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'Language students as critical users of Google Translate': Pitfalls and Possibilities

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Riitta-Liisa Valijärvi & Eszter Tarsoly*
University College London, Uppsala University
*University College London

Abstract

We propose ways of incorporating Google Translate into the teaching of Finnish and Hungarian in a higher education setting at different skill levels. The task types tested in our study were: analytical tasks (dictionary-like exercise, word-building, part-of-word identification), discovery method tasks (elicitation, problem solving), and awareness raising tasks (error correction, text-level error analysis, guided essay writing in the target language). Students were interviewed about their experience as users of Google Translate and the usefulness of the exercises conducted in class. In line with the principles of action research, the survey results enabled the practitioners to reflect on and improve the teaching of two morphologically complex languages, Finnish and Hungarian, and optimise the ways in which Google Translate is used in the language classroom. With the development of their Finnish and Hungarian language skills, students become more critical, and more competent, users of online translation tools as well.

Keywords

Google Translate, Finnish, Hungarian, computer assisted teaching (CAT).

Introduction

Our paper explores the possible uses of Google Translate™ on beginner, intermediate, and advanced courses, as well as in reading and translation classes, of Finnish and Hungarian. Google Translate™ is a free translation tool which was launched in 2006 (Orch, 2006); it currently supports over a hundred languages. Google Translate™ uses a statistical machine translation method which seeks patterns based on frequency of occurrence in large amounts of texts translated by humans, matching chunks of source texts with chunks of target texts. Therefore, the accuracy of translations varies between languages: for languages with large parallel corpora of texts translated by humans, such as French-English, Italian-English, and Malay-English, the suggestions made by Google Translate™ are relatively trustworthy (Shen, 2010; Pecoraro, 2012; Bahri and Mahadi, 2016). Google Translate™ translations may require post-editing and are inferior to translations by professional translators even when the languages are similar, such as the closely-related Germanic languages, Afrikaans and English (Van Rensburg et al., 2012). When languages differ from each other structurally, Google Translate™ usually fails to provide accurate translations, particularly for units of language above word level (Koponen, 2010; Darancik, 2016; Hadis and Hashemian, 2016). Finnish and Hungarian are morphologically complex concatenating Uralic languages, whereas English is an isolating language with little inflectional morphology (for instance, Finnish and Hungarian use suffixes where English would have prepositions); thus, Google Translate™ translations between them are often of poor quality (e.g. Valijärvi and Tarsoly, 2012).

Citation

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While neither classroom-based nor independent language learning can be imagined without computer assisted teaching (CAT) tools today, the use of Google Translate™, and similar translation software and applications, remains problematic. Studies have explored the usefulness of translation in teaching L2 (Cohen and Brooks-Carson, 2001; Campbell, 2002; Kobayashi and Rinnert, 1994). There is a growing body of research on both Google Translate™ as a learning tool (Somers, 2003; McCarthy, 2004; Nino, 2008; Garcia and Pena, 2011; Baker, 2013; Benda, 2013; Groves and Mundt, 2016), and on the use of CAT in teaching productive skills to beginners and intermediate students (Kazemzadeh and Fard Kashani, 2014). The use of CAT in language learning is seldom addressed in the literature on teaching morphologically complex languages, particularly at beginner and intermediate levels. Studies discussing the applicability of translation software in teaching less widely used languages, such as Finnish and Hungarian, are particularly lacking. The present paper aims to address the gap in the literature by providing an exploratory study on using Google Translate™ in teaching Finnish and Hungarian on academic four-skill courses from beginner to advanced levels.

Despite its shortcomings, Google Translate™ is a popular tool among language learners because, in certain contexts, it provides hands-on quick solutions. Both classroom anecdotes and research (e.g. McCarthy, 2004; Garcia and Pena, 2011; Li and Deifell, 2013) have shown that learners use Google Translate™ despite the teacher's advice, and present Google Translate™-produced translations and compositions as their own. It is therefore imperative to have an informed approach to the possibilities offered by such applications and to address both the pitfalls and the advantages of integrating Google Translate™ in language teaching. Furthermore, this paper is also a case study in using action research (cf. Section 1.3 below) as an approach to developing professional practice among educators, inasmuch as the authors reflect on their own learning from students while undertaking this project.

Research questions

The main research questions that have emerged from existing literature and our earlier study of Google Translate (Valijärvi & Tarsoly 2012) are the following:

1. What is students' experience of Google Translate™ as a learning tool?
2. How could Google Translate™ be used in teaching morphologically complex languages?
3. What are the exercise types which benefit students' progress from the outset, support a creative approach to learning up to advanced level, and help to deal with errors produced by Google Translate™?

