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**Using the Knowledge of the Crowd: Internet-Based  
Experiments on Collocation Translation**



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## Using the Knowledge of the Crowd: Internet-Based Experiments on Collocation Translation

### Abstract:

This research focuses on the Internet and the possibilities it offers for improving the translation process, and particularly for translating collocations. Linguee is introduced as a useful search engine for translators. Camtasia Studio, a screen-recording tool, enabled the researcher to observe university-level translation studies students as they translated texts online. Results from this study indicate that students tend to use a limited number of online resources and generally do not take adequate advantage of the assistance offered by the Internet.

Diese Untersuchung betrachtet internetgestützte Möglichkeiten zur Verbesserung des Übersetzungsprozesses mit besonderem Focus auf der Übersetzung von Kollokationen. Das korpusbasierte Internet-Wörterbuch Linguee wird als nützliches Tool für den Übersetzer vorgestellt. Ferner wird mithilfe des Screen-Recording-Programms Camtasia Studio die Internetnutzung von Studierenden der Übersetzungswissenschaft während des Übersetzungsprozesses sichtbar gemacht und anschließend analysiert. Die Ergebnisse dieser Untersuchung weisen darauf hin, dass Studierende der Übersetzungswissenschaft sich gemeinhin einer vergleichsweise eingeschränkten Anzahl internetbasierter Hilfsmittel bedienen. Die mannigfaltigen Möglichkeiten des Internets zur Optimierung des Übersetzungsprozesses werden nur unzureichend genutzt.

### Keywords:

collocation, translation, screen recording, empirical analysis, crowdsourcing;  
Kollokation, Übersetzung, Bildschirmaufnahme, empirische Analyse, Crowdsourcing

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## 1 Introduction

Language production requires knowledge of grammar and syntax as well as semantic and lexical components. Collocations represent relatively fixed sets of word combinations that play a significant role in natural language production. Since these word combinations do not necessarily agree with those in the translator's own native language, collocations remain the most challenging aspects of both language learning and production. As a non-native speaker, the translator must familiarize himself with constructions such as *a flock of sheep* or *a heavy smoker*, both of which are categorized as collocations. Since every text invariably includes collocations, failure to focus on these unique word combinations can yield disastrous results in a translation (see also [Angelone 2007](#); [Firth 1958](#); [Grauer 2009a, b](#); [Hausmann 1989](#); [Holderbaum 2003](#); [Kimmes 2009](#); [Kimmes and Kornelius 2009](#)).

Normally, the recipient is unaware that the word combinations he hears and reads are collocations. Even so, he reacts negatively and intuitively when collocations are incorrectly formed. His response tends to be a basic statement like "We don't say that." A faulty combination is perceived as a break with convention, an offense against normal language patterns. It simply does not sound right to a native speaker. Unfortunately for the translator, norm violations involving one single incorrect collocation can lead to a total rejection of the text, because his translation's credibility has been instantly destroyed.

This imminent threat emphasizes the necessity of providing resources for the translator that support his ability to produce flawless and acceptable texts in his non-native language. Since the translator lacks the intuition that a native speaker possesses to identify both correct and incorrect word combinations, he must rely instead upon reliable tools to select and verify his collocational choices.

The Internet currently provides translators with a wide variety of resources. Section [2](#) presents Linguee, a new bilingual dictionary that assists the user in quickly searching for collocations. Section [3](#) is focused on German university students of translation studies and their usage of the Internet during the translation process of documents into English. Section [4](#) presents the increased translation quality that results from using the diverse tools available on the Internet.

## 2 Linguee

Grauer ([2009b, 51-112](#)) discusses various websites and the successful implementation of their tools during the translation process. Although Linguee ([w<sup>1</sup>](#)) is a new bilingual English-German online dictionary, it warrants further exploration.

Linguee distinguishes itself from other bilingual dictionaries by displaying search results as KWIC (Keyword in Context) concordances instead of as single words, thus elevating it to a form of translation search engine. Linguee search results are derived from bilingual websites that have been previously translated by human translators. These websites include multinational company websites, universities and international organizations. Additionally, documents published by the European Union and patent specifications are included.

Each Linguee result provides links to the original texts from which the concordances were taken, enabling the translator to verify the reliability of each individual search result. Linguee combines the Wiki-system of user-generated content with traditional approaches: Users may rate translation results and also edit them to update information. Additionally Linguee staff check and indicate their approval with a green check mark.

Users may also give negative evaluations, and these are marked with a warning triangle. To accommodate those from English-speaking countries, whose keyboards lack the German special characters, the website provides links for inserting the German umlaut and eszett into the search field.

Currently, this site also provides audio samples of translations in English. German samples may be added later. [Figure 1](#) shows translation solutions preceded by partly filled circles indicating the usage frequency of this translation. This feature assists the translator in selecting the most frequent words for his translation.

Linguee supports multi-word searches, allowing the translator to determine, for example, if his preposition usage is correct. Since Linguee is corpus-based, this approach assists in collocation translation. Studies by Grauer ([2009b, 51-112](#)) indicated that German translation students experience great difficulty in finding English language equivalents for German collocations, such as *eine Strafe verhängen*. Using Linguee, the translator can either search for *Strafe* or use the entire collocation as a keyword. Both approaches result in the correct

translation: *to impose a penalty*. At the time of the aforementioned study, Linguee was not yet available to the student translators.

The screenshot shows the Linguee website interface. At the top, there is a navigation bar with links like 'Über Linguee', 'Linguee in English', 'Mitmachen', 'Einloggen', 'Tools', 'Werbung', 'Feedback', 'Such-Plugin Installieren', and 'Hilfe'. Below this is the Linguee logo and a search bar with the word 'strafe' entered. The search results are displayed in a table format, showing German and English equivalents, along with example sentences and source links.

