



The impact of CAT tools on the creativity  
of students of Translation and Interpreting

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**Declaration:**

I hereby declare that this dissertation is my own work and all references have been acknowledged. I can confirm I have read the guidelines in the School Handbook on the rules and procedures for submitted work including the section on plagiarism/collusion.

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# 1.Introduction

The rapid advancement in the use of computer-aided translation (CAT) tools in the translation industry has made them an integral part of the curriculum of Translation and Interpreting (T&I) degree programmes across the UK. As a result, a number of studies have examined what Sharon O'Brien (2012) calls the 'translator-computer interaction' (hereinafter referred to as TCI) with respect to various target groups: professional translators (Bundgaard et al., 2016), students (Çetiner, 2018) or a mixture of both (Ehrensberger-Dow & Massey, 2014). A number of studies have explored various aspects of the TCI such as the level of CAT tool adoption (Granell-Zafra, 2006), the impact of CAT tools on productivity and translation quality (Çetiner, 2018) as well as the type of activities (Bundgaard et al., 2016) or cognitive processes (Ehrensberger-Dow & Massey, 2014) that take place during the translation process. To my knowledge, however, only one study (Drexler, 2016) is centred around the concept of creativity. Vanessa Drexler's research sets out to examine the opinion of professional translators on the importance of uniformity and creativity during translation in order to identify "whether CAT tools generally tend to positively or negatively influence the

translation process on a rather linguistic than technological basis”

(Drexler, 2016:2).

My study aims to further explore the role of creativity in the TCI. In order to do this, I will first define what CAT tools are and how they function. This will be followed by a review of academic works featuring different definitions of the term ‘creativity’, which will help me gain a better understanding of this concept. Written material on the role and importance of creativity in the context of translation will also be analysed in order to help me develop a working definition for a ‘creative translation’ to be used in a survey. Finally, I will conduct and analyse the survey data to explore the following questions:

- 1) As how creative do Bachelor’s (BA) and Master’s (MA) translation students at UK universities rank themselves?
- 2) To what extent do translation students feel that CAT tools support or hamper their creativity during the translation process?

Students are likely less bound by time constraints than professional translators and possibly also work with a larger diversity of text genres, because professionals often choose to specialise and work exclusively in one or several specific field(s) e.g. legal translation, literary translation



etc. Therefore, my hypothesis is that students will perceive creativity as an important factor in the translation process and will consequently judge the impact of CAT tools on their levels of creativity as negative. The concepts of ‘creativity’ and ‘creative translation’ will serve as a framework for my research and an online survey will be used as a data collection technique, in order to gather the necessary information to either confirm or disprove my hypothesis.

## 2. Literature review

### 2.1. What is a CAT tool?

In order to assess the influence of CAT tools on human creativity, it is first and foremost, necessary to define what CAT tools are and give some background knowledge of their basic functions. A common misconception is that computer-aided translation tools are synonymous with machine translation systems, such as Google Translate (Beens, 2018). However, whereas machine translation is performed by computers in an attempt to replace human translators, computer-aided translation is done by human translators who use specialised software (CAT tools) to increase their productivity. In fact, CAT tools have many features,

including the opportunity to integrate dictionaries and perform quality assurance checks. Nonetheless its four basic functions are the following: text segmentation, formation of translation units, usage of a translation memory and usage of termbases (Bruns, 2008:12-13). Below follows a brief overview of these basic functions and their role.

CAT tools work by segmenting the source text (usually in sentences) and presenting each segment in a way that the translator can enter the translation either below or next to the corresponding segment (cf. Fig.1).

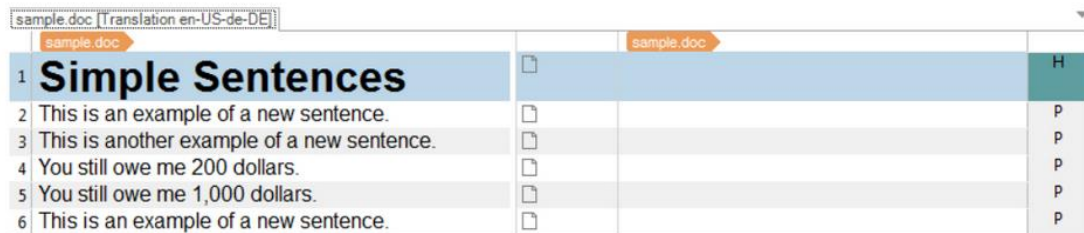


Fig. 1 Side-by-side translation editor in SDL Trados Studio 2017

(SDL, 2016:31)

This makes it easier for the translator to perceive both source text (ST) and target text (TT) at the same time. The resulting combination of source and target segment is also referred to as a translation unit (TU). Each TU is then saved in a database a.k.a. a translation memory (TM), which is arguably the most important function of CAT tools. The TM is automatically looked up for similar sentences or phrases each time when

a new segment has to be translated. If a match is found, the corresponding translation from the TU is automatically suggested so that it can be re-used. The match is displayed along with a percentage, indicating the degree of similarity between the current source text segment and the one saved in the TM from a previous translation. As a result, translations become faster, more coherent and consistent. To help with term consistency, CAT tools also offer the option of using a termbase, where specific terms are stored with their corresponding translations and are then automatically suggested during the translation process.

It is worth mentioning here that whilst TUs and termbases are created by humans and therefore involve a certain level of creativity, “only little or no creativity at all is necessary to insert pre-translated TUs from databases or TMs” (Drexler 2016:28). Therefore, it can be assumed that CAT tools alter the human creative faculty in some way. In order to explore this issue further, a better understanding of the term ‘creativity’ is necessary.

## 2.2. History and contemporary definitions of the term ‘creativity’

Interestingly, whereas cognate forms such as ‘creation’, ‘creator’ and ‘create’ emerged much earlier, “the first recorded use in English of the abstract noun ‘creativity’ is as recent as 1875” (Pope, 2006:1). In fact, the term did not enter common usage until the 1940s and 1950s (Pope, 2006). But what exactly does creativity mean and what role does it play in translation?

Creativity is a somewhat indeterminate concept to this day. According to Michael Mumford (2003), although researchers seem to agree that the production of novel and useful products is a part of creativity, the term still does not have a single, consistent definition. The abovementioned characteristics that researchers agree on, are well represented in the following definition of ‘creativity’: “the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints)” (Sternberg & Lubart, 1999:3). A very similar view is expressed by Teresa Amabile who defines creativity as “the production of a novel and appropriate response, product, or solution to an open-ended task” (Amabile, 2013:134). In her definition of creativity Amabile adds the condition of the open-ended task i.e. a task

that does not have “a single, obvious solution” (ibid.). This condition is highly relevant in the context of translation, as there can be multiple equally valid renderings of the same source text (ST) in the same target language, and therefore more than one solution. This will be discussed in more detail in subsection 2.4, whereas the next subsection will explore the connection between creativity and translation.

