Dominant-language Use in Foreign-language Academic Writing Processes: Are Translation Students at an Advantage?

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Abstract The present pilot study compares the use of the native language during foreign-language writing processes of two students enrolled in a Translation degree program to that of two students enrolled in an English Language and Literature degree program who had not received training in translation or interpreting. Across a range of sub-processes of source-based academic writing, native language use was found to be more frequent in the Translation students' than in the English students' think-aloud protocols. Possible relationships between the participants' patterns of language use and their academic socialization are discussed, as well as the potential that native language use in foreign-language academic writing processes can have to help students improve their foreign-language texts.

Keywords cognitive fixedness, idiolect, interference, L2 academic writing, switching costs, translation competence, writing competence development

1 Introduction[1]

Universities across Europe have dramatically increased the number of available bachelor's and master's programs that use English as the dominant or even sole medium of instruction rather than the respective European national languages. For instance, the number of degree programs at the bachelor's level offered at German universities taught partly or even wholly in English has increased from 221 to 254 from 2018 to 2020, the number of English-language programs at the master's level from 1,168 to 1,354 in the same time span (DAAD 2018, 2020). Against the backdrop of this move toward English-medium instruction (EMI), it can be questioned whether university courses in which students are expected to refrain from using any language other than English sufficiently foster students' ability to make the best possible use of their entire linguistic repertoire for learning purposes.

When students suppress their native and/or dominant language as well as other languages in favor of English, this may have at least two detrimental effects. First, students who have

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acquired their academic knowledge and the ability to communicate this knowledge solely in English might encounter serious challenges when they try to integrate themselves into a workplace where English is not the dominant medium of communication. Second, overburdening students with the challenge of having to acquire discipline-specific knowledge and communicative conventions in a foreign language that they may not be sufficiently proficient in might overtax students' cognitive resources and seriously impede students' knowledge acquisition processes, endangering their educational success (cf. Göpferich 2016: 14). This is particularly troublesome for the specific case of the acquisition of academic writing skills, since scholars argue that one of the most important functions writing can fulfill in the context of education, apart from documenting and reproducing information, is the "knowledge-constituting" (Galbraith 1999: 140) or "epistemic" (Bereiter 1980: 88, cf. Göpferich 2015a) function. This function allows students to structure their thoughts and knowledge in a more coherent and precise manner, to identify and remedy gaps and inaccuracies in their understanding, and to establish new connections between ideas or develop original ideas during their writing processes (Göpferich 2016: Section 2.2). One may wonder whether

> the requirement to write – as well as to comprehend and to think – in English as a foreign or second language leads to semantic and argumentative losses and hampers the epistemic function of writing and thus, ultimately, cognitive development resulting from writing. (Göpferich 2015b: 221)

Accordingly, forcing non-native speakers of English to complete the entirety of their academic writing tasks exclusively in English, rather than allowing for native and/or dominant language use during the writing processes, e.g., for monitoring and reflective sub-processes of writing, can have detrimental effects on the epistemic benefits students could derive from writing. Such detrimental effects have already been documented in Silva (1992: 33 f.), where graduate students interviewed about the difficulties they experienced when writing in English rather than in their native and/or dominant language (henceforth L1) admitted to omitting ideas from their foreign-language texts since they felt they were unable to express these ideas appropriately in English. The students also disclosed that they expressed their ideas less precisely in their foreign language (henceforth L2) than they would be able to in their L1 and that writing in the L2 rendered their writing processes more cumbersome, thereby making their texts less precise and sophisticated than their texts in the L1. Also, Sasaki (2000: 277) compared the L2 English writing processes of 12 Japanese writers with different levels of English proficiency and observed that only the more proficient L2 group engaged in sophisticated "rhetorical refining" and was able to include more global planning activities in their L2 writing processes. By contrast, the less proficient group tended to limit themselves to local, cognitively less demanding planning (Sasaki 2000: 277, cf. Göpferich 2015b: 224).