Method of research

Methodologically our study is rooted in *action research* as it is conducted collaboratively in an educational setting and inquires into students' existing practices while inviting their reflections on possible innovations in these practices (e.g. Wallace, 1997; Ferrance, 2000; Burns, 2010). Our primary aim is to propose and evaluate solutions to an everyday pedagogical problem by discussing the advantages and disadvantages of particular exercise types with Google Translate™ in the language classroom. A secondary aim is to examine teachers' and students' learning experience in the broader social and global information technological contexts of education.

Collaborative action research consists of five steps which may be cyclically repeated depending on the research outcomes and the desired practical applications (see Ferrance, 2000: 9-15). The circularity of the method is reflected in the structure of this paper inasmuch as exercise types are presented before the survey result but they mutually informed each other in the course of our research. Following a pilot study

in 2012, our current research consisted of cyclical repetitions of points 2, 3, and 4 of the five action-research steps.

1. Identification of problem area – Google Translate™ is an ineffective learning and translation tool for Finnish and Hungarian;
2. Collection and organization of data – surveying learners of Finnish and Hungarian about their use of Google Translate™ and, following step 4, collecting their feedback on exercise types;
3. Interpretation of data – analysing students' feedback using qualitative methods suitable for classroom-based research;
4. Action based on data – designing exercises in Google Translate™ and optimising them based on students' reflections;
5. Reflection – summarising our results in a research paper.

For the purposes of this study, we have collated the results for Finnish and Hungarian because the similarity of the problem area and the same institutional setting yielded comparable results. A more detailed analysis of the types of errors produced by Google Translate™ is outside the scope of this paper (see Valijärvi & Tarsoly, 2012; Valijärvi & Tarsoly, *forthcoming*).

Sources of data: research participants and setting

Our data comes from two focus group discussions, 22 written questionnaires, and classroom observations, conducted from 9 January to 26 March 2017 at University College London. The courses are BA degree courses for language specialists at three levels (beginner, intermediate, and advanced), optional BA courses for beginners, and MA reading courses at two levels (beginner and intermediate). The native languages of the students in the sample varied. We have not examined the potential correlation between students' native language and their reflections on Google Translate™ because our focus is on using Google Translate™ with Finnish-English and Hungarian-English as language pairs.

Table 1. Language competence and native language among learners of Finnish and Hungarian.

Code	Level of Finnish	Native language	Code	Level of Hungarian	Native language
FI1	Advanced	English	HU1	advanced	Spanish
FI2	Advanced	German	HU2	advanced	Romanian
FI3	Advanced	Dutch	HU3	advanced	English
FI4	Intermediate	Italian	HU4	advanced	English/German
FI5	Intermediate	Slovak	HU5	intermediate	Armenian/Georgian
FI6	post-beginner	English	HU6	intermediate	Romanian
FI7	post-beginner	Chinese	HU7	intermediate	French
FI8	post-beginner	English	HU8	intermediate	English
FI9	post-beginner	English	HU9	post-beginner	Mandarin Chinese
FI10	post-beginner	Hungarian	HU10	post-beginner	English
FI11	post-beginner	English	FG1	three students post-beginner	Mandarin Chinese (2) Cantonese/English (1)
FI12	post-beginner	English	FG2	four students pre-intermediate	English (2) English/Polish (1) French (1)

The abbreviations FI and HU stand for *Finnish* and *Hungarian*, respectively, FG is for *focus group*. The descriptors explain the students' linguistic background and their competence level in the languages. We have differentiated three levels: post-beginner (approximately 50 taught hours in the year of the survey); intermediate (100-150 hours, taught over a year and half in the UK and on language courses in Finland and Hungary); and advanced (at least 200 taught hours, exposure to the language in classroom- and in real-life settings for over two years).

Participants were invited to comment on Google Translate™ as a learning tool in general; the questionnaires did not address each exercise type separately as different groups of students focused on different exercises. We extracted students' views from the discussions and their written replies.

Participants gave their permission for the anonymous use of their comments.

Exercises conducted in class

The following task types were designed and tested at beginner, intermediate, and advanced level (cf. Beare, 2014). Lexis and grammar were adjusted to students' level of fluency in Finnish and Hungarian. The pedagogical approach represented the following three methods of language teaching: Problem-Based Learning (the discovery tasks and error correction), Grammar-Translation (analytical tasks, text-level error analysis), and Communicative Method (guided essay writing).