## 2.3. The role of creativity in translation

Throughout history translation approaches have varied, with some putting more emphasis on the role of creativity than others. For example, during the Roman antiquity and Romanticism, translators were viewed as possessing “creative genius” (Bassnett, 1980:69) and were guided in their work by “the aesthetic criteria of the TL [target language] product” (Bassnett, 1980:44). By contrast, translators today need to cater for the growing demand and the requirements of a profit-oriented business environment with an emphasis on efficiency. At present, the involvement of creativity in the translation process is considered with some reservation, “in part due to the indeterminacy of the term and in part to the frequent impression that creativity articulates less-than-exact translations” (Aranda, 2009:23). And yet, translators can also find

themselves being requested to “produc[e] the illusion of authorial presence whereby the translated text can be taken as the original” (Venuti, 1995:7). This creates a paradox because in order to create such an illusion of transparency a translator would have to go beyond mere substitution of ST material with equivalent content in the target language. Instead, they would have to think of innovative ways to transmit both the ST content and its underlying implications in a different culture and system of communication.

With that in mind, it could be argued that translators “are forced to creativity because the means of the target language are not identical with those of the source language” (Neubert, 1997:19). Of course, the more closely-related the source and target language are, the less differences there will be between them in their ways of expressing ideas. However, according to David Crystal and Robert Robins (2019), in order for languages to be classified as separate these differences are likely significant enough to impede mutual understanding without prior learning. Therefore, unless the ST is translated verbatim i.e. word for word, all forms of translation can be considered creative, however, bearing in mind that “creative contributions differ [...] in the amounts of

creativity they display” (Sternberg et al., 2001:97). For the purposes of conducting and analysing the survey in this study, only translations with a certain degree of creativity will be described as creative. Consequently, the next subsection will focus on establishing a working definition for a ‘creative translation’ to be used within the scope of this study.

## 2.4. Working definition of a ‘creative translation’

As mentioned in subsection 2.2., the same ST can have multiple equally adequate renderings even if these are in the same target language. An example that illustrates this can be found in Paul Laroche’s (2011) article *Found in Translations: Using Multiple Versions of Translated Text for Close Analysis of Language*. There he presents parallel passages from two English translations of *La Nuit* by Elie Wiesel: the first one from 1981 by Stella Rodway and the second one from 2006 by the author’s wife, Marion Wiesel. The comparison reveals that some passage pairs exhibited differences in diction<sup>1</sup> (cf. Fig.2), whereas others conveyed completely different messages (cf. Fig.3):

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<sup>1</sup> the choice and use of words in literature (Oxford Learner's Dictionaries)

Crouching in her corner, her blank gaze fixed  
on some faraway place, she no longer saw us.  
(Wiesel 26)

Crouched in her corner, her bewildered gaze  
scouring the emptiness, she could no longer  
see us. (Rodway 37)

Fig. 2 Translation versions which exhibit differences in diction

(Larochelle, 2011:62-63)

“No one prayed so that the night would pass  
quickly” (Rodway 32)

“No one was praying for the night to pass  
quickly” (Wiesel 21).

Fig. 3 Translation versions which convey opposing messages

(Larochelle, 2011:61)

This comes to show that Wiesel’s translation could be considered just as creative as Rodway’s because both differs greatly in the way in which they render the ST information and affect the readers.

Admittedly, translation assessment, including the text’s level of creativity, is “unavoidably subjective” (Maier, 2000:137). However, for



the purposes of conducting my survey and in light of Larochelle's work, I chose to use the following definition of a 'creative translation':

Creative translations: Reoccurring words, phrases, expressions or sentences are not always translated in the same way (except for product names, proper names and the like) to make the text more interesting for the reader. Additional text units are used to achieve greater coherence/clarity of the target text.

(Drexler, 2016:37)

In her study, Drexler also provides the antonym 'uniform translation' which describes translations that are characterised by a lower level of creativity:

Uniform translations: Reoccurring words, phrases, expressions or sentences are more often than not translated in the same way. Additional text units are rarely used if at all.

(Drexler, 2016:37)

Both definitions were relevant for my survey because I intended to have them as part of an explanation where students would be asked to make a choice between the two. However, I modified Drexler's definitions by changing their wording and combining them in part with their fuller versions in her work (Drexler, 2016:20). This was done in order to simplify and clarify the definitions further for my survey participants, as I considered the phrase 'additional text units' too confusing. Figure 4

below shows the final version of these modified definitions which is used in the survey.

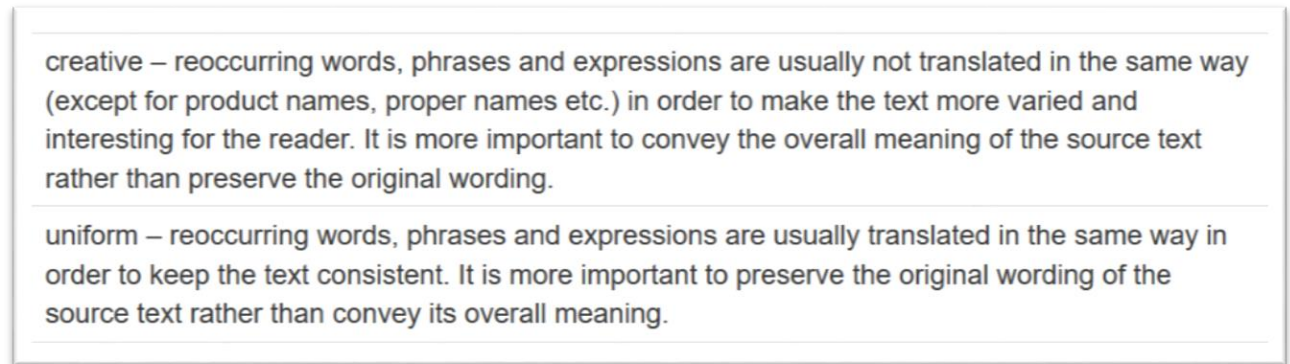


Fig. 4 Definitions of creative and uniform translation used in my survey

The next chapter will discuss the methodology used in my research as well as the reasons behind my choice of data-collection technique.

### 3.Methodology

When choosing a methodology, I found it useful to look at a comparison of the key characteristics of qualitative and quantitative research such as the one in *Choosing an appropriate research methodology and method* (Opoku et al., 2016). A quantitative methodology was more fitting for the current study because it involves beginning with a hypothesis and relying on a deductive approach to reach a conclusion. A further advantage of using a quantitative research method was that it measures reality

objectively (Williams, 2007) through variables which are represented as numerical data. This data “can [then] be analyzed using statistical procedures” (Creswell, 2014), which makes it more reliable.

The data collection technique that I deemed most appropriate was an online survey due to its many advantages, as outlined by Alan Bryman (2012): it is cost-effective, easy and quick to administer, provides fast responses and has no restrictions in terms of the geographical location of the respondents. According to Mark Saunders et al. (2009) one of the keys for maximising the response rates, validity<sup>2</sup> and reliability<sup>3</sup> of a survey were well-designed questions as well as a proper layout and administration. Using the platform *Online surveys* (<https://www.onlinesurveys.ac.uk/>) ensured a clear and uniform layout, while also providing me with a ready analysis of the results in the form of tables, graphs or charts. A blank copy of the survey is provided as an appendix to this dissertation.

In terms survey design, a wide variety of question types were used: demographic, single choice (dichotomous), multiple choice and scaled.

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<sup>2</sup> The extent to which the results really measure what they are supposed to measure (Middleton, 2019).