These observations warrant the assumption that discouraging the use of their L1 in L2 writing processes may hinder students from complying with higher-order task demands in academic writing and reduce the epistemic benefits that students can derive from academic writing tasks. A possible remedy might be to encourage L1 use for sub-processes of writing such as *structuring* or *monitoring* the writing process. In line with Göpferich (2015a: 27), one may argue that allowing or even encouraging students to use their L1 during specific phases of L2 writing processes could help them reduce the cognitive load involved in L2 academic writing. Even for sub-processes of writing that involve not only structuring or monitoring, but

also formulating text, the L1 could be used to articulate one's ideas more precisely than one would be able to in the L2.[2] Göpferich (2017: 416) argues that, e.g., translating from the L1 into the L2 during L2 academic writing processes may provide cognitive relief and opportunities for writers to (a) become aware of gaps in their L2 competence, (b) check the precision and accuracy of their formulations by translating them back and forth between L1 and L2, and (c) increase writers' awareness of the structural differences between their L1 and L2. In a similar vein, Donahue (2019) suggests that

> [we] might study the effects of introducing more work on translation as a writing practice. We might study the practice of encouraging students to draft in whichever language(s) help them to construct knowledge the most easily and then rework the language in a later version, or to intentionally codeswitch or codemix in a final version. (Donahue 2019: 47)

Thus, bi- and multilingual writing practices, including translation, might be positioned as legitimate strategies in L2 writing processes.

While the increase of EMI courses in European tertiary education might make it appear that students' L1 are no longer considered an advantageous resource in the face of the academic *lingua franca* English, neglecting the full range of students' linguistic abilities in processes in which learning – and not communication – is the focus, might render students' writing and learning processes less successful and effective than they could be. In academic writing, the final text must adhere to the conventions of the academic community for which it has been composed. However, during the composition process, students might be encouraged to use whatever linguistic means necessary to evaluate sources and formulate their arguments. This would mean allowing students to employ their full *idiolects* as defined by Otheguy et al. (2015):

> An idiolect is for us a person's own unique, personal language, the person's *mental grammar* […], language viewed from the internal perspective of the individual, language seen separately from the external perspective of the society that categorizes and classifies named national languages […]. Idiolects are what exist *before* one introduces distinctions between national languages that forcefully shoehorn people's linguistically specified idiolects into culturally specified language categories. (Otheguy et al. 2015: 289 f.; emphasis in the original)

While drawing on the L1 component of their idiolects for preparing their L2 academic texts, students might be less distracted by difficulties associated with L2 writing. At the same time, however, L2 writers who have not had any training in translation or interpreting might experience standard interference phenomena when they use their L1 during their L2 writing processes (Göpferich 2015b: 233).

The present pilot study constitutes one element in the research portfolio of the PORTT research group (*Process-oriented Research into Translation and Text Composition*, at Justus Liebig University Giessen) which focuses its research activities on investigating academic trans- and multiliteracies and the challenges of English-medium instruction (EMI) (Lasagabaster 2018). Further PORTT studies explore, e.g., how students enrolled in language degree

[2] See also Kobayashi/Rinnert (1992), who documented higher rating for texts produced first in the L1 and then translated into the L2, than for texts produced directly in the L2.

programs who have not had training in translation or interpreting respond to courses in which multilingual writing strategies are fostered (Machura 2020). The present pilot study explores (a) the potential role that the L1 component of students' idiolects might play in their L2 academic writing processes, and (b) how translation and interpreting training intersect with L1 use in L2 writing processes. To investigate for which function and how successfully writers make use of their L1 during their L2 writing processes, two students of translation (TS I and TS II) and two students enrolled in an English Language and Literature degree program (ES I and ES II) were given an academic summary task and were asked to spontaneously verbalize everything that came to their minds while completing the assignment.

