WEB-BASED RESOURCES AND WEB SEARCHING SKILLS FOR TRANSLATORS WITH A SPECIFIC FOCUS ON THE POLISH-ENGLISH LANGUAGE PAIR

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Abstract

In the modern technology-driven translation market, using the available tools and resources seems to be more of a requirement than an option. This view is shared by translation scholars, who incorporate information competence in their translation competence models, translation educators and students, and professional translators. The theoretical background of the paper is based on the conceptual framework used by the author is her longitudinal study into the development of information competence in undergraduate translation students. The paper contains a collection of web-based resources for translators and shows the ways in which
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they can develop their web searching skills.

Keywords: information competence, translator training, web-based resources, web searching.

1. INTRODUCTION

We live in a world with an excess of information. As James Thurber (1961) noticed, “[s]o much has been written about everything that you can't find out anything about it.” Therefore, the ability to seek, evaluate and use information effectively is becoming increasingly important. In their work, translators rely on their internal knowledge and when it is insufficient, they resort to external resources, which typically include online rather than paper-based ones. Even though web searching is so common in our personal and professional lives, the author’s experience of working with undergraduate translation students shows that even young people do not use all search engine features and rely on a limited range of web-based resources. Despite the fact they are ‘digital natives’, their information literacy level is far from satisfactory (a similar observation can be found in Sycz-Opoń, 2019, p. 10).

In his minimalist approach to translation
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Online information search skills can benefit translators in two ways. First of all, they will be able to solve translation problems more quickly and confidently. This is simply because generating a series of viable target texts and then selecting the best one from this series will be easier. Second of all, they will learn how to learn about the various technologies and online resources available to translators now and in the future.

The need to incorporate information competence in translator education is generally recognised by the authors of most translation competence models, where it is referred to by a number of terms such as the “instrumental sub-competence” (Alves & Gonçalves, 2007; PACTE, 2003), the “tools and research competence” (Göpferich, 2009), the instrumental competence (Kelly, 2005; PACTE, 2018), the “information mining competence” and “technological competence” (EMT Expert Group, 2009), and “technology” (EMT Board, 2017). In addition, an interesting model for the development
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of information competence for translators, the INFOLITRANS model, was proposed by Pinto and Sales (2008). There is a growing body of empirical research into online information search behaviour of translators and the use of web-based resources in translation (cf. Chodkiewicz, 2015; Enríquez Raído, 2011; Gough, 2016; Massey & Ehrensberger-Dow, 2011; Olalla-Soler, 2018; Paradowska, 2015; Pinto & Sales, 2008).

The view that it is necessary to (further) develop information competence, and in particular web searching skills, seems to be supported by professional translators and translation trainees. One example of a growing interest in translation-related web searching may be the positive feedback received from the participants of three workshops conducted by the author in 2018, (including a workshop for novice translators and a workshop for sworn and specialised translators). They indicate that not only translation students but also practising translators are willing to improve their information literacy.

The author developed a particular interest in the development of information competence when she started teaching translation in a computer lab.
Unlike expected, the students’ ability to seek information online and use web-based resources was limited. A longitudinal multiple-case study was conducted in order to answer the question whether this process can be enhanced with a visible positive effect through a purposeful intervention. The first part of the study lasted two semesters and involved direct observation of participants’ web search behaviour and analysis of their search histories, while the second stage (main study), conducted in the last semester of the translation programme, was designed to increase the participants’ information competence (the intervention) and explore how they used online information sources to solve translation problems during two screen-recorded translating and web searching sessions arranged before and after the intervention.

The paper is structured as follows. The first part provides the conceptual framework by introducing definitions of information competence, expert searchers, and information needs. The second section focuses on translation technologies (online tools and resources) and includes a comprehensive list of useful web-based resources for translators. The last part covers Google search operators, Advanced search tools, and other services provided
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by Google. Special attention will be paid to the Google-verse due to the fact that its search engine is by far the most popular, with 92.27% of the search market share worldwide and 96.91% of the search market share in Poland\(^1\). In an attempt to make the paper more useful for translation students, teachers and professionals, the Appendix contains a list of links to all the web-based resources and web search tools presented in the text.