<sup>3</sup> The extent to which the results can be reproduced when the research is repeated under the same conditions (Middleton, 2019).

This allowed me to evaluate different aspects of my survey sample i.e. demographic background, amount of experience of working with CAT tools etc. Here it should be noted that I modelled my survey on the copy of Drexler's *Questionnaire Survey II* (Drexler, 2016:97-100). Her survey was used as an inspiration for the types of questions and/or answer options that I could feature in mine. That being said, I made changes to questions where necessary so that they fit my specific research aims and survey population. For example, I included some completely different questions and either excluded or reformulated the types of questions Drexler used in relation to professional translation as they were not applicable to this study's population.

As an additional part of the question design, I used a method that Vince Mitchell (1996) refers to as 'alternative form'. This involves using a "check question" i.e. a different form of the same question/groups of questions and then comparing the responses. For example, in question 15 of the survey I provided participants with examples of posters that contain wordplays and asked them to choose the most appropriate from a list of three translation approaches or to suggest their own. The three listed approaches were based on one of Katharina Reiss' (1971/2000)

methods for dealing with different text types. These methods are presented in Table 1.

<i>Text type</i>	<i>Informative</i>	<i>Expressive</i>	<i>Operative</i>
Language function	Informative (representing objects and facts)	Expressive (expressing sender's attitude)	Appellative (making an appeal to text receiver)
Language dimension	Logical	Aesthetic	Dialogic
Text focus	Content-focused	Form-focused	Appellative-focused
TT should . . .	Transmit referential content	Transmit aesthetic form	Elicit desired response
Translation method	'Plain prose', explication as required	'Identifying' method, adopt perspective of ST author	'Adaptive', equivalent effect

Tbl. 1 Functional characteristics of text types and links to translation methods

(translated and adapted from Reiss 1971/2000 in Munday 2008:73)

Unbeknownst to the participants, question 16 was designed as a check question in order to test whether they would remain consistent with their prior choice of approach or not. Question 16 provided them with a literal translation in English of an image from a Bulgarian billboard campaign. The participants were then asked to choose the most appropriate translation option or to suggest their own. Once again, each of the proposed translations was based on one of Reiss' (1971/2000) three

methods. I chose a ST in my native language Bulgarian in order to minimise the chances of giving some students an unfair advantage in terms of ST comprehension, since Bulgarian is not widely spoken and it was unlikely that the participants would know it.

The next stage was to pilot the survey which, as pointed out by Judith Bell and Stephen Waters (2018), would help me test the time it took to complete, check for any unclear wording and gather ideas on how to correct any issues in order for the survey to yield usable data. I tested the survey amongst two peers on my degree, a native and a non-native English speaker, in order to check for any comprehension issues (e.g. complicated or unclear wording) in the survey's instructions or answers that could compromise the validity of the data.

Finally, the distribution was carried out by reaching out via email to staff from all UK universities which offered BA and MA translation programme degrees and asking for my survey to be passed on to their translation students. My aim was to gather a sample that was as large and diverse as possible in order to increase the reliability and validity of my study. Therefore, I decided to have the survey live from 12<sup>th</sup> March until 15<sup>th</sup> April so a maximum number of students would have the chance to

participate. When analysing the data, I chose to perform a cross tabulation analysis in order to “examine relationships within the data that might not be readily apparent when analyzing total survey responses” (DeFranzo, 2012).

## 4. Data analysis

The analysis was structured by grouping data from the survey questions according to the following main themes: demographics, translation approach preferences and data on CAT tools. This facilitated the analysis process and helped me spot correlations.

### 4.1. Demographics

Looking at the demographic characteristics of the survey sample allowed me to better understand its diversity and the ratios within different variables. There were a total of 25 respondents, 84% of which were aged 21-29. However, a few older participants (16%) also took part, the youngest being 30 and the oldest 56. Most respondents (72%) were native English speakers and roughly two thirds (64%) were doing a Master’s degree. In summary, the data might not be as representative of the opinion of non-native English speakers or mature students aged 30

and over, due to the small number of representatives from these groups. However, the ratios indicate that there is a higher chance that the data represents the opinions of BA and MA students, which is relevant to one of my research questions.

## 4.2. Data on translation approach preferences

Survey questions enquiring about the participants' translation approach preferences in different scenarios were used in order to gain a better understanding of the respondents' level of creativity when translating without the help of a CAT tool. To this end, the definitions of a creative and uniform translation from subchapter 2.4. were provided as part of the instructions in question 12. The participants were presented with various text genres and asked to rate their usual translation approach on a Likert scale from creative to uniform. The results showed that creativity and uniformity were equally valued by both BA and MA students as translation approaches, depending on the text genre in question. Literary texts had the highest percentage of answers on the creative end of the scale, whereas legal texts were ranked highest in requiring a more uniform approach. This is displayed in the bar charts below (cf. Figs.5



and 6) where the rating 1 stands for most creative and 5 for most uniform.

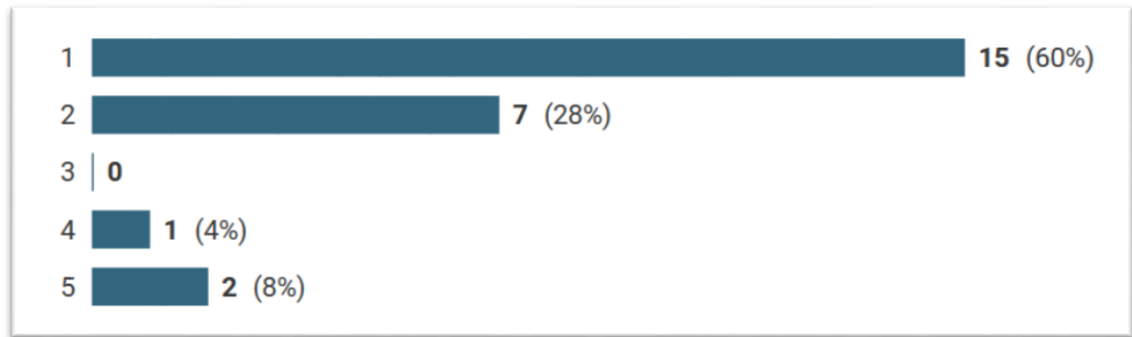


Fig. 5 Students' translation approach for literary texts

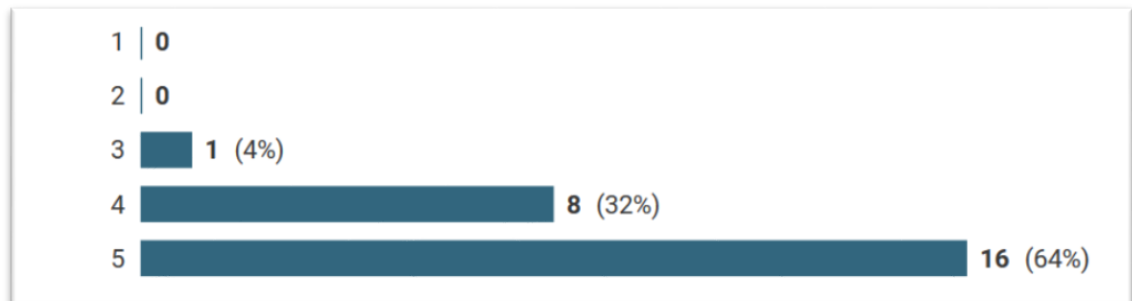


Fig. 6 Students' translation approach for legal texts

As can be seen in Fig.5, 12% (or three participants) deviated from the status quo by rating their translation approach towards literary texts on the uniform side of the scale (4 or 5). Upon filtering the results, I found out that one of these three participants had systematically indicated a uniform approach for text genres which according to Reiss (1971/2000)

require a more creative approach (e.g. literary texts), and a creative approach for text genres which require a more uniform approach (e.g. technical texts). This led me to the conclusion that this particular participant had probably misunderstood either the instructions or the ratings on the Likert scale. The reasons behind the other two deviating responses are unclear.

