & Cañete (2020), who observed undergraduate and postgraduate students as they performed two tasks involving terminological documentation. Sales et al. (2018) did not record the participants – first-year students – but instead asked them to complete a questionnaire regarding a particular translation task performed beforehand. They found that students struggled to select the most appropriate sources for their needs, especially in the case of cultural references. The majority of students also admitted that they had difficulty accessing some sources (even though some were available in a library). Eye-tracking was used by Cui & Zheng (2020) to investigate how different information-seeking behaviours affect translation quality, with the participation of 38 postgraduate students doing English-Chinese translation. The study revealed that an increase in the difficulty of a translation task leads to an increase in both the time spent on online research and the complexity of the research but does not lead to an increase in the cognitive load invested in the research. Raído & Cai (2023) used screen recording and keylogging to record four translation sessions from English to Chinese with the aim to see how students' information skills evolved during a 16-week translation course. The results demonstrated that the participants' query times remained relatively consistent throughout the course, with a decrease in the frequency of source language queries and a corresponding rise in the use of mixed language queries. The above studies differ in terms of the language pairs studied, the genres translated, and the methodology used. Their results should therefore be compared with caution, always bearing in mind the context in which the information-seeking behaviour took place. Factors that could influence the results of a given study include, for example, a language pair (there is a significant difference in the number and quality of sources available in major and minor languages) and a translated text (the number and quality of sources for each LSP is different). To illustrate, Massey & Ehrensberger-Dow (2011: 199) found that “respondents who had English in their language pair reported much more frequent use of online resources than respondents with French or Italian (the other language in each pair was German)”. None of the papers published to date have addressed the issue of the problems faced by translation students during translation-related research. It is hoped that this study will start a discussion on this topic.

### 1.2. Specificity of legal translation

This study focuses exclusively on the information research that accompanies legal translation. I assume that the unique character of legal language is reflected in the specific translation problems encountered during translation, which in turn lead to specific information needs and dilemmas. Some of the characteristics of legal language that may give rise to the need for translation-related research include:

- A specialised field. To translate a legal text, one needs to understand its content, which requires knowledge not only of the terminology, but also of a given subject matter. When it comes to English legal language, the situation is particularly problematic, as it is the drafting language of several English-speaking countries. Further, English is used in the drafting of international documents relating to the legal contexts of non-English-speaking countries. It is impossible to grasp such a wealth of knowledge. Comparative legal research is therefore a necessary part of the translator's work routine (Pieńkos 2002: 110-120).
- Pompous legal phraseology. It is believed that the use of highly formal, centuries-old phrasemes adds solemnity to a legal act expressed in words (Tiersma 1999: 103). Thus, many legal phrases that have fallen into oblivion in everyday language, are still present in legal discourse, e.g., *know all men by these presents* (Jopek-Bosiacka 2006: 77-86).
- Terminological multivalence. Firstly, terms found in legal texts have both general and specialised meanings, e.g. *alien*. Secondly, because English is used to describe the legal systems of different countries, many legal terms exhibit different denotations in different legal contexts, e.g. the term *trespass*, which has a broader semantic scope in English law than in the American legal system. Terminological multivalence can also be observed within one legal system when legal terms exhibit different meanings in different areas of law, e.g. *delikt* has different denotations in Polish civil, penal, constitutional and international law. The opposite situation occurs when one denotation is expressed by more than one legal term. For example, in Polish law, *tort* can be expressed by *czyn niedozwolony* and *delikt* (Sycz, 2011: unpaginated).
- Incongruity of legal notions and terminology that reflects them. Each legal term is embedded in a particular legal system, which is unique and, in some respects, different from other systems. As a result, many legal terms have no equivalent in the target language because the concepts to which they refer do not exist in the target language legal system (Šarčević 2000: 246-247).

### 1.3. The Polish lexicographical market

Another aspect to be considered is the information environment of a translator, i.e. the variety and quality of sources available for a given language pair and specialisation. To date, there is no single, comprehensive source of information on the Polish market dedicated to legal terminology. Instead, we can find several bilingual legal dictionaries focusing on selected areas of law, compiled by one or two authors, with a limited number of entries and a basic structure – usually a headword followed by several equivalents.

Legal dictionaries currently available on the Polish market offer context-free equivalents, i.e. they do not provide information like example sentences, grammatical attributes

and contexts of use, which is now an established standard in general lexicography. Several bilingual legal dictionaries pay some attention to typical collocations, but they represent only a small part of the syntactic patterns actually present in legal discourse. Moreover, most bilingual specialised dictionaries do not indicate in which context a given term should be used (e.g. *maloletni* in civil law and *nioletni* in criminal law) or that a given term acquires different meanings in different areas of law (e.g. *tort* in civil and constitutional law).

Polish bilingual legal dictionaries also fail to indicate the degree of proximity between the original term and its suggested equivalent(s). This information is important since a large number of entries are not the result of a simple matching of source and target language terms but are created by rendering incongruent legal concepts using various translation techniques. As a result, in bilingual legal dictionaries we may find different equivalents of a given term, or a string of equivalents with no additional information, which is a source of confusion, especially for novice translators. An interesting solution used in French and German dictionaries is the use of *approx.* (*approximatif*) in French and *etwa* in German. Placed before the equivalent of a term, they signal that the given equivalent is only an approximate rendering of the term (Pieńkos 2002: 313). In terms of source format, publishers have shown reluctance to introduce electronic versions of specialist lexicographical publications. Several legal dictionaries are still available only in print. Even when an LSP dictionary is offered electronically, its microstructure and macrostructure are very similar to its printed version, e.g. dictionaries published by C.H. Beck Publishing House in PDF format. As a result, the problems related to consulting printed LSP dictionaries also apply to their electronic versions, e.g. traditional microstructure, information squeezed into an entry, use of dictionary labels, abbreviations, codes and symbols (which are unnecessary given that space constraints are not an issue in computer versions of dictionaries).