2. CONCEPTUAL FRAMEWORK

2.1 Information competence

Information competence is as a set of abilities connected with the effective use of information. In English literature, it is also referred to as *information literacy, information skills, information capabilities*, etc. In Polish, there are also a number of terms in use, including *kompetencja informacyjna, kompetencje informacyjne, biegłość w użytkowaniu informacji, sprawność informacyjna, alfabetyzm informacyjny* (Derfert-Wolf, 2005; Jasiewicz, 2012; Konieczko, 2008; Kurkowska, 2008).

\(^1\) Source: http://gs.statcounter.com (September 2020).
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According to the Association of College and Research Libraries, it encompasses the ability to identify the information need, to access the required information effectively and efficiently, to evaluate information sources critically, to use the information effectively to accomplish a specific purpose, and to access and use the information ethically and legally (ACRL, 2000, 2015).

### 2.2 Expert searchers

One available definition of experienced information searchers, which was used by the author in her longitudinal study, was proposed by Aula, and Aula and Käki. They found that expert users formulate queries with multiple search terms and often refine their queries, copy and paste terms into the search field, open a new tab for the results to retain the context while searching, save links and results to a separate file or folder, and use the ‘Find’ command (Aula & Käki, 2003). They also create longer and more specific queries (Aula, 2005).

### 2.3 Information needs

Through direct observation and analysis of Google search history records (nearly 10,000 queries) in the
first stage of the longitudinal study, the following reasons for consulting web-based resources, or information needs, were identified: checking the meaning of unknown words, checking the accuracy of translated phrases, searching parallel texts, and increasing extralinguistic knowledge. It was found that the majority of students conducted an online information search to fulfil the first two needs. They hardly ever used web-based resources to increase their extralinguistic knowledge or access parallel texts. The most popular information sources were the Google search engine, bilingual dictionaries, and Wikipedia.

Following the intervention, the participants’ information needs changed; they used parallel texts more frequently, spent more time checking target text accuracy and relied less on bilingual dictionaries and Wikipedia.

3. WEB-BASED RESOURCES FOR TRANSLATORS

Gough defines translation technology as “tools and resources used to aid, optimise or automate the translation process” (2016, p. 87). She notes that the boundaries between the two groups are often
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blurred, because external sources can often be accessed from the level of the computer-assisted/aided translation (CAT) tool, which is also referred to as a Translation Environment Tool (TEnT). Such tools, or mechanisms, perform a number of functions and include translation memory systems, terminology management software, term extraction tools, statistical of neural machine translation and alignment tools. Web-based resources, on the other hand, are typically standalone technologies which provide content accessed by translators during information search process (Gough, 2016, p. 89).

The following sections focus on specific types of online resources (and several tools), including: encyclopaedias, dictionaries and glossaries, mono- and multilingual language corpora, translation memory databases and collections of parallel texts, term banks and term extraction tools, translator forums and social media, web-based machine translation services, and search engines. Due to the fact that the author teaches translation between Polish and English, the presented resources have been tested in this language pair. Still, most of them are available to translators working with the other languages. All the links are provided in the
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Appendix.

3.1 Encyclopaedias

One of the reasons for consulting web-based resources identified in the longitudinal study described in Section 2 was the need to increase extralinguistic knowledge, both general and domain knowledge. In addition to Wikipedia, which was definitely the most often used by the study participants, translators can consult its lesser-known counterpart, Scholarpedia. What makes this source more credible than Wikipedia is the fact that all contributions are peer-reviewed. The other knowledge-based resources include monolingual Polish Encyklopedia PWN and Edupedia, or monolingual English such as Encyclopaedia Britannica, Library of Congress, and Investopedia. Interestingly, many modern encyclopaedic resources are no longer available in paper-based versions.

3.2 Dictionaries and glossaries

The most frequently addressed information need in the study was checking the meaning of unknown
words. It was typically fulfilled by the participants by consulting online dictionaries. Unlike glossaries, dictionaries provide comprehensive information about a searched term such as spelling, pronunciation, definition, etc.