Deutsch	Englisch
<b>Strafe</b> (Substantiv, weiblich) (Auch: Vertragsstrafe, Elfmeter, Konventionalstrafe, Siebenmeter, Nachteil, Bestrafung, Strafstoß)	<b>penalty</b> (Substantiv)
eine <b>Strafe</b> verhängen ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	impose a <b>penalty</b> ↳ Redaktionelles Deutsch-Englisch-Wörterbuch
die <b>Strafe</b> bemessen (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	assess the <b>penalty</b> (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch
Die Gewerkschaft Nahrung, Genuss, Gaststaetten hat die Lockerung des Nachtbackverbots als <b>Strafe</b> fuer die Baecker scharf kritisiert. ↳ Deutsch: www.germnews.de/archive/gn/1996/07/06.html	The food and restaurant union has already severely criticised the temptation of the evening baking ban as a <b>penalty</b> for bakers. ↳ Englisch: www.germnews.de/archive/dn/1996/07/06.html
Dies geschieht zum einen, weil er als bedeutender Pädagoge den Bereich der <b>Strafe</b> in der Erziehung berücksichtigt hat und zum anderen, weil sein Verständnis von Erziehung und Menschenbildung nach wie vor Geltung beansprucht. ↳ Deutsch: tobias-lib.ub.uni-tuebingen.de/fron...s=2246&la=de	This happens for one thing because he as an important educationalist has taken into account the domain of <b>penalty</b> in education and for the other thing because his comprehension of education and breeding still calls for validity. ↳ Englisch: tobias-lib.ub.uni-tuebingen.de/fron...s=2246&la=de
Mehr Beispiele zeigen	
<b>Strafe</b> (Substantiv, weiblich) (Auch: Bestrafung) <b>als Strafe</b>	<b>punishment</b> (Substantiv) <b>as a punishment</b>
exemplarische <b>Strafe</b> ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	exemplary <b>punishment</b> ↳ Redaktionelles Deutsch-Englisch-Wörterbuch
<b>Strafe</b> verdienen (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	deserve <b>punishment</b> (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch
<b>Strafe</b> zumessen (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	mete out <b>punishment</b> (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch
Mehr Beispiele zeigen	
<b>Strafe</b> (Substantiv, weiblich) (Auch: Geldstrafe, Geldbuße, Bußgeld, Mahngebühr, Zwangsgeld, Ordnungsstrafe)	<b>fine</b> (Substantiv)
<b>Strafe</b> zahlen (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch	pay a <b>fine</b> (Verb) ↳ Redaktionelles Deutsch-Englisch-Wörterbuch

Fig. 1: Linguee search result for *Strafe* (w<sup>1</sup>)

### 3 Translation students and Internet usage

To better evaluate Linguee's performance in translation tasks, it is necessary to compare it with Grauer's (2009b, 51-112) results. Following this will be a demonstration of how Linguee can be successfully used during the translation process.

In his research at Heidelberg University, Grauer enlisted two groups of translation students who translated a German text into English. Since the focus of the research was translating

collocations, the text contained a number of collocations such as *eine Strafe verhängen*. The first group of subjects was instructed to translate the text into English using any or all Internet resources during translation. The second group was asked to translate only the collocations into English using any or all Internet resources that the students knew. Both trial groups consisted of twenty subjects, and each group was given a time limit of forty-five minutes.

Internet use by both groups of subjects was monitored by means of Camtasia Studio, a screen recording program that creates a video of all screen activity, allowing for a detailed analysis of each subject's Internet usage during the translation process.

### 3.1 The search for *Justizbehinderung*

The translation research text dealt with the conviction of Canadian-born media mogul Conrad Black, and presented various challenges, including both legal terms and collocations. Figure 2 depicts one subject's search for a translation of *Justizbehinderung*. This individual is subject number three from the group that was instructed to translate the entire text. In Figure 2, dotted lines indicate second attempts. The subject began by accessing the bilingual German-English dictionary LEO (w<sup>2</sup>) and entering *Justizbehinderung* as the search word. Since this search was unsuccessful, the subject then opened a new tab and visited the German Wikipedia site (w<sup>3</sup>), where he or she entered *Justizbehinderung*. This also produced no results because in German law there is no crime called *Justizbehinderung*; the correct term is *Strafvereitelung*.

Nevertheless Wikipedia did offer a link to the entry on *Lewis Libby*, the former chief of staff to former Vice President Dick Cheney, who was convicted of perjury and obstruction of justice. The subject followed this link and after some reading looked up the same entry on the English Wikipedia site. Libby's conviction was mentioned at the beginning of the entry. The subject followed the link to "obstruction of justice," and then went back to the Libby entry and followed the link to "perjury," which is equivalent to the German word *Meineid*.

Although these Wikipedia entries offered the required information, the test subject returned to the first tab and made a new attempt to find a translation for *Behinderung* using LEO. Although the entry for "obstruction" indicates that it is used mainly in legal contexts, the

subject continued using LEO to look for the verb *behindern* instead of following this link. When this search produced no information on *Justizbehinderung*, the subject then looked for *Justiz*. In the end, the subject discontinued the search and settled for *hampering justice* in his or her translation.