As a result, the information missing from lexicographical publications needs to be researched in other sources such as:

- parallel texts (e.g. *EUR-Lex*; *Linguee.com*; *Context Reverso*; *Glosbe*), also in the form of publications, e.g. Bogudzinski et al. (2013);
- text corpora online (*Legalis*; *Google Books/scholar*), or published, e.g. Kierzkowska (1998);
- official translations of legal acts, e.g. Kierzkowska & Wiśniewski (1998);
- encyclopaedias or monolingual dictionaries (e.g. *Black's Law Dictionary* by Garner & Black (2019) or *The Free Dictionary*);
- translator forums (e.g. *proz.com*).

The necessary information can be found in the sources mentioned above, and they complement each other. However, to be effective, such translation-related research requires knowledge and skills developed through reflective practice.

## 2. Methodology

### 2.1. Procedure

The analysis of information seeking problems is a complex task. It requires a close look at each step taken by a person along the information-seeking path, looking for problems encountered,

preferably with on-the-spot comments explaining the subject's actions. I decided that the optimal methodology for this project would be a combination of observation and think-aloud protocol, modelled on the method previously used by Atkins & Varantola (1997). The translation session took place in a university computer room, during a single academic class, i.e. 1.5 hours. The students were divided into pairs. One (the Translator) was asked to translate the assigned text and the other (the Observer), sitting next to them, observed their partner's actions, asked questions, and then recorded selected aspects of their partner's information-seeking behaviour in the Observation Protocol (Appendix B). In order to prevent the observation from affecting the performance of the participant who would translate as second, the participants in the study did not swap places. Therefore, although 104 students took part in the session, 52 were observed (one was later rejected because their notes were too chaotic to provide reliable data). The Translators were asked by the Observers to comment aloud on why they consulted a particular source, what information they were looking for, how satisfied they were with the search result and, if dissatisfied, why. In addition, the participants' actions were recorded using screen and voice recording software (Camtasia Studio). The recordings made it possible to observe the entire information path that led a particular participant to a particular translation solution and supplement missing details in Observation Protocols where necessary. Moreover, recorded discussions between the Translator and the Observer helped to understand the decisions made by the Translator.

The participants performed their translations on computers, with unrestricted access to various lexicographical tools available on the Polish market, both in printed and electronic form, as well as on the Internet. Each participant had at their disposal at least one source in the following categories: monolingual general dictionary, bilingual general dictionary, bilingual specialist dictionary, monolingual specialist dictionary, encyclopaedia of law, and a parallel text. They did not have exactly the same titles on their desks (due to limitations in the university library collection). Therefore, they were encouraged to share sources with other participants during the experiment. Participants were also allowed to bring and use their personal sources; however, they were not permitted to use AI or MT tools. Both Translators and Observers had been informed prior to the experiment that their work would be marked. They had the chance to get a *very good* grade if they applied themselves to their best. Once the grades had been assigned, the students' work was anonymised using a code system.

## 2.2. Translation assignment

The participants were asked to translate a fragment of a complaint (Appendix A), which consisted of paragraphs extracted from Berezowski's (2011) book and combined into a coherent text, with some elements added to make the text more challenging. The participants were not told which lexical items they had to research. The fragment to be translated consisted of 1,651 characters. The potential translation challenges found in this translation task included (Sycz-Opoń 2019: 6):

- legal terms of art, e.g. *complaint, plaintiff, repudiation, performance, pray, allege*;
- culture-specific legal notions that have counterpart in the TL legal system, e.g. *vindictive, hedonic, compensatory damages*;
- binominals, e.g. *just and proper*;
- legal phrasemes, e.g. *cause of action, under the Contract, service of process* – not included in most bilingual legal dictionaries;

- adverbs, such as *hereinafter*, *thereto*, *thereof*, *wherefore* – either absent in bilingual dictionaries or the descriptions provided do not fit into the context of a particular document.
- culture-specific proper names, e.g., *superior court for the state of Georgia for the county of Gwinnett*, which requires search for the factual rather than linguistic information (each US court district has its own hierarchy of courts and uses different names for the courts of comparable jurisdiction. The names such as *supreme*, *superior*, *major*, *circuit* do not inform directly about the position of a particular court in the court structure; Berezowski 2011: 25–29).