Analytical tasks

Dictionary-like exercise

Students identify base forms of words in texts by separating inflectional and derivational suffixes from the stems. Students type the base forms into Google Translate™ and obtain the most straightforward translations. Sometimes Google Translate™ offers several options. In other words, students use Google Translate™ instead of a dictionary.

Word-building and part-of-word identification

Word lists consisting of morphologically complex forms were provided, including inflection (such as marking of case, number, person, definiteness, tense, mood, etc.), derivation, compounds, and enclitic particles. Students were asked to start typing the word forms into Google Translate™, and make a note of the strings Google Translate™ recognises and translates as meaningful units during typing. Students verify whether the components identified by Google Translate™ were in fact existing stems or suffixes.

Discovery method

Elicitation

Students were asked to formulate a grammar rule by exploring the translation of a phrase or clause type from English into the target language. The students themselves came up with the English phrases, much like in elicitation sessions during linguistic fieldwork, typed them into Google Translate™, and reported on their findings in class.

Problem solving

Students were asked to formulate a grammar rule based on a set of target-language examples of a phrase or clause type which they had to translate into English. Often a single suffix or stem was altered in the list of examples in order to zoom in on the function of a specific part of language. This was tested both as a teacher-led exercise in class and independently.

Awareness raising

Error correction

Students were given complex noun phrases with their English translations provided by the teacher. They analysed the English versions provided by Google Translate™ in order to identify patterns in the types of errors that Google Translate™ makes.

Text-level error analysis

Students were given extracts from a variety of text types, such as news, blogs, short stories and novels. They analysed issues relating to genre, information flow, reference tracking and cohesion in the English versions provided by Google Translate™.

Guided essay writing in Finnish/Hungarian

Students were asked to write an essay, entering English-language prompts in Google Translate™. They identified problem areas in the target language produced by Google Translate™.

Survey results

Students as users of Google Translate™

Our results confirm that all students use Google Translate™ as a translation tool, most of them on a regular basis. Only half of the respondents use it as a learning tool, however, particularly those at post-beginner level. The typical patterns of use include the macro- and the micro-level, that is, inserting entire texts or only word forms. Quotes (1), (2), (3) and (4) sum up the ways students integrate Google Translate™ in their work with Finnish and Hungarian:

1. Usually if I want to know what a text is about and I don't recognize many Hungarian words at first glance, I will use Google Translate™ to get the gist of the text. If a text is really complex to translate, I will also be tempted to use Google Translate™ to have a first look before translating it myself. Google Translate™ will help me look at the stem of the word, and then I rely on my knowledge of the cases and conjugations to have a more precise understanding (HU7).
2. It's useful when there are many new words in the text and only using it to get a general understanding of what's going on (FI10).
3. I occasionally use it to translate single words, like a dictionary as it is easier and quicker than using a paper-dictionary (FI4).

Most students are aware of the shortcomings of Google Translate™ but these are often outweighed by practical considerations. It was regarded less favourably as an analytical learning tool, however. Some students admitted avoiding it for fear of not exercising their vocabulary and reading skills:

4. It's helpful for information in languages you don't wish to practice (HU6).

Analytical tasks

Dictionary-like exercise

Using Google Translate™ as a bilingual dictionary to search for word stems appeared to be useful as both a class-based and independent exercise. Students, especially more advanced learners, appreciated the variety of possible 'equivalents' when searching for words in English or the source languages.

5. It is easy enough to pick the right word from the alternatives it provides (HU2).

6. If only one word is introduced from English to Hungarian, it gives synonyms or related words under the box, which is a great feature; I don't always get the right meaning of a word, so having the option to choose which word works best is very helpful (HU6).

Alternative translations, however, were occasionally confusing for beginners.

7. Google Translate™ is less accurate than a dictionary. It works with statistics, it doesn't know the languages. It has fewer explanations and examples than a dictionary, so, it is not sure if you can trust it (FG1).

Both beginners and more advanced students have mentioned that doing exercises with Google Translate™ as a bilingual dictionary alerted them to the importance of double-checking their results from other online sources or a printed dictionary.

8. Personally, I like to use translators that are specific to the language, such as Sanakirja for Finnish – I feel they are a lot more reliable than Google Translate. (FI9)
9. It is so convenient when you highlight an unknown word directly in the text and it shows the translation below instantly. [...] If I doubt the meaning (in the context of the text) I double-check the translation in the dictionaries (HU5).

The layout of Google Translate™ was appreciated during the task.

10. It is visually clearer than a printed dictionary and also quicker and easier to use. It helps when the stem it is tougher to find when the word is inflected (FI4).