Additionally, questions 15 and 16 were also related to translation approaches and as mentioned in the section 3, the answer options in both questions were based on Katharina Reiss' (1971/2000) proposed translation methods (cf. Tbls.2 and 3).

A literal translation of the source text that respects the target language <u>grammar</u>	plain prose method
An idiomatic expression in the target language that conveys the same underlying message as that of the source text but is not connected to the image	identifying method
A translation that conveys a different message than that of the source text but is connected to the image	adaptive method

Tbl. 2 Answer options for question 15 and their corresponding translation methods

You only have two hands. Keep them on the wheel!	adaptive method
Drive safely! We will keep an eye on these until you get there.	plain prose method
The pint can wait. The ambulance can't!	identifying method

Tbl. 3 Answer options for question 16 and their corresponding translation methods

The two posters with wordplays in question 15 can be classified as an operative text type with expressive use of language because they do use the source language artistically but with the aim of achieving a comical effect. The billboard campaign image from question 16 also falls within the category of operative text type and both questions presented the dilemma of whether the translation should respect the image or not. For question 15, 20 participants (80%) chose an adaptive method i.e. to alter the message of the ST but retain the connection to the image in order to ensure an equivalent effect on the target text readers. However, when the same 20 participants were faced with an identical translation challenge in question 16, some expressed different preferences (cf. Tbl.4). While more than half chose the adaptive method again, the rest were almost equally split between the plain prose and the identifying method. One participant chose to suggest their own translation: *Drive safely! We will*

*keep hold of these until you get there*, which is very similar to the plain prose option provided and could therefore be included in that category.

If translating a poster that contains a play on words such as in the examples below, given the choice, which of the listed translation approaches are you most likely to opt for:	The poster below is from a billboard campaign of the Bulgarian Association of Motor Vehicle Collision Victims (BAZK). Consult the literal translation provided below and then choose what you think is the most appropriate translation option.				No answer	Totals
	You only have two hands. Keep them on the wheel!	Drive safely! We will keep an eye on these until you get there.	The pint can wait. The ambulance can't!	Other		
A literal translation of the source text that respects the target language grammar	0	0	0	0	0	0
An idiomatic expression in the target language that conveys the same underlying message as that of the source text but is not connected to the image	0	0	0	0	0	0
A translation that conveys a different message than that of the source text but is connected to the image	12	4	3	1	0	20
No answer	0	0	0	0	0	0
Totals	12	4	3	1	0	20

Tbl. 4 Cross tabulation of data from questions 15 and 16

(NB: data featured is exclusively from the 20 participants who opted for an adaptive approach in question 15)

An even more intriguing result was revealed when I cross tabulated questions 15 and 16 separately with question 3 which enquired about the participants' degree level. The first set of results show that when asked a theoretical question about their translation approach like in question 15,

BAs were unanimous in their choice, whereas MAs expressed more diverse opinions on the best technique to handle the ST challenge (cf. Tbl.5).

If translating a poster that contains a play on words such as in the examples below, given the choice, which of the listed translation approaches are you most likely to opt for: © Lnsplration - <a href="https://www.redbubble.com/people/lnspiration/works/24937412-seal-of-approval">https://www.redbubble.com/people/lnspiration/works/24937412-seal-of-approval</a> © HandsOffMyDinosaur - <a href="https://www.handsoffmydinosaur.com/puns/">https://www.handsoffmydinosaur.com/puns/</a>	What is your degree level?		No answer	Totals
	Bachelor's	Master's		
A literal translation of the source text that respects the target language grammar	0.00%	4.00%	0.00%	4.00%
An idiomatic expression in the target language that conveys the same underlying message as that of the source text but is not connected to the image	0.00%	16.00%	0.00%	16.00%
A translation that conveys a different message than that of the source text but is connected to the image	36.00%	44.00%	0.00%	80.00%
No answer	0.00%	0.00%	0.00%	0.00%
Totals	36.00%	64.00%	0.00%	100.00%

Tbl. 5 Cross tabulation of data from questions 15 and 3

However, when participants were faced with specific translation examples like in question 16, their opinions of both BAs and MAs were even more divided (cf. Tbl.6) than those expressed for question 15, even though both questions present the same translation problem. The next subsection will focus on the rest of the findings, which are related to the use of CAT tools.

The poster below is from a billboard campaign of the Bulgarian Association of Motor Vehicle Collision Victims (BAZK). Consult the literal translation provided below and then choose what you think is the most appropriate translation option. You can also suggest another translation if you are not satisfied with the given options. Literal translation: Drive on calmly. We will keep these* safe for you until you get there. *these refers to the bottles and glasses of alcohol that the octopus is holding © @bazk.org - <a href="https://www.facebook.com/pg/bazk.org/photos/?ref=page_internal">https://www.facebook.com/pg/bazk.org/photos/?ref=page_internal</a>	What is your degree level?		No answer	Totals
	Bachelor's	Master's		
You only have two hands. Keep them on the wheel!	20.00%	32.00%	0.00%	52.00%
Drive safely! We will keep an eye on these until you get there.	12.00%	16.00%	0.00%	28.00%
The pint can wait. The ambulance can't!	4.00%	12.00%	0.00%	16.00%
Other	0.00%	4.00%	0.00%	4.00%
No answer	0.00%	0.00%	0.00%	0.00%
Totals	36.00%	64.00%	0.00%	100.00%

Tbl. 6 Cross tabulation of data from questions 3 and 16

## 4.3. Data on CAT-tools

### 4.3.1. Experience with using CAT tools and their impact on workflow

Survey questions related to working with CAT tools had two main aims. The first one was to establishing the CAT tools that the participants were familiar with as well as their level of expertise in using this type of software in general. Unsurprisingly, the results showed that SDL Trados Studio (hereinafter referred to as Trados), which is one of the most popular CAT tools (Dengová 2020), was also the most used for study purposes (cf. Fig.7). Therefore, my data would mostly reflect the

influence of this particular CAT tool. Interestingly, the CAT tool mentioned most often by the participants who chose the *Others* option was one I was not familiar with: Lilt, which unlike Trados has features powered by AI (Artificial Intelligence) and automation (Lilt, n.d.).