### 2.3. Participants

The study involved 104 students (native speakers of Polish) in the first and second year of the MA translation programme at the University of Silesia in Katowice, Poland. Their level of English could be classified as C1/C2. In the second year of the BA programme, the participating students had a lecture on translation theory (30h). The practical training began in the third year and continued until the end of the MA programme. During each semester, the students attended 30 to 60 hours of translation and 30 hours of consecutive and 30 hours of simultaneous interpreting, during which they were introduced to the translation and interpreting of different LSPs. They also had a lexicography class (30h) during their studies. They had not attended any research skills course before the translation session. During the semester prior to the translation session, they had translated contracts, articles of association, wills and powers of attorney; they had not translated a text similar to the translation task they were given in the experiment. In the class preceding the translation session, the students were presented with printed, desktop and online sources of information: dictionaries, encyclopaedias, translator forums (e.g. proz.com), parallel texts (e.g. linguee.com, glosbe.com, eur-lex.europa.eu, context.reverso.net), and websites that could serve as text corpora or sources of factual information. The presentation took the form of a lecture (1.5h) combined with a brief discussion on the different contents and functionalities of the sources.

### 3. Information-seeking problems

Information retrieval is a process involving many micro-decisions on the way to a desired solution. One has to decide, among other things, *what information one needs, which source might contain it, where to look for the information within the source, what to do with the information found, or what to do if the required information is not contained in the source*. The problems can arise at any stage of the information seeking process, namely (based on Kuhlthau et al. 2008):

- the stage of identifying one's information need,
- the stage of establishing a lexical unit that will be the object of the search (typed in the search box or looked-up in a dictionary),
- the stage of selecting the source to be consulted,
- the stage of source consultation (scanning the entry/website in search for relevant information),

- the stage of processing the information found,
- the stage of applying the information.

Moreover, the process is fraught with dead-ends, which occur when a source lacks information, and one has to look elsewhere (start the process again). Also, due to their limitations, sources sometimes provide only indirect answers to linguistic questions (not copy-paste equivalents, as most students expect; (Sycz-Opoń 2019: 16). In such a case, one has to combine pieces of information from different sources to come up with a solution. I decided that the best way to study this process in all its complexity was to observe it step by step. The information-seeking behaviour of each participant was analysed linearly (from the moment an information need was identified to the moment the information found was applied) and holistically (taking into account different aspects of the process). The problems presented below were selected on the basis of my observations of the screen and voice recordings of the study participants and supported by the statistical data obtained from the observation protocols (more statistical data and figures can be found in Sycz-Opoń (2019, 2021).

### *3.1. Problems with defining information need*

The need to obtain information arises when a problem is encountered during the performance of a task. If a solution cannot be found using one's own internal resources, the decision is made to seek help from sources. However, before turning to a source, two things should be considered: the nature of the problem encountered, and the information needed to solve it. Observations of both the participants and the students in my classes suggest that they do not ask themselves the questions above. What students recognise is the inability to translate a particular word, phrase or sentence. However, different types of information may be necessary to solve a given translation problem. One may need to understand the meaning of the original legal term (or/and the meaning of its legal equivalent), to know which equivalent is best in a given context, or to know the syntactic features of the equivalent. If one's information needs are not consciously reflected upon, one is likely to consult sources without a clear idea of what they are looking for, which in practice means following a well-known information path regardless of what information is actually sought. This tendency was very visible in the study. For example, when participants wanted to understand the meaning of a particular legal term (which accounted for almost 20% of all searches), they turned to a bilingual dictionary rather than a monolingual dictionary or encyclopaedia.

Table 1: Look-ups in bilingual versus monolingual dictionaries (percent of all dictionary look-ups)

Type of source	Percent of all dictionary look-ups
bilingual dictionaries	98.21%
monolingual dictionaries	1.79%

Table 2: Frequencies of look-ups in various sources

Type of source	Percent of all look-ups
dictionaries	72.70%
search engines	10.60%

translators' forums	7.49%
MT tools	3.47%
parallel texts	3.31%
encyclopaedias	1.65%
webpages	0.55%
textbooks	0.23%

The rate of consultation of monolingual dictionaries was 1.79% of all dictionary look-ups (Table 1). Encyclopaedia consultation made up 1.65% of the total, while bilingual dictionaries accounted for 72.70% of all source consultations (Table 2). In this respect, students' ISB is strikingly different from that of professionals, who are more likely to perform deep searches and show a much greater preference for monolingual dictionaries (Prieto Ramos 2020: 14–15; Sycz-Opoń 2024: 9). In many cases, both types of information – meaning and equivalent – were ticked in the Observation Protocols when a bilingual dictionary was used. Searching for meaning in a bilingual dictionary might be an effective strategy for non-specialist texts. In the context of legal translation, a target language equivalent may be as bizarre to the student as the original term. However, many students skip the search for meaning and try to translate without a clear understanding of the text they are translating. Onishi & Yamada (2020: 21) report that it is the reluctance to do thorough background research that distinguishes the ISB of students from that of professionals.

This problem is widespread in my translation classes. The simple way to make students aware of their information needs is to ask questions during the translation/information seeking process, e.g. *What problem precisely have you encountered? How do you want to solve it? What information do you need to solve it? Is an equivalent the best solution?* Such questions throw students off automatic (sometimes ineffective) information paths and initiate the process of conscious information research.