As far as bilingual Polish/English dictionaries as concerned, Diki.pl was by far the most popular choice, followed by bab.la, ling.pl and Glosbe. The other dictionaries which can be recommended are WordReference.com, established in 1999, and Reverso Context, which is not only an example-based dictionary but also a concordancer.

Monolingual English dictionaries were the second most popular resources used by the study participants who accessed the Web to check the meaning of unknown words. The most popular dictionaries available free of charge include Oxford Learner’s Dictionary, Cambridge Dictionary and Macmillan Dictionary. Translators may also refer to Dictionary.com and the Free Dictionary. Another one, Lexicool.com is a directory of over 8,000 bilingual and multilingual dictionaries. There are two lesser-known monolingual English dictionaries which use algorithms to analyse word combinations in a semantic network, i.e. the open-source WordNet
database. Describing Words allows users to find adjectives for the typed nouns, whereas Reverse Dictionary displays terms for definitions provided by the users, e.g. typing wet and unpleasant returns words like clammy, soggy, etc. BabelNet is yet another dictionary based on the WordNet database (and Wikipedia). It is a multilingual encyclopaedic dictionary and a semantic network, which allows users to fulfil two information needs at a time, i.e. checking the meaning of unknown words and increasing domain knowledge. Figure 1 below shows a screenshot from a search of the term Okrągły Stół [Polish Round Table Agreement].
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Figure 1. A search for Okrągły Stół in BabelNet
The next group are resources are monolingual dictionaries of Polish. In addition to the well-known online dictionary delivered by Polish Scientific Publishers PWN, translators who work with Polish can consult the PWN Language Help Desk [Poradnia Językowa PWN] and the Polish Academy of Sciences Great Dictionary of Polish [Wielki Słownik Języka Polskiego PAN]. The latter resource is particularly useful for checking collocations. Figure 2 shows a search for the Polish term sprawa.

Figure 2. A search for collocations in the Great Dictionary of Polish
As for thesauri, which were hardly ever used by the student translators in the study, translators can consult Polish resources Synonimy.pl and Synomim.net as well as English resources Synonym.com and Theasurus.com. These dictionaries are useful in both direct and inverse translation because it was observed in the study that students tend to translate source text word combinations literally. Related Words, based on the WordNet database, allows translators to find words related to a searched word. This can be both a synonym and a word which occurs in the same semantic network. To illustrate, a search for the word angry returns synonyms such as furious, irate, indignant, outrage, and words from the same semantic network such as anger and adrenaline (see Figure 3).
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Figure 3. Related Words – a search for the word *angry*

The next group of resources in this section are glossaries. Translators can use a number of collections of glossaries created by ProZ.com users, Glossarissimo, Glossary Links, among others. Glossaries are also available on Wikipedia.

In order to check accuracy of translated phrases, which is yet another information need identified in the study, translators can resort to dictionaries of collocations. Resources which allow for checking word combinations are particularly useful in inverse translation. PhraseUp is a simple service which requires users to replace a searched term with an asterisk. Lexical database Dante provides both
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collocations and corpus-based examples of word use. Figure 4 shows an example search of NetSpeak.org, a Web service which uses the Google n-gram corpus to provide collocations. Users have a number of operators at their disposal (see Figure 4). They can replace a searched word (?), replace two words (??), check word order with curly bracket, or compare options by using square brackets, to mention just a few.

Figure 4. Netspeak.org – a corpus-based service to check collocations
3.3 Online language corpora

Electronic corpora, which were not used by the participants in the study, are large collections of samples of written and spoken discourse. They are an effective resource for translators who want to establish target language patterns (monolingual corpora) or equivalence on the basis of the context (parallel corpora). The use of these resources helps translators to create more natural and idiomatic target texts. Translators working with Polish and English can use monolingual corpora: the British National Corpus (BYU-BNC), the Corpus of Contemporary American English (COCA), and the National Corpus of Polish (NKJP).