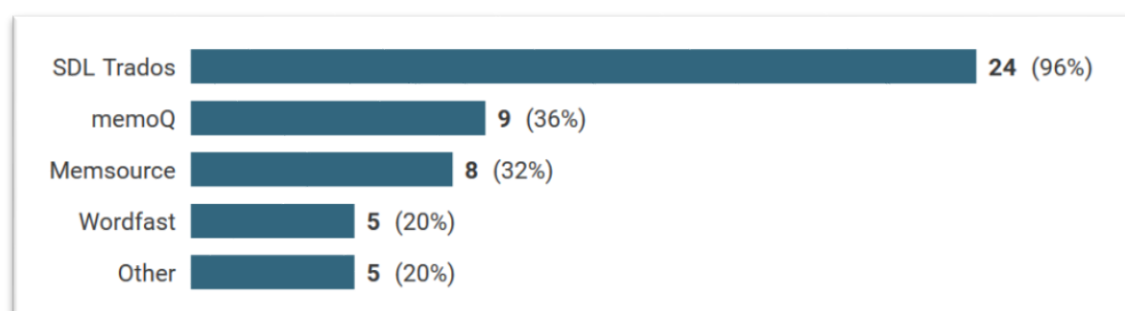


Fig. 7 CAT tools used by students as part of their studies

(NB: multiple choice question)

Several other questions were aimed at establishing the participants' level of experience. Question 7, for example, took into account the fact that some participants might get additional exposure to CAT tools in a context outside of university studies. The results revealed that only a little over a third of the participants (36%), most of which MA students, had this extra experience (cf. Tbl.7).

Do you use CAT tools for any other work outside of university context (e.g. freelancing)?	What is your degree level?		No answer	Totals
	Bachelor's	Master's		
Yes	8.00%	28.00%	0.00%	36.00%
No	28.00%	36.00%	0.00%	64.00%
No answer	0.00%	0.00%	0.00%	0.00%
Totals	36.00%	64.00%	0.00%	100.00%

Tbl. 7 Cross tabulation of data from questions 3 and 7

Furthermore, the data revealed that there were also more Master's students than Bachelor's students with only 1-6 months of experience in working with CAT tools (cf. Tbl.8). A possible explanation for this is the higher number of MA students who took part in the study (cf. subsection 4.1.) as well as the possibility that some of the MA students have an academic background different than translation.

How long have you been using a CAT tool?	What is your degree level?		No answer	Totals
	Bachelor's	Master's		
Less than 1 month	0.00%	0.00%	0.00%	0.00%
1-6 months	12.00%	36.00%	0.00%	48.00%
7-12 months	16.00%	8.00%	0.00%	24.00%
Over 12 months	8.00%	20.00%	0.00%	28.00%
No answer	0.00%	0.00%	0.00%	0.00%
Totals	36.00%	64.00%	0.00%	100.00%

Tbl. 8 Cross tabulation of data from questions 3 and 5



It also turns out that most of the participants who indicated to have translated over ten texts with the help of CAT tools (24%), had also been doing it for over 12 months, whereas the majority of students that had translated up to five texts (20%) had between one and six months of experience (cf. Tbl.9). Consequently, my sample contained nearly equal parts of students with either a lot of experience or little experience in working with CAT tools. This meant that my data presents a balanced variety of levels of expertise and subsequently, different levels of confidence and familiarity regarding the use of CAT tools.

How long have you been using a CAT tool?	How many texts have you translated with a CAT tool so far?				No answer	Totals
	None	1-5	6-10	Over 10		
Less than 1 month	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
1-6 months	0.00%	20.00%	16.00%	12.00%	0.00%	48.00%
7-12 months	0.00%	12.00%	4.00%	8.00%	0.00%	24.00%
Over 12 months	0.00%	4.00%	0.00%	24.00%	0.00%	28.00%
No answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals	0.00%	36.00%	20.00%	44.00%	0.00%	100.00%

Tbl. 9 Cross tabulation of data from questions 8 and 5

On the question of whether participants found working with CAT tools detrimental to their workflow, opposing opinions seemed to be split

almost equally, with 40% agreeing that CAT tools impeded their workflow and 48% disagreeing (cf. Fig.8).

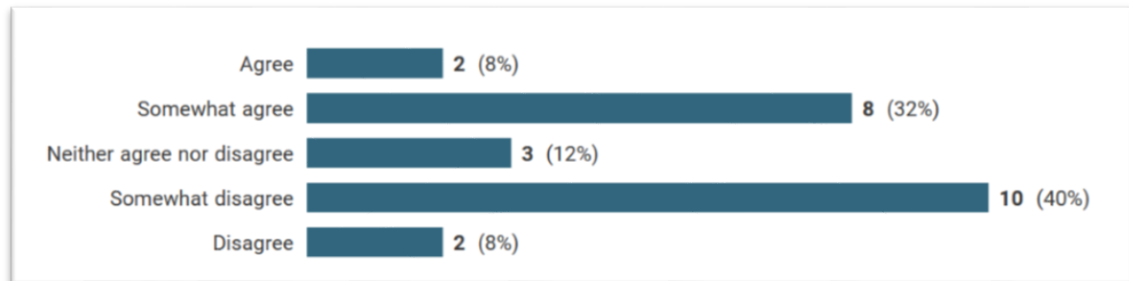


Fig. 8 Opinion on whether CAT tools impede workflow

When asked, however, whether they enjoyed working with CAT tools, a rather large percentage (32%) expressed a neutral opinion (cf. Fig.9). The opposite could be said for question 14.1, where there were in fact no neutral opinions and more than half (64%) of the participants admitted to preferring handwriting/typing translations on their own rather than using a CAT tool (cf. Fig.10).

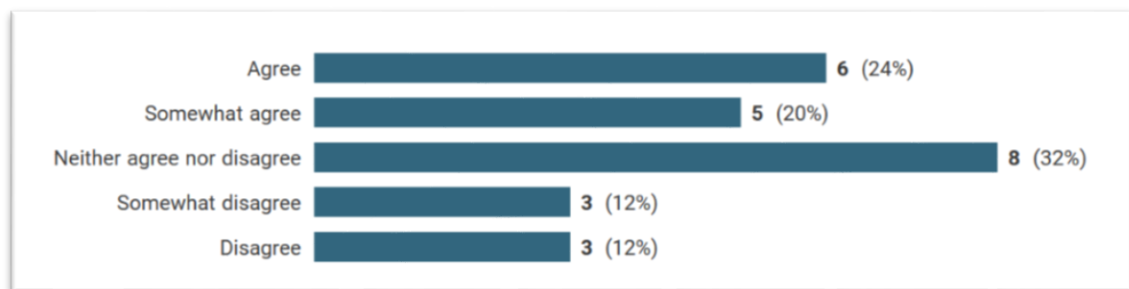


Fig. 9 Opinion on whether working with CAT tools is enjoyable

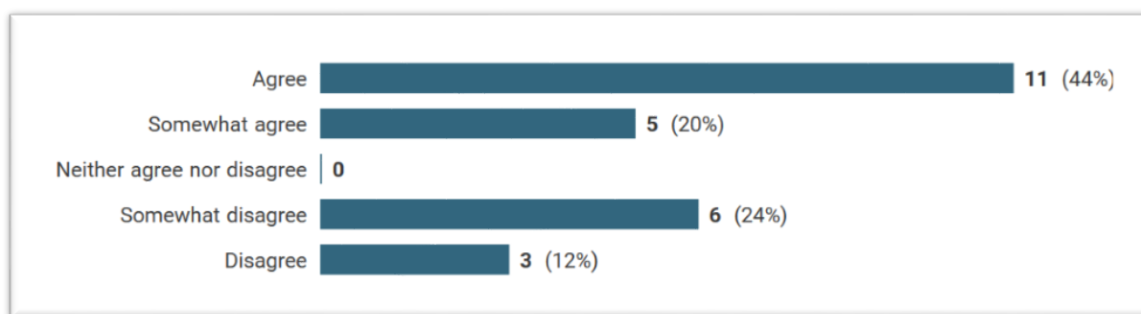


Fig. 10 Preference to handwriting/typing translations without a CAT tool over using a CAT tool