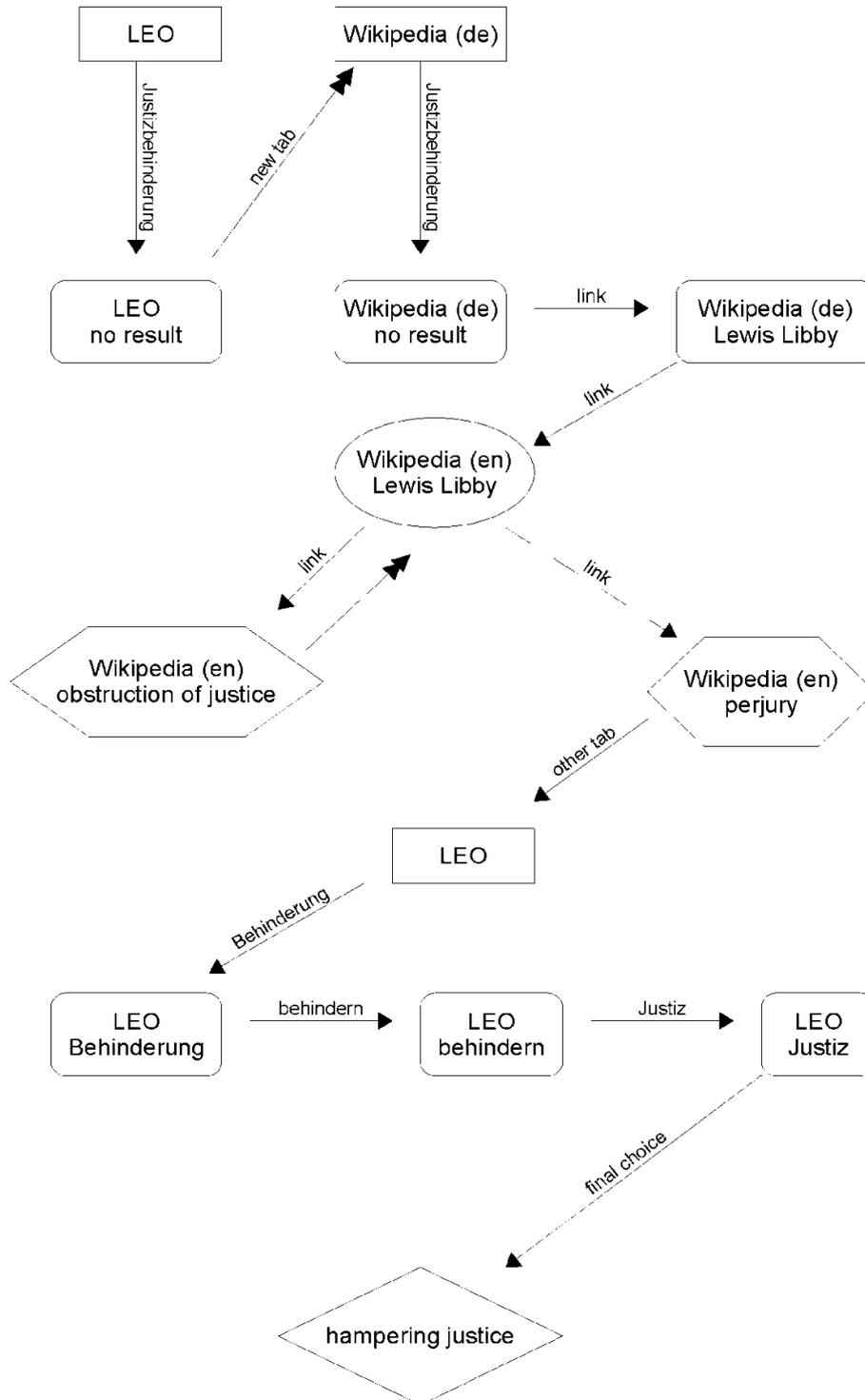


Fig. 2: search for a translation for Justizbehinderung

This search was an obvious failure, but it cannot be blamed on the websites that were used. Both Wikipedia and LEO offer reliable information about the translation of *Justizbehinderung*. Apparently, the subject was not reading carefully and paying close enough attention. For the translator, time is always a factor, and he or she is not always able to read entire Wikipedia entries. Nevertheless, the German Wikipedia entry on Lewis Libby did contain the German term *Justizbehinderung*, and so the parallel English Wikipedia site would surely provide the translation, *obstruction of justice*.

Online news archives from newspapers such as *The New York Times* ([w<sup>4</sup>](#)) or an online corpus, such as the *Corpus of Contemporary American English* ([w<sup>5</sup>](#)) both provide reliable verification of the translated term. Furthermore, LEO could have provided the required translation. The test subject's second attempt using LEO would have resulted successfully had he or she followed the link to *obstruction*. Two entries can be found about obstruction of justice: *Rechtsbehinderung* and *Behinderung der Justiz*.

Clearly, then, there are various online tools that lead to correct translations.

### 3.2 Text translation results

[Figure 3](#) shows the distribution of websites that were used to translate the entire text. Surprisingly Google ([w<sup>15</sup>](#)) ranks third among these, representing sixteen percent of all visits. Upon closer examination, these visits were attempts to verify collocations. Unfortunately, the results from a Google search are much less reliable than those from online news archives and language corpora, even though Google's dominant position worldwide is evidenced by the new verbs *to google* and *googeln*, which have crept into the English and German languages and mean *to look something up* on the Internet.

Wikipedia claimed three percent of the total visits, a remarkably small figure, particularly considering the widespread concern among educators that students turn too quickly to this online encyclopedia. Wikipedia has been proven to be a useful site for translators, provided that they verify their results afterwards (see section [3.1](#)).

Two-thirds of all visits linked students to bilingual German-English dictionaries: forty percent chose LEO, twenty percent visited dict.cc ([w<sup>6</sup>](#)) and six percent selected PONSLINE, currently re-named *PONS.eu* ([w<sup>7</sup>](#)). Despite their popularity, online dictionaries, though helpful

translation tools, must be considered alongside a wide array of online resources that includes monolingual dictionaries, news archives and online corpora. Under text-translation conditions, these were sought only eight percent of the time.