As for parallel language corpora, translators can search a corpus of Polish-English and English-Polish translations called Paralela, available as part of the CLARIN-PL project. Its search engine can be used to formulate queries for single words and phrases, and lexical and grammatical patterns (see Figure 5 for a sample query).
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Figure 5. Paralela – a search for different forms of the lemmas *czarny* and *koń*

HASK collocation dictionaries are yet another corpus-based resource developed by the PELCRA group at the University of Łódź. Based on the BYU-BNC (for English) or the NKJP (for Polish), the dictionaries are used to populate a searchable database of word combinations. The service offers two features: a browser and a colosaurus. Figure 6 below shows collocations for Polish adjectives *zabawny* and *śmieszny*, which might be considered synonymous, while in Figure 7 English adjectives *ridiculous* and *funny* are compared.
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Figure 6. HASK – a comparison of collocations of śmieszny and zabawny.

Figure 7. HASK – a comparison of collocations of ridiculous and funny
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Both monolingual and parallel language corpora provide the source of the searched term, which makes it easier for their users to evaluate the information.

Last but not least, translators have several corpus analysis tools at their disposal. First of all, Sketch Engine, which incorporates over 500 corpora in over 90 languages (as of October 2020), is fee-based, whereas its lightweight version for language learners, SkELL, is available free of charge. Another corpus querying tool is called AntConc. This freeware toolkit allows users to create and analyse their own collections of texts. A possible use of such a user-created corpus could be to search concordances in parallel target language texts.

### 3.4 Translation memory databases and collections of parallel texts

Another group of web-based resources which can be used for solving translation-related information needs includes databases, including online collections of translation memories and parallel texts. Such sources are particularly useful for searching terminology and target language patterns.

Online concordancers, like MyMemory and TAUS
Data, offer a similar function to language corpora. However, unlike corpora – which are built for a purpose – they allow translators to search word strings in a large set of translation memories shared by other users.

Similarly, translators can browse through EUR-lex, i.e. a collection of public documents and law of the European Union (EU). The website offers a bilingual display function which makes it possible to consult the text in two or more language versions. Linguee is yet another searchable parallel text corpus and a bilingual dictionary based on the EUR-lex among others.

### 3.5 Term banks and term extraction tools

Searching for the meaning of unknown words took up the largest portion of the total web searching time in the study. The participants used bilingual dictionaries the most frequently, and they often used incorrect equivalents. The reason for this was that they often chose the first definition listed in the dictionary and overlooked the context. Online term banks are a useful resource for translators because they include verified or approved terms used in a given organisation. One example of a multilingual
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terminology database is the IATE (Inter-Active Terminology for Europe), which was created to support translators working for the EU. Its new version has been available since November 2018.

It is also worth mentioning that translators can draw on to web-based term extraction tools to prepare their own lists of key terms. Three tools that are fairly easy-to-use are VocabGrabber, FiveFilters.org, and Tilde. The last one, Tilde, is also a term bank (see Figure 8 for a sample search).

Figure 8. Tilde – a sample term search

collateral

| Target language | Translation | Domain | Collection |
|-----------------|-------------|--------|------------|
| PL | zasiłopisieczno | Economics |  [Download IATE, Europe] |
| | | Finance and accounting |  [Angielsko-polski słownik terminologiczny programów rozwijaniu Regionalnego] |
| PL | określacz zasiłopisieczny | Law |  [Zbiór polsko-angielskich terminologii prawa] |
| PL | ponczentenie-kredytowe | Law |  [Zbiór polsko-angielskich terminologii prawa] |
| PL | materiały dodatkowe | Industries and technology |  [Microsoft Public Terminology Collection] |

The tool offers a term extraction feature (Tilde Look Up), which not only extracts monolingual terms from documents uploaded by the user but also displays translation equivalents available in its terminology database (see Figure 9 below).
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Figure 9. Tilde LookUp – translation equivalents in term extraction

Quick Look up

Paste a short text below. Hover over highlighted terms to see translations. Max 2000 characters for unregistered users. Register here.