1.1 Literature review

The findings of several empirical studies suggest that students spontaneously resort to their L1 in L2 writing processes, and that switching from the L2 into the L1 might be an effective way to reduce cognitive load. Based on their documentation of L1 in student writers L2 writing processes, Van Weijen et al. (2009: 238) argue that "if writers experience cognitive overload due to the increase in task complexity that writing in L2 often entails, then it seems likely that they will revert to using their L1 for the most demanding activities". Similar observations are reported in Dengscherz (2020: 410) in case studies among bachelor students of transcultural communication, where students resorted to multiple languages during their writing processes as they saw fit. Also, Wang/Wen (2002: 229 ff.) observed that, in their participants' think-aloud protocols, L1 use dominated language-distant sub-processes of writing, such as *process-controlling*, *idea-organizing*, and *idea-generating*, while text-generating, i.e., the actual formulation processes, were completed almost exclusively in the L2. Thus, participants used their L1 to complete the language-distant sub-processes of writing in a cognitively less demanding manner, and the amount of L1 use in the L2 writing processes appeared to depend on the sub-process of writing: "The more the cognitive processing is related to the textual output, the less L1 is used in it" (Wang/Wen 2002: 240).

Unlike Wang/Wen (2002), Woodall (2002) reported not only the amount of L1 use in participants' think-aloud protocols (henceforth TAPs), but also the duration of the L1 use and the impact that resorting to the L1 in L2 writing process appeared to have on the quality of the L2 texts that the participants produced. Woodall (2002: 13) observed that the frequency of switches from the L2 to the L1 depended on the participants' L2 proficiency: Participants with intermediate L2 proficiency resorted to their L1 significantly more often than participants with advanced L2 proficiency. Most notably, reverting to the L1 during L2 writing processes was shown to have a positive impact on L2 text quality, but only under specific conditions. The quality of the participants' L2 texts increased the longer participants stayed in their L1 after switching from their L2. However, this held true only for participants who completed the L2 writing task in a language that was typologically related to their L1, e.g., English/Spanish as opposed to English/Japanese. Conversely, participants who completed the L2 writing task in a language that was not typologically related to their L1 produced texts that received lower scores the longer participants stayed in their L1 after having switched from their L2 (Woodall 2002: 15 f.).

While using the L1 in sub-processes of L2 writing processes might be beneficial for students' learning and writing processes, blended use of L1 and L2 during the writing processes may lead instructors to have to contend with typical problems associated with language

switching. Students might, e.g., find themselves temporarily unable to overcome cognitive fixedness[3] on the formulations they have found or produced in one of the languages. Also, students might experience interference between the languages in question. Göpferich/Nelezen (2014: 122 f.), for instance, asked six German undergraduates to produce first an L2 English popular science article based on longer academic texts that the students had already written in their L2 English. Subsequently, participants had to produce a German (L1) version of the English popular science article. In several of the error categories employed to assess the quality of both popular science articles, students committed a higher number of errors in the German than in the English versions. Göpferich/Nelezen (2014: 130) argue that this might have been caused by the participants' lack of translation competence, as the participants behaved like translation novices, who often commit interference errors and experience cognitive fixedness on source text formulations (Göpferich/Nelezen 2014: 130). Van Weijen et al. (2009), too, reported that using the L1 in L2 writing processes may have a negative impact on the quality of L2 texts. Van Weijen et al. (2009) asked 20 undergraduate students (L1 Dutch) to write four argumentative essays in their L2 English and to think aloud while doing so. When determining the amount of L1 use in each type of sub-process of writing, Van Weijen et al. (2009: 244) found a significant negative correlation between the amount of L1 use and the L2 text quality for the activity 'making metacomments': "[W]riters who make many Metacomments in their L1 while writing in their L2 wrote relatively poor quality L2 text." Van Weijen et al. (2009) did not report whether the participants had any experience in translation or interpreting or had ever received any training in translation or interpreting, a lack of which might explain the negative correlation between L1 use in metacomments in L2 writing processes and L2 text quality. Also, while certain sub-processes of writing may be less cumbersome in the L1 than in an L2, the switch from one language to another might in fact not reduce but instead increase the cognitive load writers experience at the moment of the switch (cf. von Studnitz/Green 1997, Meuter/Allport 1999, Ibáñez/Macizo/Bajo 2010). Thus, at least two potential disadvantages may need to be overcome if students want to resort to their L1 during L2 academic reading and writing processes: (a) cognitive fixedness and interference, and (b) temporarily increased cognitive load.