### 3.2. Problems with establishing searchable units

Another decision that needs to be made before consulting a source is the selection of the object to be looked up. In the study, many students struggled to identify accurate multi-word searchable units. Participants classified as phrases combinations of words that were not in fact established word combinations, e.g. *act of breach, manner or respect, compensation under contract*. As might be expected, they were not listed in the sources, so the search did not produce satisfactory results. Few of the participants realised that the wrong choice of the search object was the root of the problem. Many continued to search for a misconstrued lexical unit, believing that the poor quality of the sources was the reason for the unsatisfactory results. Analysis of individual searches showed that if one is familiar with a phrase, one can easily distinguish it from the surrounding text. The problem arises when one comes across unfamiliar words. Then, it is difficult to divide the text into searchable units. In my classes, I sensitise students to this problem. If searching for a multi-word unit in several sources does not produce a satisfactory result, it is a good idea to change the object of the search. It usually helps to reduce the word combination to a minimum, split it into two searchable units, or look up a core lexeme in a monolingual dictionary for typical collocations and phrases formed with the word. You can also type the core word into a search engine, followed by an asterisk (in quotation

marks). The search engine will fill in the blank with common collocations. This will provide information about the correct word combination.

### 3.3. Lack of Desired Information in Sources

The most common reason for participants' dissatisfaction with look-up results was lack of information in a consulted source (56% of the total). In this category, *phrase not found* was indicated in 35.84% and *a term not found* in 19.83% of all the reasons for dissatisfaction (Table 4).

Table 3: Look-up rate in specialist/general dictionaries versus search rate for specialist/general lexis

	specialist	general
Dictionary	56%	44%
Lexis	71%	29%

Table 4: Reasons for partial satisfaction or no satisfaction with look-up results

a phrase not found	35.85%
a term not found	19.83%
the result does not fit into the context	18.35%
no context of use indicated	3.82%
suspicious about the result	3.61%
no specialist meaning (only general)	3.18%
too many equivalents in the source	2.97%
confirmation of the result required	2.33%
no examples of use provided	1.48%
search results unclear	1.38%
the result found is wrong	1.27%
partial information found	1.17%
no definition	1.17%
definition not understood	0.74%
the result does not make sense	0.64%
factual info not found	0.42%
the source not convenient to use	0.53%
technical problems	0.42%
wrong choice of a source	0.42%
the source too comprehensive	0.42%

Why did the sources fail to provide the desired information? In only 0.42% of the responses did the respondents admit that the wrong choice of source contributed to the failure. In fact, the number of situations in which the source was chosen incorrectly was much higher. One situation – when students expected to obtain the information about meaning from a bilingual dictionary – is discussed above. Another example is consultation of a general dictionary in search of a specialist term, e.g. *performance*, *relief*, *provision* and *pray*. As a result, the students found not the specialist but the general meaning of the terms, which did not

fit the legal context of the translated text. The out-of-context result was the third most common reason for dissatisfaction with the look-up result – 18.35% of the total.

It also happened that the participants failed to notice a particular piece of information even when it was contained in a source, especially when they consulted general dictionaries in search of specialist terminology. Students reached for bilingual dictionaries presumably because they wanted to speed up the search (in Poland, bilingual dictionaries are available in an electronic form while specialist dictionaries in print or PDF format) or because they were more familiar with them. In practice, due to the large amount of information, it required time and effort to find relevant information within an entry. Participants scanned the content of the entry hastily, and thus failed to notice the required information, or they abandoned the search before reaching the information within the entry. Finally, the most common scenario was that the source was simply not comprehensive enough and did not contain the required item.

For a professional translator, the lack of information in a dictionary comes as no surprise. However, most of the students in the study were not prepared for this scenario. The participants seemed to have unrealistic expectations of dictionaries, believing them to be universal problem solvers. As a result, the majority did not have a well-thought-out plan B when a particular term was missing from a dictionary, presumably due to their insufficient knowledge of alternative sources of information. This finding is in line with Sales et al. (2018: 196) who observed that students “conceptualise the Internet as a somehow monolithic entity [...] thus revealing their need to know more about particular online sources” and Enríquez Raido (2014) who pointed to shallow searches and students’ poor web skills.

### 3.4. Problems with Locating Phrasemes or Clauses in Sources

Unsurprisingly, particularly problematic as the objects of search were word clusters, which accounted for 31.6% of all items searched. Among the most frequently researched phrasemes were *superior court*, *cause of action*, *contractual payments*, *as follows*, *service of process*, *but for*, *pursuant to*, and *complained for*. The search for clauses, e.g. *such other and further relief as may seem just and proper*, *I believe that the facts stated in this complaint are true*, constituted 1.09 % of all searches.

Even when the groups of words were correctly identified by participants as phrasemes or clauses (see point above), the success was not guaranteed. Participating students were often too optimistic about the comprehensibility of dictionaries. The reality is that dictionaries, especially specialist ones, present not all, but the most common phrasemes (and they practically never present clauses). Moreover, the study revealed that the students did not know under which entry a particular phraseme may be found and where to look for it within a dictionary entry. This also applies to electronic dictionaries, which are similar in structure to their printed versions. The automatic search directs a dictionary user to a headword, but then one has to manually look through the dictionary entry to find the desired phraseme. In the case of PDF dictionaries, the standard search function needs to be used, which locates every instance of a given word or phrase in the document without any specific logic. Students did not seem to be familiar with the structure of the sources, which made the search more frustrating and, in some cases, unsuccessful. This result comes as no surprise, since insufficient lexicographical competence has been reported in numerous dictionary-use studies even before the Internet era, e.g. Atkins & Varantola (1997).

What is the students’ proficiency in navigating the Internet? As with dictionaries, the study showed that participants’ knowledge of the Internet was superficial. Consultations in

electronic dictionaries accounted for 68.90% of all consultations in electronic sources (Table 5). Other classes of electronic sources were used infrequently and by a small number of participants, which contrasts with professionals' preferences revealed by Massey & Ehrensberger-Dow (2011), Zheng (2014), Alonso (2015), and Prieto Ramos (2020).