Collateral is a payment or other asset that a borrower offers as a way for a lender to secure the loan. If the borrower fails making the promised loan payments, the lender can seize the collateral to recoup its losses. Since collateral offers some security to the lender, should the borrower fail to pay back the loan, the loans that are secured by collateral typically have lower interest rates than unsecured loans. A lender's claim to a borrower's collateral is called a **lien**.

- stopa procentowa
- stopa oprocentowania
- stawka procentowa
- wysokość oprocentowania

It should be noted, however, that any texts pasted in online term extraction tools must be anonymised for confidentiality reasons.

### 3.6 Translator forums and social media

When dealing with a translation problem, translators can ask other translators for advice. The most renowned example of a community of translators is ProZ, a translator forum and a searchable directory of glossaries created by the users. The other discussion forum for translators include Translators Café and a Polish language forum, mLingua.
Facebook Groups are gaining in popularity as places where translators can seek advice regarding translation-related and profession-related issues and problems. Obviously, Facebook itself is not a resource; it provides a platform which gives translators access to fellow professionals. Popular Facebook groups and fanpages include among others: Things Translators Never Say, Tłumacze z polskiego, TŁUMACZENIA, Tłumaczymy, O szkoleniach dla tłumaczy, Warsztat tłumacza - from zero to hero, Translation Tools, Translation and Interpreting Group.

3.7 Machine translation platforms

Machine translation applications have become an inherent part of the translators’ professional practice. With the introduction of AI-powered online neural machine translation (NMT) systems by Google and Microsoft in 2016, the quality of their output has been constantly improving. For this reason, they are included in this compilation of web-based resources even though they are tools rather than resources. Klocek (2018) noted that EU translators working for the EU institutions prefer to post-edit (neural) machine translation output rather than translate the text from scratch. They compare it to editing a target text delivered by a less experienced human translator.
Web-based machine translation tools, like Google Translate or DeepL, are available free of charge. However, users must be aware of the fact that the texts pasted on the website are automatically saved on the companies’ servers. For this reason, they must not contain personal data.

3.8 Search engines

The last group of web-based resources for translators presented in this paper are search engines. They are used as a tool to access the web content and they can also be used as a resource, when the translator reads the search results but does not follow the links.

Despite the fact that Google collects all sorts of data on the users: search history, location, etc., it remains a highly popular search engine provider and it was the pre-set search engine in the study. The other available search engines include: Yahoo, Bing, Exalead, Swiss Cows and DuckDuckGo. The last two are advertised as tools which protect their searchers' privacy and do not filter search results to match users’ personalised search history.

In addition to general search engines, there are tools which can be particularly useful in translator’s work. 2lingual is a bilingual search engine which
Paradowska, U. (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 E*, 7, 167-212. 10.51287/cttl_e_2020_6_urszula_paradowska.pdf displays results in two languages simultaneously. WebCorp searches web content as a corpus and displays search results in the KWIC (Key Word in Context) format. It also shows collocations.

Ludwig.guru is a linguistic search engine created in 2016, which may be used by translators while drafting and editing texts. It shows a list of results which come from a large database of texts published in reliable sources, e.g. PLOS ONE, BBC, The New York Times and scientific papers. First of all, as shown in Figure 10 below, the search engine can be used to check accuracy of target text phrases.

**Figure 10. Ludwig.guru – checking target text accuracy**

When the asterisk wildcard operator (*) is used to replace a word, the search engine will display collocations (see Figure 11).
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Figure 11. Ludwig.guru – a sample wildcard search

![Figure 11](image)

Last but not least, the platform can be used as a dictionary, complete with a definition, part of speech, pronunciation, sentence examples, related words, synonyms and antonyms (Figure 12).

Figure 12. Ludwig.guru – a dictionary

![Figure 12](image)

The compilation of web-based resources (and several tools) is by no means complete or exhaustive. Translation technologies are developing so fast that it must be constantly updated.
4. USING THE GOOGLE-VERSE FOR TRANSLATION-RELATED PURPOSES

The following sections briefly describe ways of using the Google search engine more effectively (with search operators and advanced search tools), and presents the other services developed by Google which can be useful in translation practice. It should be noted that results returned by Google Search must be evaluated and should not be treated the only source of information. The results are sourced from web content, some of which is unreliable and non-credible. Also, they are based on the user’s search history, location, etc. The issue was briefly discussed in Section 3.8 above.