Word-building and part-of-word identification

These exercises were found helpful when used in class to practice the analysis of inflected word forms but less suitable for independent grammar learning. The following two quotes illustrate the advantages for beginners:

11. Before doing the exercises in Google Translate™, I did not recognise endings. So, I inserted the whole word [inflected forms], and it still gave me a meaning but often it was the same meaning as without the ending, or it gave me different meanings for the endings, depending on which word the ending was on. So, despite the mistakes Google Translate™ makes, it drew my attention to the importance of analysis of words (FG2).
12. It can help us learn new words and to recognise some endings. However, it is of little help for grammar learning (HU9).

Intermediate and advanced students mentioned examples from their practice of using Google Translate™ independently to identify word-forms and parts of words. Their general impression was that this works only if supported by previous knowledge or verified from another source:

13. Google Translate™ doesn't use the correct meaning of the words and it translates and capitalises randomly. It is very confusing. For *kor* 'age', *kór* 'disease', *kőr* 'hearts (in cards game)', *kör* 'circle' [...] in English it will always give 'disease' (HU7).

Students negotiate their way around such pitfalls in the following way:

14. It is useful for checking conjugations, but Wiki is better because it also explains grammatical features and I can rely on it more (HU6).

While Google Translate™ is unpredictable and confusing with most inflectional forms, it is useful in finding patterns of derivation. When students copied and pasted a derived word form instead of typing it in, they were asked to delete the word gradually from the end to see if Google Translate™ recognises any meaningful units. They commented:

15. The deletion exercises] can be helpful in seeing and learning new words, and also the formation of meaning, that the meaning of the whole is more than the sum of the meaning of the parts (FG2).
16. Google does not recognise some of the compound nouns, and that personally helped me understand what are the parts compounding that word (FI4).

Discovery method

Elicitation

Google Translate™ failed to translate accurately into Finnish the prompt clauses provided in English. Hence, Google Translate™ cannot be used as an elicitation device, and students thought it was impracticable to learn grammar in this way. A teacher, grammar books, and traditional exercises were preferred.

17. I think it can be very helpful when used to translate texts, [...] but it is definitely not a tool to actually learn a language from. It doesn't explain grammar (FI11).
18. I prefer using grammar books with exercises or the dictionary (FI4).

Students, however, can use Google Translate™ to remind themselves of grammar points previously learned.

19. I usually use Google Translate when I need to remind myself of a certain grammatical issue I already studied before rather than understand the grammar from scratch. In general, I prefer when a teacher explains everything (FI5).

Problem solving

Even for the most straightforward inflected forms, Google Translate™'s solutions are inconsistent. The accuracy of the translation depends on the co-occurrence of a stem and a suffix. Hence, at present, students cannot rely on learning grammar independently using Google Translate™:

20. Google Translate™ gave me some meaning when I inserted words with (grammatical) endings, but it was misleading. So, I learnt separating the endings. But when the grammar is more complicated, and there are longer sections involved, it cannot get it. Simple grammar is sometimes ok (FG1).

Hence, problem-solving exercises in Google Translate™, particularly for independent learning, can benefit students only if the exercise is prepared in detail in advance or presented in class by the teacher, who needs to know whether Google Translate™ produces reliable and consistent results for a particular grammatical feature.

At phrase level, problem-solving exercises are equally problematic: Google Translate™ gives translation options of varying reliability depending on the lexical items which occur in a particular type of phrase or clause. Students tried to compensate for the shortcomings of Google Translate™ concerning phrase-grammar:

21. I put a whole sentence in Google Translate™ and tried to re-organise the English sentence so that it makes sense, by changing the word order for example (FG1).

Such attempts to post-edit the order of constituents based on knowledge of grammar may be helpful in allowing students to understand basic syntax. Exercises of this kind, however, raise questions about the efficient use of time in or outside the classroom.

Awareness raising

Error correction

Similar to problem-solving exercises, error-correction tasks are worthwhile pursuing only in a teacher-assisted learning environment: students found these exercises useful but the teacher has to provide an accurate translation as a starting point of the analysis. When students practised independently the identification of mistakes in translations, the task turned out to be frustrating:

22. Another drawback of Google Translate™ is that it does not understand when there is possession. There was total confusion (HU7).
23. When you put in a sentence, it is so jumbled that even the matching of words is impossible (FG2).

In contrast to these views, when students compared translations provided by the teacher with those provided by Google Translate™, they found the error-correction exercises enjoyable:

24. The exercises comparing translations of different phrases and correcting the mistakes are the most helpful, because when you start correcting the mistakes you learn faster. Students can learn from its mistakes, and boost their confidence by suggesting that even beginners can translate better than an online translator (HU10).