A possible remedy for these problems might be to foster students' translation and interpreting skills. Once a sufficient level of translation competence has been reached, students may make use of their full linguistic repertoire, i.e., all the languages that they find helpful in their thinking and writing processes without suffering the disadvantages of interference and cognitive fixedness (Göpferich 2015b: 233) and even without experiencing increased cognitive load when switching from one language to another (Ibáñez et al. 2010: 260). The ability to overcome cognitive fixedness and to resist interference can be fostered in students by giving them the opportunity to acquire translation competence. Thus, the present pilot study compares the writing processes of students with extensive training in translating and interpreting to the writing processes of students without such training.

[3] Cognitive fixedness can be defined as writers' temporal inability to distance themselves from lexical and grammatical structures in a source text in order to formulate the content in their own words (cf. Göpferich 2016: 23 f.).

1.2 Objectives of the present pilot study

First objective: optimizing previous experimental designs. Experimental designs that had already been applied in studies concerning the scope, function, and usefulness of L1 use in L2 writing processes (cf., e.g., Wang/Wen 2002, Woodall 2002) were adapted in several respects. First, unlike in previous studies, the participants' levels of translation and interpreting competence were taken into consideration as a possible factor that might influence the amount and effectiveness of L1 use in L2 writing. It was investigated whether students enrolled in a Master's degree program in Translation would make different use of their L1 resources in their writing processes based on an English academic article than students enrolled in an English Language and Literature degree program that rarely addresses the acquisition of translation or interpreting skills. The second optimization concerned (a) the type and scope of the writing tasks that participants had to complete, and (b) the coding scheme for identifying sub-processes of writing, since the optimized task description demanded a classification of sub-processes suited to source-based writing tasks. In a range of previous studies, participants had to complete writing tasks that were neither linguistically nor conceptually as demanding as the writing tasks that constitute academic writing. For instance, in Wang/Wen (2002: 229), 16 university students were asked to describe a *Father and Son* comic and to express their opinion on the usefulness of mobile phones. In Woodall (2002: 24 f.), 28 participants were asked to write a personal letter and to explain their position on gun control. Van Weijen et al. (2009: 239) asked university students to write essays on topics such as *compulsory organ donation* or *downloading music*. For the present context, the cognitive complexity of academic writing tasks was taken into consideration and a source-based L2 academic writing task was given to the participants. Based on this academic writing task, already existing coding schemes for determining the sub-processes of writing had to be adapted. Different coding schemes had been proposed, e.g., in Wang/Wen (2002: 232) and Van Weijen et al. (2009: 240). Neither of these writing schemes comprises codes for source-based writing processes that could be used to analyze the participants' reading and comprehension processes. Furthermore, neither of these coding schemes offers codes for translation activities. Also, neither of these coding schemes comprises categories for search processes on the internet as they occur during academic writing. Accordingly, a coding scheme that suited the purpose of the present pilot study was developed on the basis of the coding schemes presented in Wang/Wen (2002) and Van Weijen et al. (2009).[4] The third optimization concerned the method of determining the amount of L1 usage during verbalizations in L2 writing processes. Wang/Wen (2002: 231) suggested counting the words uttered in each language and then dividing the number of words in each language by the total number of words uttered. Such a word count is, however, problematic for the following reason: One and the same speech act may be verbalized in a more concise or in a more elaborate manner, as can be seen when comparing Examples [1] and [2], taken from the present participants' verbalizations. TS II in Example [1] was preparing to start a new paragraph in their text. The verbalization corresponds to the words the student was typing (see ① below). Then, the participant decided to delete the four words (see ② below).

[1] TS II summarizing the English article in English
<<types target text> ① at the last stage> ② äh entfernen [uh delete]

[4] For the complete list of codes in the present pilot study, see section 2.3.

In Example [2], TS I was revising a sentence (see ③). The student decided to use the noun *process* in one sentence, but to delete the verb *process* in the following sentence (see ④).