4.1 Google search operators

Search operators speed up translation research by fine-tuning search results. The operators will be presented ranking from the most often to the least often used by the author when carrying out translation tasks. Although this approach is arbitrary, it seems practical to recommend solutions one uses. Quotation marks put an exact match on the searched word or phrase and block Google from
using synonyms. Also, punctuation is not ignored when it is typed inside quotation marks. Quotation marks are often combined with the asterisk wildcard operator, which replaces a word or a phrase. To illustrate, when the following phrase is entered in the search box “company was * in”, the results will include synonyms such as founded, formed, and established. Another operator (site:) which narrows results to one domain, e.g. site:ted.com, site:uk.

One shortcoming of Google Search is that it may lead to a false assumption that there more multiple web pages which contain the searched term. To illustrate this issue, a series of queries aimed to find an English equivalent of the term rzeczoznawca majątkowy was performed. First, the translator generates a series of viable target text equivalents available on ProZ.com translator forum by typing rzeczoznawca majątkowy proz. The results include several alternatives including: real estate appraiser and certified property valuer. Next, the translator checks whether the first equivalent is frequently used in the United Kingdom by typing “real estate appraiser” site:uk. There are 66,700 results, which may indicate that the equivalent is correct. However, when the translator proceeds to the next search results pages, the number decreases to 67 (in Page
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This example shows that it is advisable to use multiple sources of information, which in this case include corpora and terminology databases.

The next group of operators also facilitates information search but they are slightly less often used for translation problem solving: (1) *filetype:* searches for specified file extensions e.g. ppt, xls, pdf; (2) a plus and a minus include or exclude a term or a domain; (3) *info:* displays general information about a web page; (4) *related:* is used to show similar websites; and (5) *cache:* allows the user to access the most recent cache of a web page that is currently unavailable.

The other operators, such as *allintitle:*, *allinurl:*, and *allintext:* are also available; however, they have been of no use for the author, so they are included in the Appendix for readers who wish to receive a comprehensive list. Also, the definition operator (*define:* and the range operator (..) are no longer used because in the case of the former the results with or without the operator are identical, and in the case of the latter the results are more accurate without the range operator. For example, the query “*apple founded in 1950..2000*” is less successful than the query *apple founded*, which displays key
information in the knowledge panel.

The last two operators presented in this section can be used only in Google News. When increasing extralinguistic knowledge, the translator may restrict the search results to a specific location (e.g. location:miami) or by source (source:cnbc).

### 4.2 Advanced search tools

Translators can improve their web searching skills by using advanced search tools. By clicking the tabs available under the Google search box, users can filter the results to see one type of content (News, Images, Maps, Videos to mention just a few). To refine the results even further other search tools can be used including language settings and a date range, i.e. Any time. As synonyms are the default mode in Google Search, users can change this setting to Verbatim to display an exact match. As far as Images are concerned, the search tools can be used to filter images by colour, size, type and time.

Another search feature provided by Google is the Search by Image function. It may be useful during terminology search or when the translator wants to
check whether or not a piece of news is fake. The user can either right click on an image and select “Search Google with this image” or drag and drop an image under the search box. This allows the user to verify whether the image, and similar images, are available on the web.

The Autocomplete service is yet another useful feature, which was ignored by the participants of the empirical study. It can be used to check accuracy of target text phrases, i.e. serve as a preliminary tool to check terminology. Autocomplete may be of use when checking idioms and collocations. Figure 13 below shows alternative endings of the idiom as drunk as.

Figure 13. Google’s Autocomplete feature – a sample search
Finally, the Google search engine can be used as a resource to access various types of information as a resource without following the displayed links. The available services include a watch (*time auckland*), a currency converter (*120 yen to pln*), a unit converter (*24 inches in cm*), weather forecast (*weather berlin*) and a calculator (*12000/13*).