The greatest merit of error correction exercises seems to be psychological rather than merely language-pedagogical: these exercises help students appreciate what they already know from the language they are learning. At the same time, it also helps students improve their close-reading and critical reading skills. As one student put it:

25. Once the student feels confident enough with the grammar, picking up on Google Translate™'s mistakes can be fun and help think analytically. It is, however, dangerous practice at the onset of learning a language, when errors might be remembered as correct (HU7).

Text-level error analysis

Students found that comparing and analysing Google Translate™-versions of longer texts has only one main advantage for beginners: it allows them to develop an understanding of the nature of translation itself. The following quotations support this point:

26. In the class where we compared the results of long texts, Google Translate™ translations were amusing and quite interesting (FI5).
27. These exercises were useful for showing that translation is not an easy process and that there are many nuances to be aware of. It is most useful for beginners who already understand the basics of the grammar and who are able to correct the mistakes of Google Translate™ by themselves (HU10).
28. Google Translate™ is probably useful to show what is a translation and what isn't. To understand the meaning of translation. Students on a reading course can use it to see how not to translate (FG1).

Advanced and intermediate learners identified a difference in the accuracy of translations depending on text genre. They considered Google Translate™ useful in highlighting genre-specific language elements:

29. Google translate works best with simply written online texts. As soon as sentences become more stylised, longer, bureaucratic or "choppier" (like blog posts) its only help is in what individual words might mean (HU4).
30. Google Translate™ helps with the general gist of journalistic texts since it translates correctly a few words that make sense together. With literary texts, Google Translate™ is not useful. It gives enough to tell us this is a harder text. However, Google Translate™ translates too literally. [...] It does not give the tone of the text, whether it is funny, serious, or satirical (HU7).
31. I learned that Google translate struggles with colloquialisms, idioms, new compounds and gender pronouns (FI1).

Guided essay writing

Most beginners said they would always use Google Translate™ when trying to write something in the target language. The more experienced a student was in learning languages, the less likely s/he was to rely on Google Translate™.

According to advanced and intermediate learners, the composition exercise had two advantages: it boosted students' confidence about their own writing skills, on the one hand, and, on the other, it also improved students' critical writing and reading skills. Some use it as a device to prompt pre-editing of target-language texts:

32. When I write in Hungarian, I expect that if my text is good enough, it will translate into something understandable in English. If my sentence is too long and complex, Google Translate™ doesn't translate to what I expected it well into English, so I can rewrite easier sentences (HU7).

Students have mentioned a third benefit associated with this exercise, namely, that it raises awareness of the common mistakes Google Translate™ makes, thus empowering students to use it when needed but with a critical-analytical outlook, which decreases the likelihood of basic mistakes.

33. Good for finding words and checking if what you have written makes sense. Can be used to identify grammar errors (FI12).

Google Translate™ vs. dictionaries

Students agreed that the main advantages of Google Translate™ are speed, convenience, and accessibility. Its use therefore saves time and it is always at hand:

34. [Google Translate™ is] instant, exhaustive and totally free (F1).
35. It doesn't add weight to my rucksack, and it's more discreet (HU1).

Intermediate and advanced students mentioned that online dictionaries other than Google Translate™ have the advantage of incentivising them to type accurately, which helps memorisation of new lexis. More importantly, the accessibility of Google Translate™ encourages students to read in the target language more frequently:

36. [Google Translate™] makes me more likely to read the news [on holiday or in my lunch break] as I know there is help if I can't grasp the main points (HU4).

Although Google Translate™ makes students feel empowered, it is also a set-back. They have pointed out that using a dictionary increases their intrinsic interest in the language and eagerness to learn:

37. Often when looking in a dictionary we don't just look up a single word, you sort of immerse yourself in it and realise that something else on that page or the surrounding pages might draw our attention (HU2).
38. A good, extensive printed dictionary tends to have multiple translations and example sentences or information on particularities, for example if a word is usually used in plural or if a verb always goes with a particular case. Google Translate doesn't have this information (F13).

Seeing headwords arranged in a dictionary format, students argued, also eliminates confusion between similar looking words: an advantage which Google Translate™ cannot provide.