Table 5: Look-ups in electronic dictionaries versus other electronic sources

Type of source	Percent of total look-ups in electronic sources
electronic dictionaries	68.90%
other electronic sources	31.10%

The observation also showed that the potential of the sources was not fully exploited by the students. Only a fraction of the participants used the advanced search options offered by the Google search engine to limit the number of search results, e.g. using an asterisk in the place of the unknown element in a phrase (e.g. *a \* saved is a \* earned*). Even the most basic functionality of a search engine – quotation marks – was not used by all. Similar results can be found in general studies into ISB, e.g. Madden (2005); Kirkwood & Price (2005); Williams et al. (2008) and Nicholas et al. (2011), which dispel the myth of digital natives. People (regardless of age) prove to be adept at using technology only when it comes to certain tasks that they repeat on a regular basis and are not as efficient when it comes to using technology for more specialist purposes.

The rate of consultation in translator forums constituted 7.49% of total look-ups. The most popular among the students was *proz.com*. The service offers access to terminological banks and discussions concerning terminology problematic for professional translators. While one can find only limited information about the multivalence, polysemy or incongruency of a given term in a dictionary, all these issues are addressed in the discussions taking place there. Nevertheless, *proz.com* is a tool designed for a limited application. It provides very good assistance in the translation of phrasemes or clauses as well as lexical items not listed in LSP dictionaries. The observation of the participants in the study revealed that *proz.com* was treated by them as a standard dictionary, which it is not. Some students looked up popular legal terms in the service. The result was that the source did not provide any matching entry (because nobody had enquired about this item before) or it generated entries which presented the item as the element of phrasemes or clauses. Moreover, it is notorious in my classes that students scan the list of search results rather than read the discussions. The open character of the source means that it contains both correct and incorrect translation suggestions, which are graded and commented by *proz.com* users, thus careful reading of a discussion thread is required before one selects the appropriate answer. It is therefore essential to remind students in class that *proz.com* is not a dictionary. In my experience, the most constructive approach is to provide students with examples of inaccurate translation advice from *proz.com* which can only be discovered after a close reading of a discussion thread.

### 3.5. Problems with Incongruent Terms

Another problematic issue that surfaced in the analysis of participants' information-seeking behaviour was system-bound terminology, namely the phrases *hedonic damages*, *compensatory damages*, *superior court*, and the adverbs *hereinafter*, *thereto*, *thereof*, and

*wherefore*. These lexical units generated a high rate of look-ups because the sources consulted either did not provide an equivalent or provided a description rather than the counterpart of a term. Particular attention should be paid to incongruent legal terms in translation classes, so that students know how to recognise a system-bound term and where to seek assistance when translating it. Recognising that one is dealing with an incongruent term helps the dictionary user to interpret the content of the sources. One is no longer surprised when different sources give different equivalents of an item, or when a dictionary provides only a descriptive equivalent.

My observation was that when students found confusing information in one bilingual dictionary, they turned to another dictionary. In the case of system-bound terminology, consulting dictionaries alone is more likely to cause confusion than provide solutions. When one suspects they found an incongruent term in a dictionary, the best solution is to reach for a monolingual dictionary or an encyclopaedic source to learn more about it. Incongruent terms are also a regular topic on translators' forums. There one can read discussions regarding different translation solutions proposed by other translators.

### *3.6. Problems with Several Equivalents in a Dictionary Entry*

Another problem for participants was the fact that dictionary entries provided more than one equivalent of a term, but at the same time did not inform about the syntactic or semantic differences between these equivalents. They probably assumed that there was not much difference between the equivalents given in a dictionary entry and that they could be treated as synonyms. Others felt frustrated and confused because they did not know which of the equivalents to choose. What they often did in this situation was to look up the term in another bilingual dictionary, where they usually encountered a similar problem – several equivalents. A small minority decided to check the meaning of the equivalents in a monolingual dictionary in order to find the semantic differences between them, or to see their contexts of use in online text corpora. Also, not everyone turned to *proz.com*, the service designed to help in such difficult cases.

### *3.7. Problems with Processing of Information Found*

The study revealed that the consultation of exactly the same lexical items in exactly the same sources by different participants led to divergent results. This is because the participating students processed the information found in a source differently. As Wilson (2010: 50) explains, “data [found in a source] may or may not be information depending upon the state of understanding of the information user”. Tarp (2007: 172) adds that:

dictionaries themselves do not contain information, but only lexicographically selected and prepared data from which the users may or may not be able to retrieve the needed information.

The success of a search is not dependent solely on thorough knowledge of existing sources, effective navigation within the sources, and speed of access to the required information. It is also determined by the cognitive abilities of a source user to process the information found and use it to achieve one's goals. Some participants were fixated on finding ready-made answers

to their translation problems in the form of insertable equivalents. They did not seem to be open to the possibility of using partial information to attempt translation on their own. Thus, they marked the look-up as unsatisfactory and pursued further look-ups, even when the source included some information that could be used effectively. In exactly the same situation other students marked the look-up as satisfactory and used what they found creatively to produce a rendition of the lexical unit.