### 4.3 Other services provided by Google

As mentioned above, Google Search is used by translators both as a tool and a resource. Most users are also familiar with Google Maps, Google Earth and Google Translate. There are, however, other lesser-known services in the Google-verse, which may lead to more successful and effective web searching.

Talk to Books, available since April 2018, is an AI-powered semantic search tool, which searches the texts collected by Google Books. The system was trained on human conversations, which is why better results are achieved with complete questions rather than individual search terms. In response to the user’s question, the system displays passages from Google Books. This tool may be useful for translation scholars during the process of
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conducting literature reviews.

Another service which analyses the Google Books corpus is called NGram Viewer. This search engine shows the frequencies of comma-delimited search strings, found in sources printed between 1500 and 2019. The tool can be used to check accuracy of target text expressions as well as collocations.

First released in 2004, Google Scholar is a well-known search engine which is popular with translation researchers who search for scientific books and papers. Translators can also use to for searching terminology in reliable peer-reviewed sources. To illustrate, when the user types *nazwy spółek* in Google Scholar search box, the results include a link to a highly relevant paper written by a legal translation expert and made available on ResearchGate.

The last Google-verse service in the present compilation is called Google Trends. Translators can use to increase extralinguistic knowledge and stay up to date with the news in a given a country or a region regardless of their current location.
5. CONCLUSIONS

There is a general agreement among translation researchers that the development of information competence is an important component of the overall translation competence. The observations of new translation students show that even young people need to improve their online information search skills as well as increase their working knowledge of web-based resources. The results of the longitudinal study described in the paper show that information competence components can be incorporated successfully into a general translation course.

The tips and tricks of Google-fu as well as the list of web-based resources are presented, aiming to encourage all those involved in translation to develop their web searching skills, use a variety of online information sources, and constantly search for new, more and more advanced translation tools and resources that are bound to be launched. The translation landscape is changing. That is why, translators must learn how to use translation technologies to their advantage.
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**APPENDIX**

| WEB-BASED RESOURCES FOR TRANSLATORS |
|-------------------------------------|
| **Encyclopaedias**                  |
| Polish                             |
| http://encyklopedia.pwn.pl/         |
| http://www.edupedia.pl/             |
| English                            |
| https://www.britannica.com/         |
| https://www.investopedia.com/dictionary/ |
| https://www.loc.gov/                |
| Multilingual                       |
| https://www.wikipedia.org/ (switch Languages) |
| http://www.scholarpedia.org         |

| **Dictionaries and glossaries**     |
|-------------------------------------|
| Bilingual                          |
| http://context.reverso.net/         |
| https://ling.pl/                    |
| https://diki.pl/                    |
| https://glosbe.com/en/pl            |
| http://www.wordreference.com/       |
| https://en.bab.la/dictionary/english-polish/ |
| Multilingual                       |
| https://www.lexicool.com/           |
| http://babelnet.org/                |
| English                            |
| https://www.oxfordlearnersdictionaries.com/ |
| https://www.thefreedictionary.com/  |
| https://www.macmillandictionary.com/|
| https://dictionary.cambridge.org/   |
| http://www.dictionary.com/          |
| http://describingwords.io/          |
| http://reversedictionary.org/       |

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| **Glossaries** | https://glossarissimo.wordpress.com/  
| | http://termcoord.eu/glossarylinks/  
| | https://en.wikipedia.org/wiki/Category:Wikipedia_glossaries  
| **Polish** | https://sjp.pwn.pl/  
| | http://www.wsjp.pl/  
| **Thesauri** | https://sjp.pwn.pl/poradnia  
| | https://www.synonymy.pl/  
| | https://synonim.net/  
| **Collocations** | https://www.thesaurus.com/  
| | http://www.synonym.com/  
| | http://www.netspeak.org/  
| | http://www.phraseup.com/  
| | http://www.webdante.com/getting_started.html  

| **Corpora** | http://www.nkjp.uni.lodz.pl/index_adv.jsp (NKJP, PELCRA search engine)  
| | http://www.nkjp.uni.lodz.pl/collocations.jsp (NKJP, collocations)  
| **Polish** | http://pelcra.pl/hask_pl/ (collocations)  
| | https://corpus.byu.edu/bnc/ (BrE)  
| | https://corpus.byu.edu/coca/ (AmE)  
| **English** | https://skell.sketchengine.co.uk/run.cgi/skell  
| | http://paralela.clarin-pl.eu/  
| **Parallel Corpus analysis software** | http://www.laurenceanthony.net/software/antconc/  
| | https://www.sketchengine.eu/  
| **Translation memory databases** | https://www.tausdata.org/  
| | https://mymemory.translated.net/  