> [2] TS I summarizing English article in English
> <<reads target text> ③ process> ④ als Verb streiche ich weg [I am getting get rid of the verb]

While the word count between *entfernen* and *als Verb streiche ich weg* might differ, the act of deciding to delete previously produced text is the same in both Examples [1] and [2]. Since the types of speech acts performed in each language are more important than the number of words used to express each speech act, the present pilot study adapted the method employed in Van Weijen et al. (2009) for determining the amount of L1 use during the L2 reading and writing process, rather than counting individual words. Van Weijen et al. (2009: 240) divided their participants' TAPs into units and subsequently determined the percentage of TAP units that contained at least one L1 word. However, Van Weijen et al. (2009) did not differentiate between TAP units in which the L1 had been used as object language and TAP units in which code-switching occurred. This differentiation was adopted in the present context. Thus, an adapted version of Van Weijen et al.'s (2009) methodology was used in the present pilot study.

Second objective: investigating the potential usefulness of translation competence in L2 writing processes. Given the difference in translation competence between TS I/TS II and ES I/ES II, the second objective of the present pilot study was to discuss the following hypotheses:

- H1: The Translation students might make more extensive use of their L1 in their L2 reading and writing processes than the English students.
- H2: Switching to the L1 in order to reduce the cognitive load students experience during their L2 writing processes might enable participants to increase the quality of their L2 texts, but this pattern might differ between Translation students and English students.
- H3: Translation students might commit fewer errors resulting from cognitive fixedness or interference than participants who had received no training in translation or interpreting.

2 Experimental design

2.1 Participants

Two students enrolled in a Master's degree program in Translation at a German university and two students enrolled in an English Language and Literature degree program at a German university were recruited to participate in two writing sessions. All participants were native speakers of German and were required to have obtained at least 12 points[5] in the majority of their courses at university.

[5] In the German tertiary education system, course results are indicated using a point system spanning 15 points (e.g. 15 points = excellent, 11 points = good, 05 points = sufficient, 04 points = failed).

Table 1: The participants' characteristics

Participants / Parameters	Translation Student I	Translation Student II	English Student I	English Student II
Age (in years)	27	25	27	23
Sex	m	f	f	f
Native language	DE	DE	DE	DE
Degree course (not completed)	MA Translation	MA Translation	MA Anglophone Studies	Teaching degree program for secondary education
Years of learning English (secondary/tertiary)	13	13	13	14
Study abroad in an English-speaking country	no	yes	no	no
Foreign languages (self-assessment)	ES (C1[6])	FR (A1)	FR (B2)	FR (A1)
	EN (C2)	SV (A1)	EN (C2)	AK (C1)
		ES (B2)		EN (C1)
		EN (C1)		
Tertiary education degrees	BA Language, Culture, Translation	BA Language, Culture, Translation	BA Anglophone Studies	none
Translation experience in pages	DE – EN ≈ 300	DE – EN ≈ 250	DE – EN ≈ 5	
	EN – DE ≈ 300	EN – DE ≈ 250	DE – EN ≈ 5	
	ES – DE ≈ 100	ES – DE ≈ 150		none
	DE – ES ≈ 100	DE – ES ≈ 100		
	ES – EN ≈ 100			
Interpreting experience in hours	EN – DE ≈ 50	EN – DE ≈ 30		
	DE – EN ≈ 50	DE – EN ≈ 30	none	none
	ES – DE ≈ 20	ES – DE ≈ 30		
Academic writing experience in pages	Term papers: EN/DE ≈ 200	Term papers EN/DE ≈ 200	Term papers: EN ≈ 200	Portfolio ≈ 30
			Term papers DE ≈ 100	Term papers ≈ 60
			Reflective writing: EN ≈ 50	languages not specified
			BA thesis EN ≈ 40	

[6] Students were asked to self-assess their proficiency using the Common European Framework of Reference for Languages (CEFR).