#### **4. Conclusion**

The list presented in the article includes the most common problems. However, it is not a list of problems experienced by all students. Each participant experienced a different set of problems and with a different intensity, because they generally had different research styles (described in Sycz-Opoń 2021). In fact, similar differences in information-seeking behaviour can be observed among professional translators (Gough 2023; Sycz-Opoń & Paradowska 2024). Therefore, a personalised approach is needed to discover with each student the area they need to work on.

Why were these problems experienced by the students? All the problems described above can be reduced to two denominators – insufficient practical lexicographical/instrumental knowledge and lack of attention to the information-seeking process. As we look at the information retrieval problems from a broader perspective, it appears that they cannot be attributed solely to the area of research skills. Many information-mining problems arose from an inappropriate approach to translation (focus on translating words rather than the meaning behind the utterance, lack of interest in the precise meaning of terms, unwillingness to apply translation techniques to convey the meaning of the incongruent term, etc.). The results of the study indicate that instrumental competence intertwines with translation competence, and one needs both to solve a translation problem. It may therefore be ill-advised to teach research skills outside of translation classrooms, during a separate, technically centred course. It would be more beneficial to develop research skills alongside other translation competencies in a translation classroom through regular, insightful discussions. In such classes students should be guided through the entire information-seeking process (to raise their awareness) and be familiarised with tools and strategies to tackle problematic issues as they encounter them (practical approach). The focus of such classes should be on the process of translation plus translation-related research, rather than on the translation product, so that the students could see the link between the problem encountered during translation, the particular information need, the selection of an appropriate source and the solution applied to the problem.

Finally, it is important to consider the limitations of this study. Firstly, the sample was drawn from a single educational institution, which may limit the generalisability of the findings. Secondly, the study focused exclusively on translation from L2 into L1, which may not reflect the full range of translation behaviours. Thirdly, the information-seeking behaviour was observed during a single type of translation, which may not fully capture the nuances of other translation contexts. Therefore, any generalisations to other translation settings should be made with caution and in light of other studies on this topic.

**Appendix A: Translation assignment**

SUPERIOR COURT FOR THE STATE OF GEORGIA FOR THE COUNTY OF  
GWINNETT

CASE NO. GC136582

Sebastian Dziubik,

PLAINTIFF

Versus.

International Music Corporation, Inc.,

DEFENDANT

COMPLAINT FOR BREACH OF CONTRACT

Plaintiff alleges as follows:

FIRST CAUSE OF ACTION

(Breach of contract as to contractual payments)

1. (...)
2. In or about January, 2002, Dziubik entered into the employ of IMC as a marketing executive of Folk Recording Studios, a division on IMC, pursuant to a four-year contract (the "2002 Contract"). By the terms of the 2002 Contract, Dziubik was given the responsibility to supervise and direct marketing and distribution of all IMC folk products in Europe ("Products"). A key element of Dziubik's compensation under the 2002 Contract was an Incentive Bonus provision designed to compensate him for his success in managing the IMC operations that were placed under his directions. (...)
3. (...)
4. (...)
5. Dziubik has done all things that have been required to be done by him under the 2002 Contract and he is in no manner or respect in breach thereof. At the time of IMS's acts of breach and repudiation hereinafter set forth, the 2002 Contract, but for IMC's breach, continued to impose obligations or performance on the parties thereto.

(...)

Wherefore, the plaintiff prays for the following relief from this Court:

1. Compensatory damages in the amount of Euro 25,000.00
2. vindictive damages in the amount of Euro 25,000.00
3. hedonic damages in the amount of Euro 25,000.00
4. such other and further relief as may seem just and proper

(...)

I BELIEVE THAT THE FACTS STATED IN THIS COMPLAINT ARE TRUE

Sebastian Dziubik

(...)

Solicitor for the claimant who will accept service of process at the above address on his behalf

**Appendix B:** Excerpt from the observation protocol (translated from POLISH)

OBJECT OF SEARCH (write only at the beginning of each search):			
SOURCE	1. WHY IS THIS SOURCE LOOKED UP?	2. WHAT INFO IS BEING SOUGHT?	3. LOOK-UP RESULT
Name (author):  <u>If a dictionary:</u> <ul style="list-style-type: none"> <li>○ bilingual</li> <li>○ monolingual</li> <li>○ printed</li> <li>○ computer</li> <li>○ internet</li> </ul>	<ul style="list-style-type: none"> <li>○ speed of search</li> <li>○ easy-to-use</li> <li>○ convenient</li> <li>○ specialist</li> <li>○ reliable</li> <li>○ well-known</li> <li>○ at hand</li> <li>○ no particular reason</li> <li>○ other, what?</li> </ul>	<ul style="list-style-type: none"> <li>○ equivalent of the term from the original text</li> <li>○ meaning of the term from the original text</li> <li>○ meaning of the equivalent provided in a bilingual dict.</li> <li>○ confirmation of info</li> <li>○ definition</li> <li>○ collocation</li> <li>○ context of use</li> <li>○ grammatical properties</li> <li>○ does not know</li> <li>○ other:</li> </ul>	<ul style="list-style-type: none"> <li>○ satisfactory</li> <li>○ not satisfactory, why?</li> <li>○ partly-satisfactory, why?</li> </ul>
OBJECT OF SEARCH (write only at the beginning of each search):			
SOURCE	4. WHY IS THIS SOURCE LOOKED UP?	5. WHAT INFO IS BEING SOUGHT?	6. LOOK-UP RESULT
Name (author):  <u>If a dictionary:</u> <ul style="list-style-type: none"> <li>○ bilingual</li> <li>○ monolingual</li> <li>○ printed</li> <li>○ computer</li> <li>○ internet</li> </ul>	<ul style="list-style-type: none"> <li>○ speed of search</li> <li>○ easy-to-use</li> <li>○ convenient</li> <li>○ specialist</li> <li>○ reliable</li> <li>○ well-known</li> <li>○ at hand</li> <li>○ no particular reason</li> <li>○ other, what?</li> </ul>	<ul style="list-style-type: none"> <li>○ equivalent of the term from the original text</li> <li>○ meaning of the term from the original text</li> <li>○ meaning of the equivalent provided in a bilingual dict.</li> <li>○ confirmation of info</li> <li>○ definition</li> <li>○ collocation</li> <li>○ context of use</li> <li>○ grammatical properties</li> <li>○ does not know</li> <li>○ other:</li> </ul>	<ul style="list-style-type: none"> <li>○ satisfactory</li> <li>○ not satisfactory, why?</li> <li>○ partly-satisfactory, why?</li> </ul>