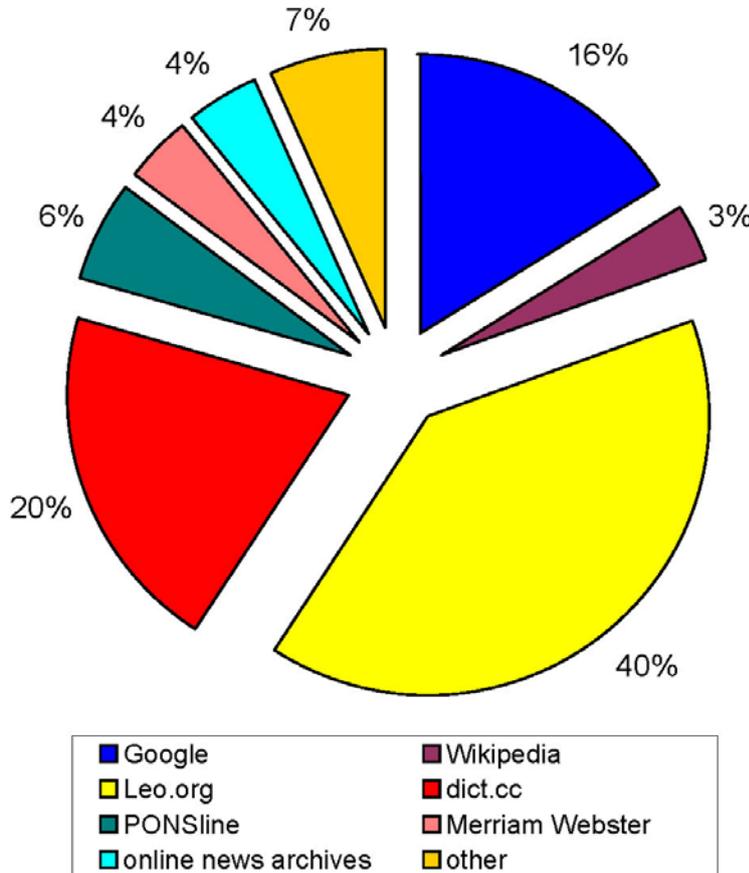


Fig. 3: Internet usage for the translation of the text

### 3.3 The search for *Staatsanwaltschaft*

Figure 4 focuses on the search for a translation of *Staatsanwaltschaft* that was undertaken by subject number two of the collocation translation group. Specifically, the collocation to be translated was *Staatsanwaltschaft fordert*. The subject first searched for the term *Staatsanwaltschaft* using the PONS bilingual online dictionary. Following this, the subject began a Google search for a dictionary under *Wörterbuch Englisch-Deutsch*. This led to dict.cc which the subject opened in a separate tab. After reading the dict.cc results, the subject returned to Google to search for *Longman Online* (w<sup>8</sup>). Using the monolingual *Longman Dictionary of Contemporary English*, a search was conducted for *prosecution*, *district attorney*, *attorney* and *state attorney*. The subject selected *district attorney*.

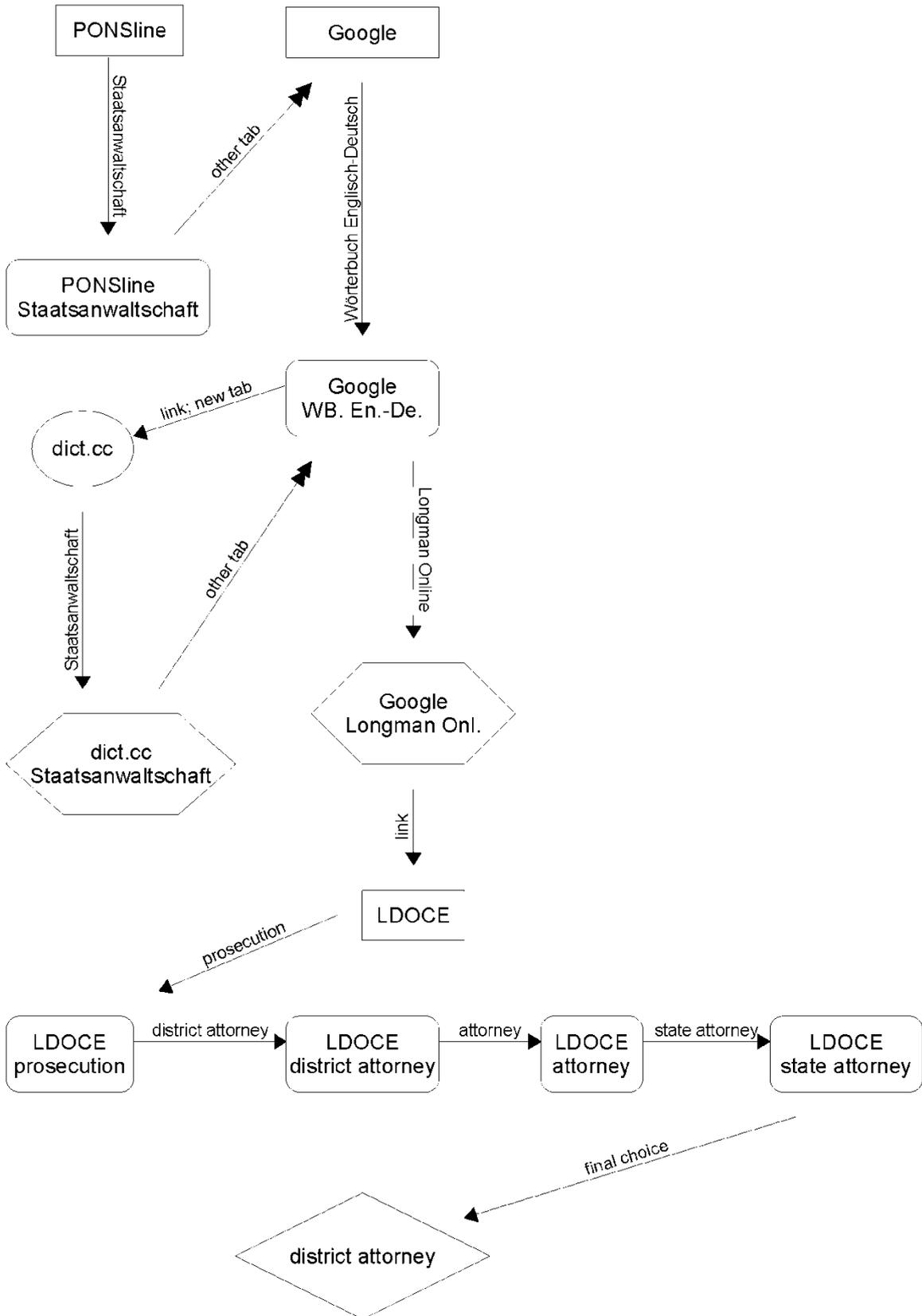


Fig. 4: search for a translation for Staatsanwaltschaft

This translation process demonstrates a successful use of Google to locate useful websites. The subject's search for a bilingual online dictionary resulted in the use of dict.cc. Although this dictionary is Wiki-based and involves user-generated content, it can serve as a valuable translation tool when this is followed by verification, preferably with a reliable monolingual dictionary. Figure 4 indicated that subject two proceeded in this order: Google was used as a portal to the Longman site, where the subject entered the various translations offered by PONS and dict.cc. By using these sites in a procedural way, subject two established a system of checks and balances.