Besides the expected advantages (speed, accessibility, efficiency) and disadvantages (accuracy, reliability, context, and range), the use of Google Translate™ as a dictionary has further, less easily predictable features: it seems to discourage attention to detail but encourages independent learning. Using it *alongside* other online sources is a method which experienced learners develop while studying the language. The following quotation sums up students' attitudes towards Google Translate™ as a dictionary:

39. I don't see Google Translate in competition with a printed dictionary – I use them for different things. Google Translate is for online sources where the aim is to identify at least the topic of a passage or quickly look up a word and where it's not so important if it's the wrong meaning (i.e. not for translations I'm going to use in my PhD) (HU4).

Hence, for purposes of learning, in-depth understanding, and precision, Google Translate™ is recommended only in combination with other sources.

Students' overall evaluation of the exercises and the Google Translate™ classes

Both survey results and focus group discussions support our starting hypothesis that introducing tasks and exercises with Google Translate™ in the foreign language classroom is time well spent. Our results show that both entire classes allocated to awareness-raising tasks with Google Translate™ and class-based or

independent learning activities which include Google Translate™ are useful, as illustrated by the following quotes:

40. We have learnt how to use Google Translate™ in class. These classes have helped us understand the limitation of Google Translate™. Thus, we will use it more carefully (FG2).
41. It was useful, because it showed some of the strengths and weaknesses of Google Translate (FI3).
42. It was useful to have all the errors pointed out (FI10).

The sharing of experiences also mattered.

43. It was very interesting to get to know how my classmates are using Google Translate and what their opinion about this tool is (FI2).

Students' point of criticism was that the exercises did not necessarily support their active language skills.

44. It was interesting to learn about the language software but I do not think it made me a better Finnish speaker (FI8).

Overall, exercises with Google Translate™ improved students' analytical and close-reading skills, as well as critical thinking with regards to sources and learning methods:

45. It was useful in showing me that Google Translate™ *can* be used. But instead of relying on it to help me in the first instance, I now use it to look at Google Translate™ translations into Hungarian critically. I can identify some of the errors by myself. As a result, when I look at my own text I am more critical in self-correcting (HU7).

Summary and discussion

Our results support Thaiss's (2011) suggestion that computer-assist is likely to become a built-in part of linguistic competence in the future. Students at all competence levels in our sample report using Google Translate™ despite being aware of its shortcomings. In other words, Students do use Google Translate; the issue is how to incorporate that into their learning productively. With the development of their Finnish and Hungarian language skills, students become more critical, and more competent, users of Google Translate™ as well. Similar to Benda's (2013) study, our findings show that an inclusive approach to Google Translate™ in foreign-language teaching encourages students to work with the language independently, and reflect critically on the sources that may assist them, while removing the guilt they might feel for having used tools such as Google Translate™. When approached critically, machine-generated texts also increase students' confidence. Learners in our sample reported that they felt encouraged seeing that they could produce 'better' Finnish and Hungarian than Google Translate™.

Below, we summarise not only our findings but also our own professional learning through the action-research project we undertook. This allowed us to develop a more refined understanding of language learners' use of online translation tools, and the way in which such tools can be best incorporated into language teaching. In the broader sense, we have found that action research was useful in improving our professional practice as educators, particularly in enhancing our appreciation of students' needs and practices, and how to respond to them in our teaching. The three key factors which are in direct correlation with what students can learn from the task types devised for this study are (1) their level of fluency in Finnish and Hungarian, (2) their metalinguistic awareness, and (3) their ability to evaluate

critically whatever material they have in hand, depending on their educational and cultural background, including technologically supported learning resources. Unlike Garcia and Pena (2011), we found that more advanced learners benefit more from using Google Translate™. The impression of efficiency that beginners might have of Google Translate™-generated translations is, indeed, misleading. Kazemzadeh and Fard Kashani's (2014) study concluded that while CAT aids beginners to write more with less effort, more learning may not take place in this way. Our findings show that while applications such as Google Translate™ help beginners to experiment with the target language more freely than, for instance, methods available through traditional dictionary-based translation, they might hinder the development of analytical skills, which is one of the key general skills to be gained when learning a foreign language.

The following table summarises our results concerning the applicability and usefulness of each task type to learners at particular levels of communicative and meta-linguistic competence.

Table 2. Evaluation of exercise types (+ positive, - negative).