## References

- Alonso, Elisa. 2015. Analysing the use and perception of Wikipedia in the professional context of translation. *The Journal of Specialised Translation* 23: 89–116.
- Atkins, Beryl TS & Varantola, Krista. 1997. Monitoring dictionary use. *International Journal of Lexicography* 10(1): 1–45.
- Baddeley, Alan D. 2007. *Working memory, thought, and action*. Oxford, New York: Oxford University Press.
- Berezowski, Leszek. 2011. *Jak czytać i rozumieć angielskie dokumenty sądowe w sprawach cywilnych? [How to read and understand English court documents in civil cases?]* (2nd edition). Warszawa: C.H. Beck.
- Bogudzinski, Jacek & Buczkowski, Konrad & Kaznowski, Andrzej. 2013. *Wzory umów i pism. Dwujęzyczne wydanie polsko-angielskie [Compendium of legal templates. Bilingual Polish edition]*. Warszawa: C.H. Beck.
- Buendía-Castro, Miriam. 2023a. ¿Conocen y usan los estudiantes de traducción suficientes recursos lexicográficos y terminográficos? Resultados de un estudio empírico [Do students of Translation know and use enough lexicographic and terminographic resources? Results of an empirical study]. *Hikma* 22(2): 309–330. doi: 10.21071/hikma.v22i2.16331.
- Buendía-Castro, Míriam. 2023b. Dictionary use by trainee translators. *International Journal of Lexicography* 36(4): 510–527.
- Chaia, María Claudia Geraldine. 2022. Desarrollo de la competencia informacional de traductores en formación. Un estudio de caso basado en encuesta [Informational competence development of translator trainees: a survey-based case study]. *Hermēneus. Revista de Traducción e Interpretación* 24: 119–156.
- Cui, Yixiao & Zheng, Bingham. 2020. Consultation behaviour with online resources in English-Chinese translation. An eye-tracking, screen-recording and retrospective study. *Perspectives*. doi: 10.1080/0907676X.2020.1760899.
- Enríquez Raído, Vanessa. 2014. *Translation and web searching*. New York and London: Routledge.
- Fernández-Silva, Sabela & Cañete, Bárbara Folch. 2020. El desarrollo de la competencia de documentación especializada en estudiantes de traducción a lo largo de la inserción disciplinar [The development of specialized documentation competence in translation students across their training]. *Sendeban* 31: 159–178.
- Gough, Joanna. 2016. *The patterns of interaction between professional translators and online resources*. University of Surrey dissertation. Retrieved from <http://eprints.surrey.ac.uk/813254/>.
- Gough, Joanna. 2019. Developing translation-oriented research competence. What can we learn from professional translators? *The Interpreter and Translator Trainer* 13(3): 342–359.
- Gough, Joanna. 2023. Individual variations in information behaviour of professional translators. Towards a classification of translation-oriented research styles. *Translation Studies* 17(2): 394–415. doi: 10.1080/14781700.2023.2231933.