### 3.4 Results for the collocation translation

Figure 5 depicts the distribution of websites used for collocation translation. When compared with results of the text translation group, remarkable differences can be observed. Above all, Google use increased by twenty-three percent. This dramatic rise indicates that collocation verification was primarily done using Google, while the use of bilingual online dictionaries declined by twenty percent. The values for PONS and dict.cc remain constant, while LEO lost twenty percent. Surprisingly, the only monolingual dictionary used was the Longman Dictionary of Contemporary English, with a miniscule one percent value. And even though monolingual dictionaries are highly credible tools for translating collocations, their use declined by three percent.

Google searches clearly outrank research using online news archives, whose value remained a steady four percent. Other website visits declined by one percent, while Wikipedia gained one percent. Relying mainly on Wikipedia is apparently a non-issue for translation students.

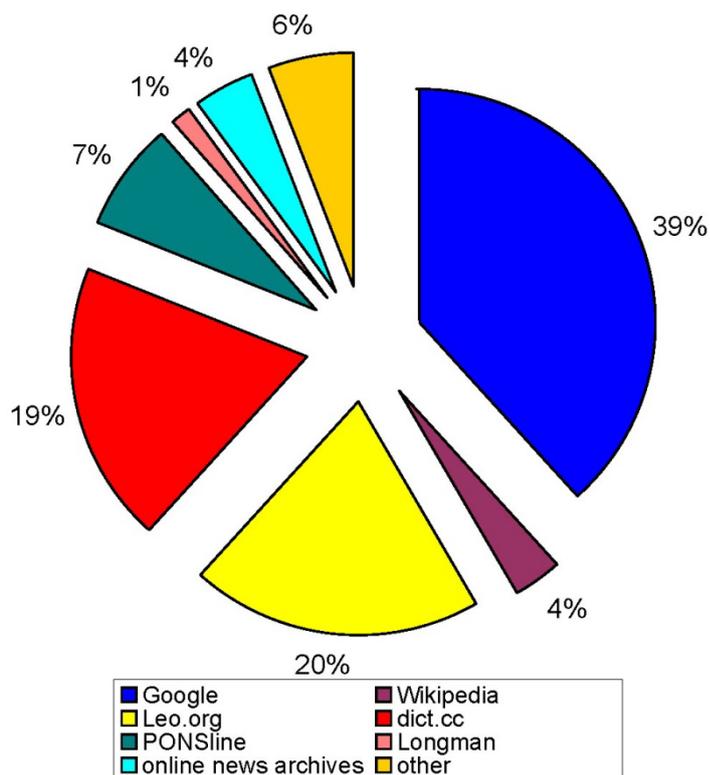


Fig. 5: Internet usage for the translation of collocations

#### 4 Using the Internet during the translation process

The following translation scenario involves translating a passage of poetry written by American author and artist, Gwen Frostic:

Once more the air turns cold ... golden eyes  
 coming in for a landing skid across the clear ice  
 of the pond ... a spider skips over the snow  
 and red wings hail the day. (Frostic, 1965)

Since the answer affects the way that this poem is translated, the translator's initial question should be: "Who is the author?" A Wikipedia search yields a short entry that provides basic biographical information about Gwen Frostic. Since she represents a non-controversial topic, the probability of encountering inaccurate information is low. Likewise, a relatively small number of laypeople would likely contribute information to such a specific author, thus increasing the probability that the Wikipedia text was submitted by experts.

Despite its brevity, the Wikipedia entry proves to be useful since it also provides other references, including a link to the official Gwen Frostic Website. Considering that Ms. Frostic was the recipient of five honorary doctorates and was inducted into the *Michigan Women's Hall of Fame*, it is safe to conclude that Frostic took a scholarly approach to her work. The official Gwen Frostic website will undoubtedly provide additional reliable information, and so we reach the conclusion that a translator can regard Wikipedia as an initial portal for accessing further relevant websites.

In the *About Gwen* section, the Gwen Frostic website ([w<sup>11</sup>](#)) also offers limited information. In the *Shop* section, the user accesses photos of Gwen Frostic's shop in Benzonia, Michigan. Continued searching reveals photos of Gwen Frostic's library with captions claiming that hers is "perhaps one of the most complete nature libraries in Michigan" ([w<sup>11</sup>](#)), leading to the conclusion that she was an expert on Michigan flora and fauna. This thesis is confirmed by browsing her online shop, which features a wide range of artwork involving highly-detailed portrayals of animals, plants and trees. Obviously Gwen Frostic's nature studies influenced her poetry.



Fig. 6: pictures from Gwen Frostic's library; source: ([w<sup>11</sup>](#))

During the next preparatory phase, the translator must analyze the translation text and mark unknown vocabulary. In this poetic text, terms such as *golden eyes* and *red wings* would seem to imply that birds are its subject. *Coming in for a landing skid across the clear ice of the pond* would indicate an animal with the ability to fly. Reason and experience would indicate that this animal could either be a bird or an insect. However, considering that insects tend to take off and land vertically and do not weigh enough to skid, the animal referred to in Gwen Frostic's poem must be a bird of some kind.