2.2 Data collection

The researcher selected an English academic article in which a model of the development of writing skills is presented and the genesis of the model is explained (Bereiter 1980). For the writing sessions, the researchers designed a shortened version of the article so that the reading process during the sessions would not be too time-consuming. The abridged version of the text was 5,000 words long and comprised a complete illustration of the model in question as well as the entire list of references.

In the writing sessions, the participants were requested to summarize the components of the model and the specific relationships between the components for inclusion in a commented bibliography devised for the English department the participants were enrolled in. In one of the writing sessions, participants were requested to write their text in English, in the other, they were asked to write their text in their L1 German.

Task description for summarizing the English article in English**:**
Imagine that your Department plans to provide its lecturers with a commented bibliography on foreign-language teaching. This bibliography will contain bibliographical information on articles in which models are described that are made use of in foreign-language teaching and research. For each bibliographical reference, your Department plans to include a short summary of the corresponding model. In the scholarly article for today's assignment, one of these models is discussed, Carl Bereiter's model of writing development.

Please summarize the model presented in the article. In doing so, please do not only address the components of the model but also the patterns of human development that the model proposes. Your summary should be a self-contained text that the editors will only have to format in accordance with the bibliography's editorial guidelines.

While you are composing your text, please verbalize, loudly and spontaneously, everything that comes to your mind, in whatever language.

Once you have finished your text, please hand the article and any other notes and drafts you might have produced to the researcher.

The length of your text: max. 350 words
The language of your text: English
Permitted resources:

- *the article "Development in Writing"*
- *any online resources, e.g., dictionaries and figures*
- *Prohibited resources:*
- *summaries or explanations for the article or the model in question*

Time: You can take as much time as you need.
SAVE your document!
Thank you very much!

This task description fulfills two central requirements for meaningful writing assignments specified in Bachmann/Becker-Mrotzek (2010: 195), i.e. that (a) the communicative function and the target audience should be specified, (b) the necessary content and genre knowledge should be accessible.

There were at least seven days between the writing sessions (mean = 9 days) so that participants would not have a clear recollection of the model in question.[7] Participants were asked

[7] During the final retrospective interviews, all participants confirmed that, although they realized that the

to verbalize absolutely everything that came to their minds in whatever language while reading the article and writing their summaries. The participants' utterances and their activities on the screen were recorded with CamtasiaStudio8™. After the second writing session, a retrospective interview was conducted with each of the participants in which they were asked to reflect on the experimental setting, the text they had to work with, and their language practices in their university education.

2.3 Rating and coding

For the pilot study, the following data were analyzed: Eight summaries (four in English, four in German) and the participants' TAPs from the writing sessions in which the participants produced the English summaries. The utterances made by the four participants during the writing sessions were transcribed in accordance with GAT conventions (Selting et al. 1998).

In total, three raters, including the researcher, were involved in the preparation and completion of the text quality assessment and the coding of the participants' TAPs. Based on the article by Bereiter (1980) and the model's illustration that was also available to the participants, rater 01 and the researcher identified 10 pieces of information[8] that had to be included in the final summaries for them to be complete descriptions of the model in question. The researcher produced two model summaries, one in German and one in English, which were assessed by rater 01 and subsequently optimized by the researcher. Based on the abridged article that the students had to work with, the 10-idea checklist, and the two model summaries, the researcher assessed the eight summaries for completeness, accuracy, and precision. For each relevant idea, the researcher awarded one point. If ideas were included in an incomplete manner, 0.5 point was awarded. The researcher also determined the number of incorrect and superfluous pieces of information in the summaries.

Example [3] is a passage from the English summary produced by TS II. This passage was awarded a full point since it contains the characteristics that define the stage of writing development Bereiter (1980) terms *Communicative Writing*:

> [3] TS II summarizing the English article in English
> The next stage, *Communicative Writing*, can be achieved [sic] once people know in which way their writing may affect their audience. This system skill [sic] to take [sic] the reader into consideration is called social cognition.[9]

In contrast, Example [4] is a passage from the English summary produced by TS I. For this passage, the participant was awarded 0.5 point since an explanation of the kind of writing that writers are capable of once they have sufficiently developed their ability to think critically was missing. Instead, the participant had merely copied fragmented formulations from the source text.