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| Term banks               | https://iate.europa.eu/home                                      |
|--------------------------|------------------------------------------------------------------|
| Term extraction tools    | https://term.tilde.com/lookup                                    |
|                          | https://www.visualthesaurus.com/vocabgrabber/                    |
|                          | https://fivefilters.org/term-extraction/                         |
| Collection of parallel texts | https://www.linguee.pl/                                           |
|                          | http://eur-lex.europa.eu/advanced-search-form.html               |
| Translator and language language forums | https://www.proz.com/search/                                    |
|                          | http://forum.mlingua.pl/                                         |
|                          | https://www.translatorscafe.com                                   |
| Machine Translation      | https://www.deepl.com/translator                                |
|                          | https://translate.google.com/                                   |
| Search engines           |                                                                  |
| Linguistic Bilingual     | https://ludwig.guru/ (8 queries/day free of charge)              |
| Alternatives to Google   | www.webcorp.org.uk                                              |
|                          | https://www.exalead.com/search/                                  |
|                          | http://www.2lingual.com/                                        |
|                          | https://duckduckgo.com/                                          |
|                          | https://swisscows.com/                                           |
|                          | https://search.yahoo.com/                                       |
|                          | https://www.bing.com/                                            |
|                          | https://www.google.com/                                          |
| GOOGLE                   |                                                                  |
| Google search operators  |                                                                  |
| ""                       | an exact match                                                   |
| *                         | a wildcard replacing a word/words                                |
| site:                     | narrows results to one domain (site:ted.com, site:uk)           |
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filetype: searches for specified file extension (filetype:ppt)
  + to include a term or a domain
  - to exclude a term or a domain
  info: general information about a webpage
  related: similar websites
  cache: to access the most recent cache of a webpage
  allintitle: searches query terms in the <title> tags
  allinurl: searches query terms in the web address (URL)
  allintext: searches query terms in the text of the page
  location: Google News; searches for articles by location
  (location:miami)
  source: Google News; searches for articles by source
  (source:cnbc)
  define: searches for definitions
  .. searches for a specific range of numbers (kilos, dates, price ranges)

**Advanced Search Tools**

| Images, News, Videos, Maps, etc. | Filter your search results to see one type of content (Images, News, Maps, Videos, etc.) |
|----------------------------------|------------------------------------------------------------------------------------------|
| Any time                         | Use Tools to filter your search results by date range                                     |
| All results/Verbatim             | Synonyms are the default mode. Use Verbatim to search for exact matches                   |
| Google Images                    | Filter images by colour, size, type and time; Search by image                             |
| Time                             | time tokyo                                                                                |
| Currency converter               | 20 usd pln                                                                                |
| Unit converter                   | 24 inches in cm                                                                           |
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| Weather Calculator | London weather |
|--------------------|----------------|
|                    | 12000/13        |

**Other Google Services**

| Service                  | URL                                      |
|--------------------------|------------------------------------------|
| Google Talk to Books     | https://books.google.com/talktobooks/    |
| Google NGram Viewer      | https://books.google.com/ngrams          |
| Google Scholar           | https://scholar.google.com/              |
| Google Trends            | https://trends.google.com/trends/        |
| Google Cultural Institute| https://www.google.com/culturalinstitute/about/ |
| Google Public Data Explorer | https://www.google.com/publicdata/directory |
| Google Maps              | https://www.google.com/maps              |
| Google Earth             | https://www.google.com/earth/            |
| Google Translate         | https://translate.google.com/            |