A consideration of *red wings* leads to an identical conclusion. *Wings* implies an animal with flying ability, either an insect or a bird. However, since most insect wings are transparent, *red wings* most likely refers to a kind of bird, probably one with red wing feathers.

The translator's next preparatory step involves looking up unknown vocabulary in monolingual dictionaries, such as *Merriam Webster*. A search for *golden eye* in *Merriam Webster Online* ([w<sup>12</sup>](#)) yields no result, although it suggests looking for *goldeneye*. The Merriam Webster entry for "goldeneye" contains the following information:

- 1.: either of two diving ducks (genus *Bucephala*) with small yellow eyes; *especially*: a large-headed swift-flying Holarctic diving duck (*B. clangula*) with the male having a green head and striking black-and-white markings
- 2.: a lacewing (family Chrysopidae) with yellow eyes

Clearly, the traditional dictionary has its limitations. Now the translator must determine which of the two ducks mentioned in 1. is referred to in Frostic's poetry. In this case, a picture would be helpful to the translator in deciding which equivalent is meant. A bilingual online dictionary, such as LEO, can be used to search for a translation of "golden eye." Although LEO offers *Schellente* as a translation, there is no visual component to assist the user in verifying this choice.

Merriam Webster offers the Latin names for these ducks, enabling the translator to search online for pictures or photos of these particular birds. A Google search for *Bucephala clangula* yields a link to the homepage of *BirdGuides Ltd.* ([w<sup>13</sup>](#)), a British company that produces videos, books and multimedia software for bird watchers. Obviously this search could also be undertaken using other search engines like Yahoo! ([w<sup>9</sup>](#)) or Bing ([w<sup>10</sup>](#)). [Figure 7](#) depicts the *BirdGuides* entry for *Goldeneye* or *Bucephala clangula*. This site offers detailed

information about this particular duck, including its name translated into twelve languages.

And this confirms the German translation: *Schellente*.

Another resource is found on Web 2.0. Worldwide, bird watchers represent a large cadre of serious and dedicated individuals who can be considered to be ornithological experts.

Websites such as *The Internet Bird Collection* ([w<sup>14</sup>](#)) can thus be considered to be reliable online resources for translators. [Figure 8](#) shows an excerpt from the *Goldeneye* entry from *The Internet Bird Collection*.

This sample search underlines the necessity of expanding the translator's range of online resources. Traditional dictionaries offer limited information, but their storage space becomes expanded exponentially when they are offered online. Further, traditional distinctions between dictionaries and encyclopedias are no longer valid in this new model of unlimited online access (see also [Holderbaum 1999, 83f](#)).

Although the Internet offers an abundance of information and an accelerated translation process, an optimal translation result is achieved when the translator takes full advantage of the wide range of assistance available online. Total reliance on bilingual dictionaries such as LEO restricts the translator and limits his effectiveness. Only a diversified use of online resources can assist the translator in achieving an acceptable level of quality in his translation solutions.



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## Goldeneye *Bucephala clangula*

In: Common Goldeneye   Ca: Morell d'ulls grocs   Da: Hvinand   De: Schellente   Es: Porrón osculado   Fi: talkká   Fr: Garrot à oil d'or  
 E: Quattrocchi   NL: Brilduiker   No: Kvinand   Pt: Pato-olho-d'ouro   Sv: Knipa   US: Common Goldeneye   Ru: Горноз

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**BirdFile**



male



female



European distribution



males and female

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male



**Identification**

At rest the male Goldeneye looks mostly white with a dark head, mantle and rear. The big white blob behind the bill is conspicuous and distinctive. Females are harder to identify appearing dark grey-brown with darker heads and usually showing various amounts of white in the closed wing. Even if this isn't visible they can be identified by their bulbous head shape, bulging at the nape. In flight, Goldeneye are fast, direct fliers with mostly white inner wings. They make a characteristic whistling noise as they fly by.

**Habitat**

Breeds in wooded areas near lakes and pools. Winters on estuaries, coasts, lakes and reservoirs.

**Behaviour**

The male Goldeneye in spring indulges in wonderful head-throwing displays, enticing the females to mate even in wintering areas hundreds of miles from where they will nest.

**Migration**

European birds winter on lakes and coastal waters from Iceland south to the northern Mediterranean.

*This information is taken from the BirdFile on the appropriate BirdGuides DVD-ROM. As well as video and sounds, our CD- and DVD-ROMs contain additional text on Voice, Sexing, Ageing, Food, Nests and Eggs and more.*

▶ BirdGuides rarity status: Common

▼ Most recent UK and Irish reports of Goldeneye

18:13 03/07/09	<a href="#">Goldeneye</a>	Dorset	Radipole Lake RSPB	14:30
18:05 18/06/09	<a href="#">Goldeneye</a>	Antrim	Lough Neagh	07:30
14:40 08/06/09	<a href="#">Goldeneye</a>	Beds	Marston Vale CP	13:30
12:21 22/01/08	<p><b>Fairburn Ings RSPB, West Yorkshire:</b> the reserve is totally flooded, as are all roads in the area and therefore the reserve will be closed for the remainder of this week</p>			
13:17 31/10/07	<a href="#">Goldeneye</a>	Cornwall	Clapper Marshes	11:00
18:08 27/06/07	<a href="#">Goldeneye</a>	Devon	Seaton	
16:22 01/12/06	<a href="#">Goldeneye</a>	Dorset	Poole	15:25
17:12 07/11/06	<a href="#">Goldeneye</a>	Shrops	The Mere	
16:29 07/11/06	<a href="#">Goldeneye</a>	Shrops	Monkmoor Pool SWT (keyholders only)	
19:44 15/10/05	<a href="#">Goldeneye</a>	Durham	Escomb Lake	

▼ Most recent photos of Goldeneye (10)