Exercise type		Post-beginner	Intermediate	Advanced
Analytical Tasks	Dictionary-like exercise	+/-	+	+
	Part-of-word identification	+/-	-	N/A
Discovery Method	Elicitation	-	-	-
	Problem solving	-	-	-
Awareness Raising	Error correction	+/-	+/-	+
	Text-level error analysis	N/A	+/-	+/-
	Guided essay writing in TL	+	+	+

Analytical tasks work well at post-beginner level only when used in a controlled environment, and help from a teacher or native speaker is available. These analytical tasks are worth introducing as classroom-based awareness-raising exercises at beginner level, otherwise they hinder rather than enhance students' efficiency in learning and producing language. Once learners have developed the necessary analytical skills and metalinguistic awareness, they are able to identify parts of words (stems and derivational or inflectional morphological strings) that can be looked up in a dictionary or in Google Translate™. Hence, using Google Translate™ as a bilingual dictionary becomes an embedded part of their learning, although selecting the wrong translation from the options that Google Translate™ provides might be a problem up to advanced levels. By that stage students will have learnt that they must double-check the lexical translations Google Translate™ provides from other sources. It is at advanced level and beyond that Google Translate™ is most useful as a dictionary: free of charge and always at hand, it allows students to work with the TL in a variety of settings.

Google Translate™ cannot be recommended as a learning resource for task types using the discovery method. In elicitation exercises Google Translate™'s role was to replace the native speaker in providing target-language examples which help students formulate a grammar rule. Google Translate™'s solutions, however, were so inconsistent that students were unable to rely on it regardless of their competence level. The problem-solving exercise type yielded similar results. These exercises were useful only when carefully planned and presented in class by the teacher. Google Translate™ can be used to demonstrate that a particular suffix is a separate morphological unit, but more often than not it fails to identify the function of suffixes accurately.

Among awareness-raising tasks, error correction was helpful both in raising awareness of the kind of mistakes that Google Translate™ makes and as a learning tool which allowed students to remember grammar points better, engaging them closely with language data. This worked better with phrase-level grammar and with intermediate learners, rather than with basic morphology and beginners, but, again, only when prepared in advance by the teacher. Advanced learners were able to implement error correction as a built-in part of their use of Google Translate™. Text-level error analysis is too challenging for beginners, and is thus applicable only for more advanced learners. In line with Mundt and Groves's (2016) findings, our students noted that Google Translate™ cannot handle certain text genres and lacks sociolinguistic appropriacy. Hence, this exercise raised students' awareness of the processes involved in translation itself as well as of genre-specific features of language and texts. Students of all levels benefited from guided essay writing, depending on the complexity of the English language prompts provided. Correcting and post-editing texts produced by Google Translate™ not only boosted students' confidence in their own language ability but was also useful in directing their attention to detail and spotting mistakes. Similar to existing scholarship on the subject (e.g. Benda, 2013) our results underline that it is imperative to distinguish two different uses of Google Translate™ as a tool for machine-assisted human interaction, namely, whether users want to *learn* the language or they just want to *get the job done* (e.g. by producing a short utterance or understanding a paragraph in the TL). Researchers (Kazemzadeh and Fard Kashani, 2014) believe that if CAT continues to develop in the current rate, all major languages will soon be supported by it. Others (Mundt and Groves, 2016) argue that the availability of free machine translation, particularly Google Translate, leads to major transformations in both Higher Education and language learning. While we do not disagree with these suggestions overall, our study on Finnish and Hungarian seem to suggest that we have a long way to go. In morphologically complex, less-frequently translated languages such as these, learners' and Google Translate™ users' endeavour to 'get the job done', although not impossible, is likely to yield confusing outcomes without students being given the opportunity to explore Google Translate™ while learning the language.

References

- Bahri, H. and Mahadi, T.S. (2016) 'Google Translate as a Supplementary Tool for Learning Malay: A Case Study at Universiti Sains Malaysia', *Advances in Language and Literary Studies*, 7(3), pp. 161-167.
- Baker, C. (2013) Student and instructor perceptions of the use of online translators in English Composition. Mississippi: ProQuest Dissertations Publishing, Mississippi State University, US.
- Beare, K. (2014) How to Use Google Translate to Teach English. Available at: <https://www.thoughtco.com/google-translate-to-teach-english-1211770> (Accessed: 9 August 2017).
- Benda, J. (2013) 'Google Translate™ in the EFL Classroom: Taboo or Teaching Tool?' *Writing & Pedagogy* 5(2), pp. 317-332.
- Burns, A. (2010) *Doing action research in English language teaching: a guide for practitioners*. Abingdon: Routledge.
- Campbell, S. (2002) 'Translation in the context of EFL – The fifth macroskill?' *TEFLIN journal: teaching English as a foreign language in Indonesia*, 13(1), pp. 58-72.
- Cohen, A.D. and Brooks-Carson, A. (2001) 'Research on direct versus translated writing: Students' strategies and their results', *The Modern Language Journal*, 85(2), pp. 169–188.
- Darancik, Y. (2016) 'The Effect of Data-Based Translation Program Used in Foreign Language Education on the Correct Use of Language', *TOJET: The Turkish Online Journal of Educational Technology*, 15(4), pp. 88-106.
- Ferrance, E. (2000) Action Research. Northeast and Islands Regional Educational Laboratory At Brown University. Available at: <https://www.brown.edu/academics/education->