That being said, 60% of participants rated the overall usefulness of CAT tools in facilitating the translation process as either *useful* or *very useful* and 88% said they found the basic functions of the software either *very easy* or *fairly easy* to use (cf. Tbl.10). As for the advantages of CAT tools, the main ones that stood out were improved efficiency and consistency (cf. Tbl.11).

How easy do you find it to use the basic functions of CAT tools (creating and using term bases and translation memories, performing quality checks etc.)?	Very useful vs Not useful at all					No answer	Totals
	1	2	3	4	5		
Very easy. I rarely struggle with using the basic functions.	16.00%	16.00%	4.00%	0.00%	0.00%	0.00%	36.00%
Fairly easy. I sometimes struggle with using the basic functions.	4.00%	16.00%	24.00%	8.00%	0.00%	0.00%	52.00%
Not very easy. I often struggle with using the basic functions.	0.00%	8.00%	0.00%	4.00%	0.00%	0.00%	12.00%
Not easy at all. I almost always struggle with using the basic functions.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
No answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals	20.00%	40.00%	28.00%	12.00%	0.00%	0.00%	100.00%

Tbl. 10 Cross tabulation of data from questions 9 and 10

The CAT tool I work with helps me be more consistent.	The CAT tool I work with saves me a lot of time.					No answer	Totals
	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree		
Agree	20.00%	8.00%	12.00%	0.00%	0.00%	0.00%	40.00%
Somewhat agree	8.00%	20.00%	8.00%	8.00%	0.00%	0.00%	44.00%
Neither agree nor disagree	0.00%	4.00%	0.00%	4.00%	4.00%	0.00%	12.00%
Somewhat disagree	0.00%	4.00%	0.00%	0.00%	0.00%	0.00%	4.00%
Disagree	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
No answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals	28.00%	36.00%	20.00%	12.00%	4.00%	0.00%	100.00%

Tbl. 11 Cross tabulation of data from questions 14.6 and 14.4

Hence, it is to be understood that despite varying levels of experience, most participants found CAT tools an uncomplicated addition to their translation process with mostly positive effects on various aspects of the translation workflow. However, many respondents were undecided as to whether working with the software was enjoyable.

### 4.3.2. CAT tools and creativity

The second aim of the questions related to CAT tools was to assess the software's influence on students' creative energy. The survey findings suggest that CAT tools do in fact seem to effect the creative energy of students. When asked whether they felt that working with a CAT tool

influenced their level of creativity, 68% agreed that it did and only 8% stated that it did not at all (cf. Fig.11).

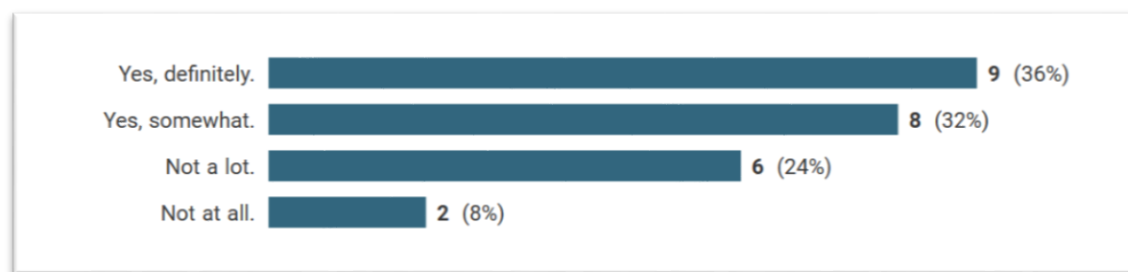


Fig. 11 Impact of CAT tools on levels of creativity in translations

The participants that had answered *yes, definitely* or *yes, somewhat*, were then asked about which aspects of the translation process had changed.

An impressive 94.1% stated that their translations had become more uniform and roughly a fifth (23.5%) said they had less time for creative thinking (cf. Fig.12). The most interesting data came from the two open-ended responses written by those who had chosen the *Other* option.

These responses will be discussed in more detail in section 5.

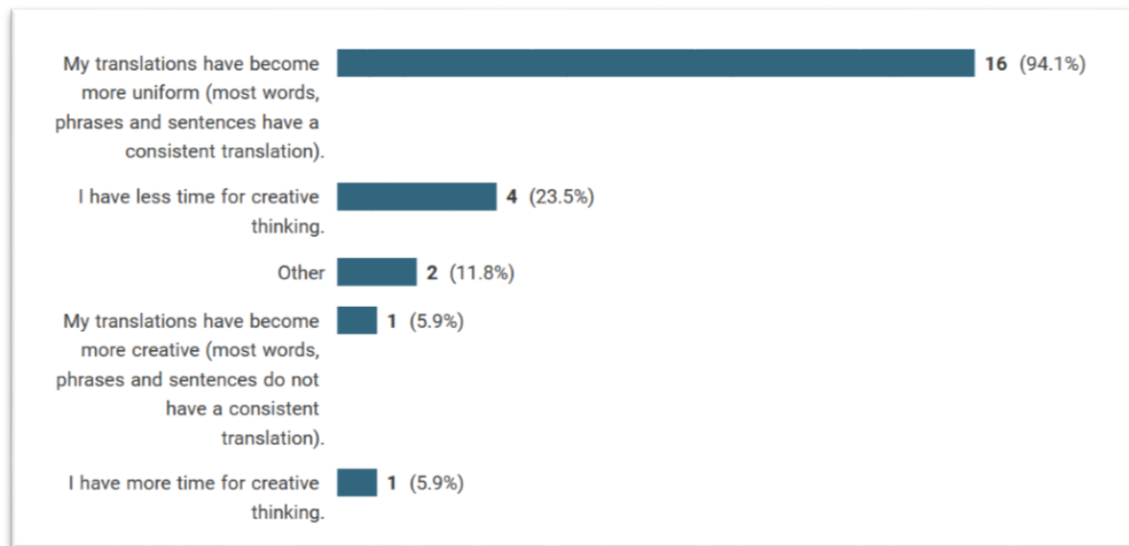


Fig. 12 Influence of CAT tools on aspects of the translation process

(NB: multiple choice question)

Table 12 presents another important observation, namely that no respondents agreed fully with the statement that CAT tools support or increase their creativity and only 12% agreed to some extent. Moreover, the data suggests that working with CAT tools might even be detrimental to students' creative energy as 52% stated that it limited their creativity and only 28% that it did not.