▶ [Farnoor, Oxon](#)  
11/09/2009



▶ [Radipole, Dorset](#)  
03/07/2009



▶ [Nosterfield LNR, N Yorks](#)  
05/02/2008



▶ [Hoggarfield Loch, Clyde](#)  
03/01/2009



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03/01/2009



▶ [Hoggarfield Loch, Clyde](#)  
30/12/2008



▶ [Hoggarfield Loch, Clyde](#)  
30/12/2008

▶ [View all pictures of Goldeneye](#)

Fig. 7: BirdGuides entry for Goldeneye; source: (w<sup>13</sup>)

The screenshot shows the website 'The Internet Bird Collection'. At the top, there is a navigation menu with links: My Account, Upload, What's New, Statistics, Ranking, Forums, and Contributors. A 'Pre-publication Offer' banner for 'Handbook of the Birds of the World' is visible. The main content area features a search bar and a detailed entry for the Common Goldeneye (*Bucephala clangula*). The entry includes taxonomic information, subspecies, and distribution. Below the text, there are tabs for 'All', 'Videos', 'Photos', and 'Sounds', with 'Photos' selected. Two photos are displayed: one by Jonn Leffmann (June 2009) and one by Dc.Owl (November 2008). The footer contains links for 'About us', 'Contact us', and 'Help'.

Fig. 8: *The Internet Bird Collection* entry for *Goldeneye*; source: (w<sup>14</sup>)

## 5 Producing Collocations

### 5.1 Translation into English

Twenty-one students participated in this translation trial. [Figure 9](#) shows the distribution of correct and incorrect collocations that were produced: Yellow bars indicate the number of correct collocations for each subject, while the blue line indicates the number of incorrect collocations. The bar on the far right indicates the values for the source text.

Even though the source text contained nine collocations, twelve of the translations produced have an equal number or even more. Subject three shows the highest score with sixteen correctly-constructed collocations. In contrast, subject nine produced seven correct collocations and six incorrect collocations. Seen from a mathematical point of view, the chance of constructing an incorrect collocation rises with each collocation used.

Consequently, as the number of collocations rises, a greater number of collocational errors can be expected.

Nevertheless, more than pure chance is involved. Subjects two, three and four rank highest in the number of correctly-constructed collocations, and moreover, they rank lowest in their numbers of collocational errors. This leads to the thesis that there is indeed a collocational competency, and that it can be trained. Subjects eight and nine support this thesis: They produced six and seven correct collocations respectively, and both scores lie beneath the average value of 8.8 in this trial. However, the numbers of collocational errors for these subjects are five and six, and thus are nearly equal to the number of correct collocations.

Well-trained second-language-speakers use collocations with relative ease in conversational situations, while those with a poorly-developed collocational competency generally try to avoid them entirely. Substituting collocations with other word combinations becomes their *modus operandi* to overcome this educational deficit.

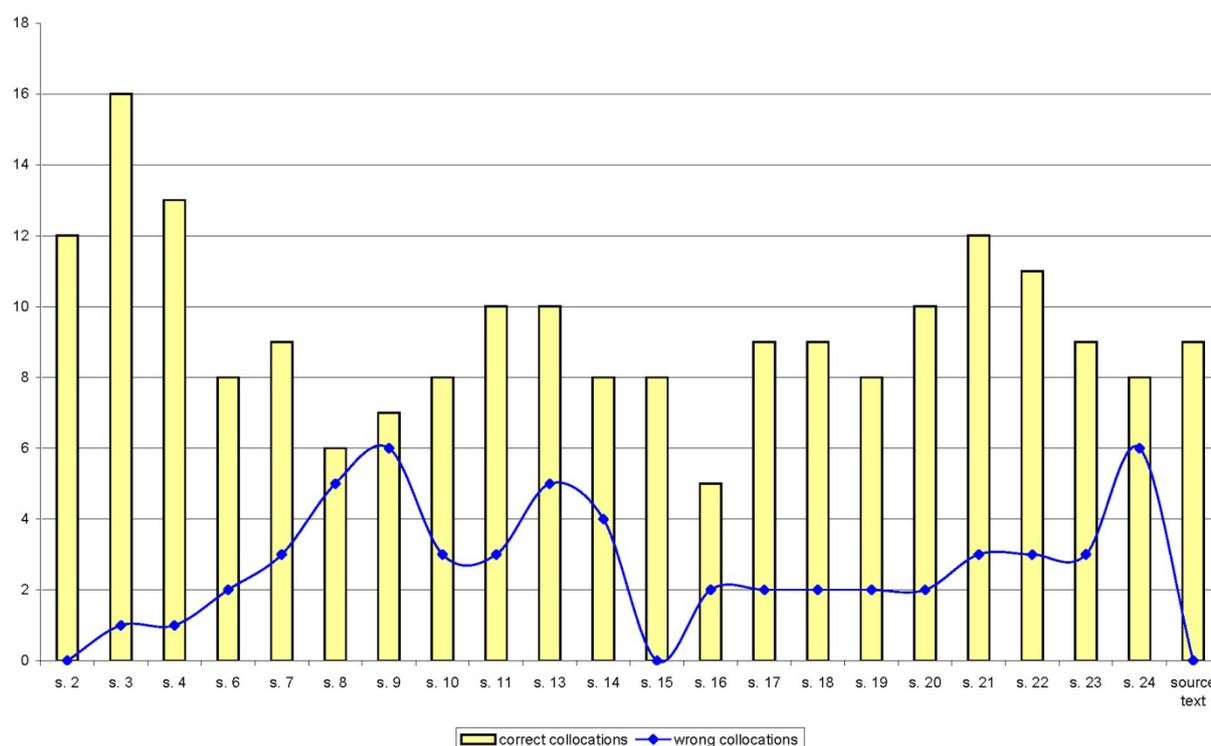


Fig. 9: collocation production for a translation into English

## 5.2 Translation into German

In contrast to the trial involving twenty-one students translating into English, this trial involved a significantly lower number, with fifteen participants. The source text contained 285 words and included fifteen collocations, a remarkably high collocational density. As indicated in [Figure 10](#), the average value for correct collocations is 15.4. Once again, subjects two, three and four attained top scores, with twenty, twenty-one and twenty-two correct collocations, while their numbers of collocational errors lie between one and zero. In contrast, subject six correctly constructed seventeen collocations, but also produced nine collocational errors.