- alliance/sites/brown.edu.academics.education-alliance/files/publications/act_research.pdf
(Accessed: 18 March 2016).
- Garcia, I. and Pena, M.I. (2011) 'Machine Translation-Assisted Language Learning: Writing for Beginners', *Computer Assisted Language Learning*, 24(5), pp. 471-487.
- Ghasemi, H. and Hashemian, M. (2016) 'A Comparative Study of Google Translate Translations: An Error Analysis of English-to-Persian and Persian-to-English Translations', *English Language Teaching* 9(3), pp. 13-17.
- Groves, M. and Mundt, K. (2015) 'Friend or foe? Google Translate in language for academic purposes', *English for Specific Purposes*, 37, pp. 112-121.
- Jin, L. and Deifell, E. (2013) 'Foreign Language Learners' Use and Perception of Online Dictionaries: A Survey Study', *Journal of Online Learning and Teaching*, 9(4), pp. 515-533.
- Kazemzadeh, A.A. and Fard Kashani, A. (2014) 'The effect of computer-assisted translation on L2 learners' mastery of writing', *International Journal of Research Studies in Language Learning*, 3(3), pp. 29-44.
- Kobayashi, H. and Rinnert, C. (1994) Effects of first language on second language writing: Translation versus direct composition, in Cumming, A. H. (ed.) *Bilingual performance in reading and writing*. Ann Arbor, MI: Research Club in Language Learning. pp. 223-255.
- Koponen, M. (2010) Assessing machine translation quality with error analysis. Available at: https://sktl-fi.directo.fi/@Bin/40701/Koponen_MikaEL2010.pdf (Accessed: 27 June 2017).
- McCarthy, B. (2004) Does online computer assisted translation spell the end of take-home translation assignments? *CALL-EJ Online* 6(1). Available at: <http://callej.org/journal/6-1/mccarthy.html> (Accessed: 5 April 2017).
- Mundt, K. and Groves, M. (2016) 'A double-edged sword: the merits and the policy implications of Google Translate™ in higher education', *European Journal of Higher Education*, 6(4), pp. 387-401.
- Nino, A. (2008) 'Evaluating the use of computer assisted translation post-editing in the foreign language class', *Computer Assisted Language Learning*, 21(1), pp. 29-49.
- Orch, F. (2006) Statistical machine translation live. Google Research Blog. Available at: <https://research.googleblog.com/2006/04/statistical-machine-translation-live.html> (Accessed: 18 March 2017).
- Pecoraro, C. (2012) Microsoft Bing Translator and Google Translate Compared. Available at: <http://chrispecoraro.com/microsoft-bing-translator-and-google-translate-compared/index.html> (Accessed: 10 November 2017).
- Shen, E. (2010) Comparison of online machine translation tools. Available at: <http://www.tcworld.info/e-magazine/translation-and-localization/article/comparison-of-online-machine-translation-tools/> (Accessed: 10 November 2017).
- Somers, H. (2003) Computer assisted translation in the classroom, in Somers H. (ed.) *Computers and translation: A translator's guide*. Amsterdam/Philadelphia: Benjamins. Pp. 319-340.
- Thaiss, C. (2011) Korean student writing with Smart Phone produces idiomatic English. E-mail message to WPA-L. Available at: <https://lists.asu.edu/cgi-bin/wa?A2=ind1104&L=WPA-L&F=&S=&P=235475> (Accessed: 10 April 2017).
- Valijärvi, R.-L. and Tarsoly, E. (2012) Translating Google Translate to the Language Classroom. Pilot Study. Presentation. In: *LLAS Conference on Language Futures: Languages in Higher Education*, University of Edinburgh, UK, 5-6 July 2012.
- Valijärvi, R.-L. and Tarsoly, E. (forthcoming) Error analysis of Google Translations: Finnish and Hungarian.
- Van Rensburg, A., Cobus, S. and Lotz, S. (2012) 'Applying Google Translate™ in a higher education environment: Translation products assessed', *Southern African Linguistics and Applied Language Studies* 30(4), pp. 511-524.
- Wallace, M.J. (1997) *Action research for language teachers*. Cambridge: Cambridge University Press.