The CAT tool I work with supports or increases my creativity.	The CAT tool I work with limits my creativity.					No answer	Totals
	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree		
Agree	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Somewhat agree	0.00%	0.00%	0.00%	8.00%	4.00%	0.00%	12.00%
Neither agree nor disagree	0.00%	0.00%	16.00%	4.00%	4.00%	0.00%	24.00%
Somewhat disagree	8.00%	12.00%	4.00%	4.00%	0.00%	0.00%	28.00%
Disagree	24.00%	8.00%	0.00%	4.00%	0.00%	0.00%	36.00%
No answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals	32.00%	20.00%	20.00%	20.00%	8.00%	0.00%	100.00%

Tbl. 12 First cross tabulation of data from questions 14.8 and 14.7

(NB: data featured is from all participants in the survey)

I then ran the same cross tabulation analysis as in Table 12 but only including the responses of the 68% who had indicated that CAT tools do influence their level of creativity (cf. Fig.13). This confirmed that the majority of the participants who had stated that CAT tools have an influence on their level of creativity judged that influence as negative (cf. Tbl.13).

The CAT tool I work with supports or increases my creativity.	The CAT tool I work with limits my creativity.					No answer	Totals
	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree		
Agree	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Somewhat agree	0.00%	0.00%	0.00%	5.88%	5.88%	0.00%	11.76%
Neither agree nor disagree	0.00%	0.00%	11.76%	0.00%	0.00%	0.00%	11.76%
Somewhat disagree	11.76%	11.76%	0.00%	5.88%	0.00%	0.00%	29.41%
Disagree	35.29%	11.76%	0.00%	0.00%	0.00%	0.00%	47.06%
No answer	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals	47.06%	23.53%	11.76%	11.76%	5.88%	0.00%	100.00%

Tbl. 13 Second cross tabulation of data from questions 14.8 and 14.7

(NB: data featured is exclusively from participants who had indicated answered affirmatively for question 13)

## 5. Discussion

### 5.1. Creativity of Bachelor's and Master's students

I will begin by discussing the data with relation to my first research question, which addresses the levels of creativity of BA and MA students. Students' degree level showed the most balanced ratio out of all of the demographics data, which increased the likelihood of the data's reliability with respect to this variable. The majority of respondents conformed to my expectations in terms of the level of creativity in their chosen approach when dealing with the text genres in question 12. That



is, they selected a more creative approach for literary and marketing texts and a more uniform approach for scientific, legal and technical texts. Nonetheless, it was interesting to see that there were some deviations. A possible explanation is that the participants themselves are unsure whether they consider the translation process as creative. This would not be surprising because as discussed in subsection 2.3., the views in translation studies on this topic are contradictory. On the other hand, the reason could also lie in the abstractness of the question, which does not provide a specific sample text for each genre.

This is why questions 15 and 16, which do feature specific examples, provide very important additional information. They allowed me to test whether students would generally remain consistent in their choice of translation method, based on the answers they chose. Judging from the results, it appears that when in question 15 students are given concrete examples of STs but are asked to choose an overall translation approach rather than a specific translation, all BA students chose the “textbook answer”. That is, they chose the adaptive method (cf. Tbl.4) which according to the functionalist theory (Reiss, 1971/2000) on which the answers are based is the recommended approach for operative text types.

Based on the diversity of their answers (cf. Tbls.5 and 6), MA students seem to be less biased by theory, which could be due to the fact that nearly half of them had additional translation experience outside of university context (Tbl.7). Or perhaps some of them have a different academic background and are thus not as familiar with or inclined to abide by translation theories as much as BA students are.

In question 16, in which both source text and target text options are concrete, MA as well as BA students show more variety in their approaches, with some even choosing a plain prose method (Tbl.6), which is characterised with the lowest level of creativity and is usually reserved for informative text types such as encyclopaedias, instruction manuals etc. However, in both questions, the identifying and adaptive method, which involve a higher level of creativity were chosen more frequently than the plain prose method. This leads me to believe that when translating without the aid of a CAT tool, students are inclined to look between the lines in order to identify the purpose of the ST. They then aim to replicate this purpose as much as possible through their translation approaches, which in the case of questions 15 and 16 meant opting for a more creative approach. However, this tendency is not

unanimous, which can be due to lack of experience, as nearly half of the participants had only 1-6 months of experience in using CAT tools (cf. Tbl. 8), and many of them had only translated up to 5 texts with the software's aid (cf. Tbl.9). Another explanation could be that the neutral opinions are suggestive of a sense of uncertainty as to whether creativity is desirable in translation.

## 5.2. CAT tools-related data

This section will be dedicated to discussing data in relation to my second research question, which aims to reveal the impact of CAT tools on creative translation as perceived by students. The results show that CAT tools are advantageous in terms of improving efficiency and consistency (cf. Tbl.11) as well as facilitating the translation process (Tbl.10).

However, the data from Figure 11, Tables 12 and 23 suggest that CAT tools do indeed influence students' creativity and do so in a detrimental way.

Moreover, most students are unsure of whether they enjoy using CAT tools (Fig.9) and 64% of respondents stated that they would rather handwrite/type translations on their own than use a CAT tool (Fig.10).

This could be due to a desire to distance oneself from the limiting

influence of CAT tools on one's perception of texts and creative energy. The most insight in this respect comes from the two open-ended responses to question 13a, which enquires how the level of creativity in the translation process has changed as a result of using CAT tools. The responses detail that CAT tools contribute to a better understanding of the text's overall message and structure and save up on time that can be used to create a more fluent text in the post-editing phase. However, it is stated that the sentence-based segmentation of CAT tools, combined with the TM matches result in a ST-biased sentence structure and a "recycling" of constructions from old translations in new translations. It is also mentioned that CAT tools can prevent one from "getting to grips/getting a feel of the text" like they would do if they were reading through the text during the initial translation stage. That is said to be mostly problematic for literary and marketing texts, however.

### 5.3. Limitations of study and suggestions for further research

It should be kept in mind that the survey for this study was conducted within a limited timeframe (1 month) and with a limited pool of

participants (25). The survey sample is therefore much smaller in comparison to the study's population (all BA and MA translation students in the UK) and unfortunately, since the survey was anonymous, there is no way of knowing how many academic bodies are represented through the responses. Although I hope that my findings are representative of the general tendencies in the population, this can only be confirmed through similar research with a larger pool of participants. Examples of research questions that can be addressed in order to build up on the results of this study and get more detailed results are whether certain CAT tools limit creativity more than others, what strategies students use to decide between accepting the TM matches or creating a new translation and whether CAT tools could be compatible with "creative" text genres i.e. literary texts.