The average value for collocational error is 3.3. Since the translation was done into their native language, this number is remarkably high. Previously, most researchers had concluded that collocation production in the native language was a kind of automatic function, but obviously other factors are involved. Collocational competence is sensitive to the translator's level of stress or well-being.

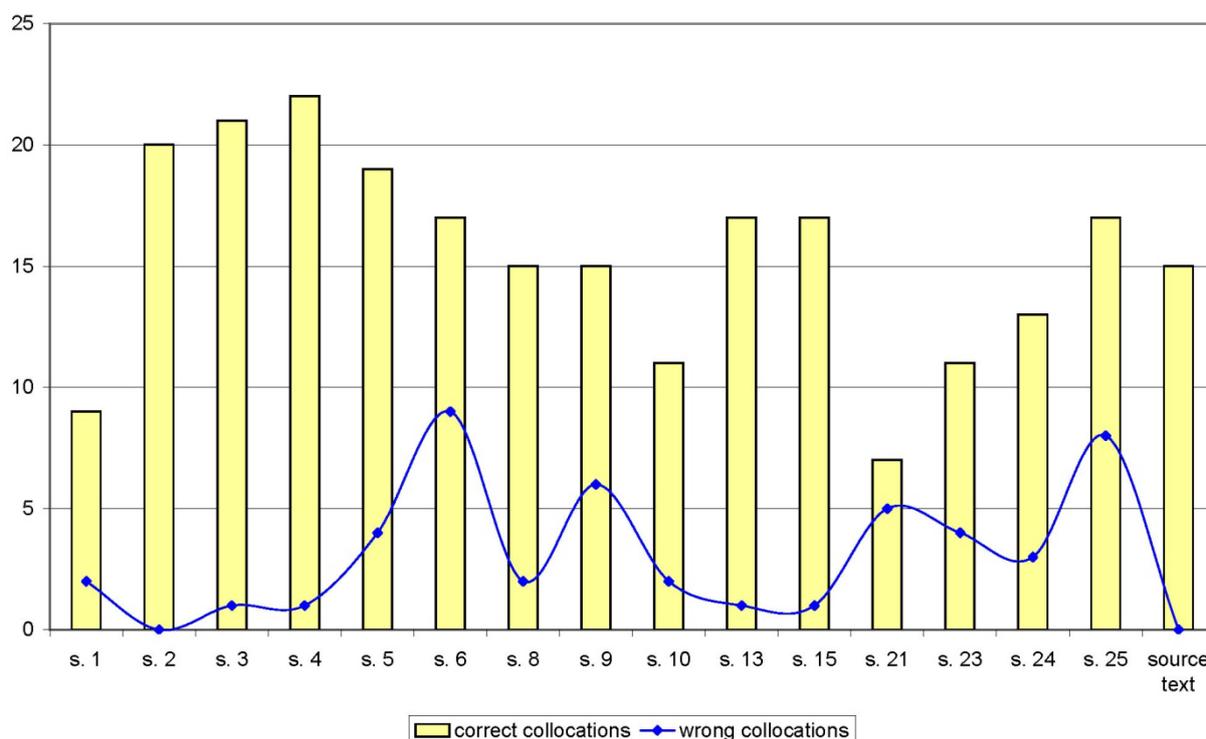


Fig. 10: collocation production for a translation into German

### 5.3 Overall Results

Students who are presented with a translation task have a wide range of Internet research skills. Even so, the majority of students rely mainly on one of the following bilingual online dictionaries: LEO, dict.cc or PONS. Despite a range of alternatives that are presented to students in various courses, most gravitate to a single dictionary resource while they are translating.

From this experimental data it becomes increasingly clear that the main challenge in translation education lies in convincing young translators of the desirability of consulting a variety of quality online resources. Collocations must be verified by using large online corpora such as the *Corpus of Contemporary American English* or *The New York Times*. A range of online dictionaries should be consulted. In short, diversified and intelligent use of the Internet produces quality translation results.

Refer to Grauer ([2009b, 51-112](#)) for further details of experimental results.

Besides the use of different Internet resources, successful collocation production also depends on the translator's working environment and overall situation, since these clearly influence the produced collocations' quality. But it has been shown that collocational competency can be improved by training: Those students using the most collocations in their translations also had the smallest rate of collocational errors. Another important finding is that collocation production in the native language is not a highly durable automatic competency, but instead involves a fragile skill.

## 6 Conclusion

Producing a successful translation of collocations in the target language is dependent upon regular, informed use of available resources. The Internet provides a wide variety of reliable tools for translators: Online bilingual dictionaries, text corpora and image databases provide translators with the capacity to access global resources from the convenience of their own work stations.

Additionally, the Web 2.0 provides a range of reliable user-generated content that greatly enriches the translator's stock of resources. Access to valuable information involves research

that does not limit itself to Google, LEO and other commonly used sites. Above all, it is essential that translation students gain exposure to the breadth and depth of online tools and resources that are currently available, and that they acquire experience in using these to their full advantage in the translation process. Translator education programs must focus on developing competence in accessing and employing online resources that support authentic and accurate language production.

Another important task is improving the students' collocational competency. To do so, a first step could be to encourage students to actively improve their passive language skills through concentrated reading and listening exercises, including texts not only in foreign languages but also in their mother tongue. During this, students must be aware of the collocations they read or hear in order to understand the important function of collocations in natural language production. Since the number of collocations in a language seems to be infinite (see Kimmes 2009), they cannot be learned and taught like vocabulary (see Angelone 2007). Thus, the goal is to make students aware of this problem. First, students need to identify a collocation as the problem, and then they can try to solve it using all available resources. This should result in a lower number of collocational errors, not only in the foreign language, but also in the native language.

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