- Hirci, Nataša. 2013. Changing trends in the use of translation resources. The case of trainee translators in Slovenia. *English Language Overseas Perspectives and Enquiries* 10(2): 149–165.
- Hvelplund, Kristian Tangsgaard. 2017. Translators' use of digital resources during translation. *HERMES* (56): 71–87. doi: 10.7146/hjlc.v0i56.97205.
- Jopek-Bosiacka, Anna. 2006. *Przekład prawny i sądowy [Legal and court translation]*. Warszawa: Wydawnictwo Naukowe PWN.
- Kierzkowska, D. 1998. *Selection of English Documents*. Warszawa: TEPIS.
- Kierzkowska, Danuta & Wiśniewski, Andrzej W. 1998. *The Polish Commercial Code: The law is stated as at 15 February, 1998*. Warsaw: Tepas Pub. House.
- Kirkwood, Adrian & Price, Linda. 2005. Learners and learning in the 21st century. What do we know about students' attitudes and experiences of ICT that will help us design courses? *Studies in Higher Education* 30(3): 257–274.
- Kuhlthau, Carol C. & Heinström, Jannica & Todd, Ross J. 2008. The 'information search process' revisited. Is the model still useful? *Information Research* 13(4): unpaginated.
- Lu, Sha & Xiangling, Wang & Shuya, Ma. 2022. Investigating the relationship between online information seeking and translation performance among translation students. The mediating role of translation self-efficacy. *Frontiers in Psychology* 13:944265.
- Madden, M. 2005. *Generations online* (Pew Internet and American Life Project). Washington DC: Pew Research Center.
- Massey, Gary & Ehrensberger-Dow, Maureen. 2011. Investigating information literacy. A growing priority in translation studies. *Across Languages and Cultures* 12(2): 193–211.
- Nicholas, David & Rowlands, Ian & Clark, David & Williams, Peter. 2011. Google Generation II. Web behaviour experiments with the BBC. In *Aslib Proceedings* 63: 28–45. Bingley: Emerald Group Publishing Limited. doi: 10.1108/00012531111103768.
- Olalla-Soler, Christian. 2018. Using electronic information resources to solve cultural translation problems. *Journal of Documentation* 74(6): 1293–1317. doi: 10.1108/JD-02-2018-0033.
- Onishi, Nanami & Yamada, Masaru. 2020. Why translator competence in information searching matters: An empirical investigation into differences in searching behavior between professionals and novice translators. *Invitation to Interpreting and Translation Studies* 22. 1–22.
- Paradowska, Urszula. 2020. Web-based resources and web searching skills for translators with a specific focus on the Polish-English language pair. *Current Trends in Translation Teaching and Learning* 7: 167–212.
- Paradowska, Urszula. 2021. *Developing information competence in translator training*. Frankfurt a.M., Germany: Peter Lang.
- Park, Hyejin & Kim, Han Sung & Park, Han Woo. 2021. A scientometric study of digital literacy, ICT literacy, information literacy, and media literacy. *Journal of Data and Information Science* 6(2): 116–138. doi: 10.2478/jdis-2021-0001.
- Pieńkos, Jerzy. 2002. *Podstawy przekładoznawstwa. Od teorii do praktyki [Foundations of translation studies. From theory to practice]*. Kraków: Zakamycze.

- Pinto, María & Sales, Dora. 2007. A research case study for user-centred information literacy instruction: information behaviour of translation trainees. *Journal of Information Science* 33(5): 531–550.
- Prieto Ramos, Fernando. 2020. The use of resources for legal terminological decision-making. Patterns and profile variations among institutional translators. *Perspectives* 1–33.
- Raído, Vanessa Enríquez & Cai, Yuxing. 2023. Changes in web search query behavior of English-to-Chinese translation trainees. *Ampersand* 11(100137): 1–14.  
doi: 10.1016/j.amper.2023.100137.
- Sales, Dora & Pinto, María & Fernández-Ramos, Andrés. 2018. Undressing information behaviour in the field of translation. A case study with Translation trainees. *Journal of Librarianship and Information Science* 50(2): 186–198.
- Šarčević, Susan. 2000. *New Approach to Legal Translation*. Hague: Kluwer Law International.
- Shih, Claire Y. 2019. A quest for web search optimisation: an evidence-based approach to trainee translators' behaviour. *Perspectives* 27(6): 908–923. doi: 10.1080/0907676X.2019.1579847.
- Sycz-Opoń, Joanna. 2011. Is a legal lexicographer a manipulator? The impact of author's decisions on the content of a dictionary. In Gregova, R. & Snircova, S. & Tomascikova, S. (eds.), *Language, literature and culture in present-day context. Contemporary research perspectives in Anglophone PhD studies*, unpaginated. Kosice: SKASE.
- Sycz-Opoń, Joanna. 2019. Information-seeking behaviour of translation students at the University of Silesia during legal translation—an empirical investigation. *The Interpreter and Translator Trainer* 13(2): 152–176.
- Sycz-Opoń, Joanna. 2021. Trainee translators' research styles. A taxonomy based on an observation study at the University of Silesia, Poland. *Translation and Interpreting - The International Journal of Translation and Interpreting Research* 13(2): doi: 10.12807/ti.113202.2021.a08.
- Sycz-Opoń, Joanna. 2024. Print dictionaries are still in use. A survey of source preferences by Polish translators. *International Journal of Lexicography* 37(2): doi: 10.1093/ijl/ecae004.
- Sycz-Opoń, Joanna & Paradowska, Urszula. 2024. How external and internal factors affect translators' source preferences – survey results. *Perspectives*: 1–28.  
doi: 10.1080/0907676X.2024.2342263.
- Tarp, Sven. 2007. Lexicography in the information age. *Lexikos* 17: 170–179.
- Tiersma, Peter M. 1999. *Legal language*. Chicago: University of Chicago Press.
- Whyatt, Bogusława & Witczak, Olga & Tomczak, Ewa. 2021. Information behaviour in bidirectional translators. Focus on online resources. *The Interpreter and Translator Trainer* 15(2): 154–171.
- Williams, Peter & Rowlands, Ian & Fieldhouse, Maggie. 2008. The Google Generation – myths and realities about young people's digital information behaviour. In Nicholas, David & Rowlands, Ian (eds.), *Digital Consumers*. London: Facet Publishing. 159–192.
- Wilson, T.D. 2010. Fifty years of information behavior research. *Bulletin of the American Society for Information Science and Technology* 36(3): 27–34.
- Zheng, Bingham. 2014. The role of consultation sources revisited. An empirical study of English–Chinese translation. *Perspectives* 22(1): 113–135.

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