## 6. Conclusion

To sum up, the survey results prove that the introduction of CAT tools has had a big impact on various aspects of the translation process, including the levels of creativity present. CAT tools help increase the speed of translation and decrease the cognitive load, but they also have an impact on how the text is perceived and translated. The "recycling"

principle of TM matches leads to the consistency of the final products and in turn the discouragement of new creative forms. Although not always readily apparent, creativity can be considered a part of every translation process, simply as a result of the transition between two different languages with their unique sets of vocabulary, grammar, syntax and semantics. Admittedly, text types which require a lower level of creativity are less affected by the detrimental impact of CAT tools on creative translation. Nonetheless, it is crucial to note that the main reason why CAT tools were invented was because the human element is in fact indispensable when it comes to translation. In this respect, I agree with Jean Delisle's statement that "[t]he most distinctive trait of human translation is its creativity, for translation involves choices that are not determined by pre-set rules" (Delisle in Mackenzie, 1998:201). Therefore, it is only natural to assume that with the introduction of pre-set elements such as the results from TMs will impact translators' creative energy. My results seem to suggest that my hypothesis, namely that CAT tools have a detrimental effect on creativity and that students perceive creativity as an important aspect of translation, might be true. However, a more definite conclusion could have been reached had not so

many participants decided to remain neutral on questions that asked them about the impact of CAT tools on their creative energy. This study reveals the need for the topic of creativity to be explored further in translation studies in order for a clearer position to be developed of the role of this creativity in translation. More research also needs to be done on the TCI with regards to students, which should be made aware of the ways in which the technological intervention of CAT tools can influence the way they translate. This is important as with the advancement of CAT tools it is very much possible that their influence will become the norm, which would lead to uniformity and lack of variety in translations. As a result, translations would reflect the individuality of the translator less than ever, equating their work to an upgraded version of a machine translation system.

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# Appendices

## Appendix A: Copy of the online survey

### The impact of CAT tools on the creativity of translation students

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#### Page 1: Page 1

This is an anonymous survey conducted by Elina Todorova, final year Bachelor student at Newcastle University. All information provided will be held confidential and will not be disclosed to third parties. The gathered data will only be used for academic purposes. By submitting this survey you consent to your data being processed as described above.

This questionnaire should not take more than 10 minutes to fill out. The survey is targeted at Bachelor's and Master's students on translation courses in UK universities. Its overall aim is to investigate students' opinion on whether working with translation software (CAT tools) influences their creative energy and if so, whether they perceive this influence as rather positive or negative.

1. How old are you?

2. Are you a native English speaker?

- ☐ Yes  
☐ No

3. What is your degree level?

- ☐ Bachelor's  
☐ Master's

4. Which CAT (computer-assisted translation) tool(s) do you use as part of your studies? Select all that apply.

- ☐ SDL Trados
- ☐ Memsource
- ☐ memoQ
- ☐ Wordfast
- ☐ Other

5. How long have you been using a CAT tool?

- ☐ Less than 1 month
- ☐ 1-6 months
- ☐ 7-12 months
- ☐ Over 12 months

6. How often do you work with a CAT tool as part of your studies?

- ☐ Daily
- ☐ Several times per week
- ☐ Once per week
- ☐ At least once per month
- ☐ Less than once per month

7. Do you use CAT tools for any other work outside of university context (e.g. freelancing)?

- ☐ Yes
- ☐ No

8. How many texts have you translated with a CAT tool so far?

- ☐ None
- ☐ 1-5
- ☐ 6-10
- ☐ Over 10

9. How easy do you find it to use the basic functions of CAT tools (creating and using term bases and translation memories, performing quality checks etc.)?

- ☐ Very easy. I rarely struggle with using the basic functions.
- ☐ Fairly easy. I sometimes struggle with using the basic functions.
- ☐ Not very easy. I often struggle with using the basic functions.
- ☐ Not easy at all. I almost always struggle with using the basic functions.

This part of the survey uses a table of questions. [View as separate questions instead?](#)

10. On the scale from 1 to 5 (1=very useful and 5=not useful at all) how would you rate the overall usefulness of CAT tools in facilitating your translation process?

	1	2	3	4	5	
Very useful	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Not useful at all

11. Which types of translations do you use/have you used CAT tools for **most often**?

Please select exactly 1 answer(s).

- ☐ Literary
- ☐ Marketing
- ☐ Scientific
- ☐ Technical
- ☐ Medical
- ☐ Legal
- ☐ Other

This part of the survey uses a table of questions, [view as separate questions instead?](#)

12. On the scale creative to uniform (explanation below) how would you rank your translation approach for the following text types:

creative – reoccurring words, phrases and expressions are usually not translated in the same way (except for product names, proper names etc.) in order to make the text more varied and interesting for the reader. It is more important to convey the overall meaning of the source text rather than preserve the original wording.

uniform – reoccurring words, phrases and expressions are usually translated in the same way in order to keep the text consistent. It is more important to preserve the original wording of the source text rather than convey its overall meaning.

This part of the survey uses a table of questions, [view as separate questions instead?](#)

a. Literary

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform

This part of the survey uses a table of questions, [view as separate questions instead?](#)

b. Marketing

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform

This part of the survey uses a table of questions, [view as separate questions instead?](#)

c. Scientific

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform

This part of the survey uses a table of questions, [view as separate questions instead?](#)

d. Technical

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform

This part of the survey uses a table of questions, [view as separate questions instead?](#)

e. Medical

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform

This part of the survey uses a table of questions, [view as separate questions instead?](#)

f. Legal

	1	2	3	4	5	
Creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Uniform



13. Do you feel like working with a CAT tool changes the level of creativity in your translations?

- ☐ Yes, definitely.  
☐ Yes, somewhat.  
☐ Not a lot.  
☐ Not at all.

This part of the survey uses a table of questions, [view as separate questions instead?](#)

14. Based on your experience how would you answer these statements :

	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree
I prefer handwriting/typing translations on my own rather than using a CAT tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I often do not know what to do next when using a CAT tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoy using a CAT tool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CAT tool I work with saves me a lot of time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CAT tool I work with impedes my workflow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CAT tool I work with helps me be more consistent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CAT tool I work with limits my creativity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The CAT tool I work with supports or increases my creativity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using a CAT tool has no impact on my creativity in general.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. If translating a poster that contains a play on words such as in the examples below, given the choice, which of the listed translation approaches are you most likely to opt for:



© Lnsplration - <https://www.redbubble.com/people/Inspiration/works/24937412-seal-of-approval>



© HandsOffMyDinosaur - <https://www.handsoffmydinosaur.com/puns/>

- ☐ A literal translation of the source text that respects the target language grammar
- ☐ An idiomatic expression in the target language that conveys the same underlying message as that of the source text but is not connected to the image
- ☐ A translation that conveys a different message than that of the source text but is connected to the image

16. The poster below is from a billboard campaign of the Bulgarian Association of Motor Vehicle Collision Victims (BAZK). Consult the literal translation provided below and then choose what you think is the most appropriate translation option. You can also suggest another translation if you are not satisfied with the given options.

Literal translation: Drive on calmly. We will keep these\* safe for you until you get there.  
\*these refers to the bottles and glasses of alcohol that the octopus is holding



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- ☐ You only have two hands. Keep them on the wheel!
- ☐ Drive safely! We will keep an eye on these until you get there.
- ☐ The pint can wait. The ambulance can't!
- ☐ Other

Finish ✓

## Appendix B: Copy of the contact details page from the survey

### The impact of CAT tools on the creativity of translation students

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#### **Contact Us**

For questions relating to this survey, please contact Elina Todorova  
([e.todorova@newcastle.ac.uk](mailto:e.todorova@newcastle.ac.uk))

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