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text they had to summarize appeared familiar to them, they did not remember what they had written down in the previous writing session and that they had to read the article again in order to produce the second summary.

[8] The complete checklist of ideas can be found in the appendix.

[9] During the assessment of completeness, the grammatical correctness was not taken into account.

[4] TS I summarizing the English article in English
At last [sic], epistemic writing is described as a form of writing where reflective thought about the written contend [sic] is integrated into the skills [sic] required for unified writing.

In Example [5], ES II erroneously presented the title of Schaeffer's developmental model of *hierarchic skill integration* as the title of Bereiter's (1980) model of writing development. This was counted as one inaccurate piece of information.

[5] ES II summarizing the English article in English
Carl Bereiter introduces in his model [sic] "hierarchic skill integration" six different skills or knowledge systems that can be identified in matured [sic] writing.

In Example [6], ES II included information in the summary that was contained in the text the participants had to work with, but that was not relevant for a complete description of the model in question, since it does not matter in which institutional setting developing writers progress through the stages of writing development.

[6] ES II summarizing the English article in English
Each of these skills are integrated with five writing stages [sic] (a-e) which can be acquired [sic] during a learner's writing development in school.

Accordingly, this was counted as one piece of superfluous information.
In order to determine the amount of L1 use per sub-process of writing in the participants' TAPs, the TAPs were subdivided into units. The following phenomena were used as indicators of unit boundaries (indicated in Examples [7] and [8] by "/"):

1. Pauses equal to or longer than 3 seconds[10]
2. Pauses shorter than 3 seconds in combination with hesitation phenomena, such as *uhm*
3. Non-verbal cues such as laughing, coughing, or sighing
4. Switches from one sub-process of writing to the next, e.g., from reading the source text to typing
5. Switches from one speech act to the next, as in Example [7], where, in the first unit, the participant asks a question and in the second unit, provides an answer.

   [7] TS II summarizing the English article in English
   drückt es das aus was ich will / ich glaube schon [does that express what I want to say / I think so]

6. Switches from one idea to the next, as in Example [8] where, in the first unit, the participant is concerned with the definition of one of the stages of writing development and in the next unit decides to leave the text as it is.

   [8] TS II summarizing the English article in English
   ist das eine stage / ja ich lasse es [is that one stage / yes I will keep it]

[10] Scholars investigating the pausing patterns in writing processes, such as Van Waes/Leijten/Van Weijen (2009: 5), suggest thresholds of either 1, 2, or 5 seconds. While 1 or 2 seconds seemed to be excessively short, 5 seconds appeared to be excessively long. Consequently, 3 seconds was chosen.

The range of sub-processes defined for the present context can be seen in Table 2. The individual TAP units illustrating the respective sub-processes are indicated in grey. Pauses are indicated in parentheses, e.g. (59). Pauses shorter than 3 seconds are indicated as (.).

Table 2: Codes for sub-processes of source-based writing

CODE	DESCRIPTION	EXAMPLE
Task monitoring	Utterances concern one of the following topics: the task description the individual steps of the writing process the temporal order of the individual steps of the writing process	(5) let's see what this text is about (59) (7) how many words can I add some 30 words okay (.) uh (.) that is stupid I will look it up later (.)
Idea-selecting	Choosing ideas from the text without formulating them for the summary	(.) mh I will add communicative function yes (8) okay äh (.) yes that connection is important for the model (5) (.) that is important but is not part of the model
Formulating	Formulating phrases for the summary **without** simultaneous typing and **without** simultaneous note-taking	i could say (.) developing writers who lack (.) who lack (7) äh (.) entwickeln sich stufenweise (types) ich mach das später auf Englisch [They develop step by step. I'll do that in English later.] (6)
Self-dictating	Saying out loud what is being typed simultaneously, speaking and typing matched in speed	
Comments on source text		
Language	Utterances concern formulations in the source text.	(3) didn't they use that other verb there (11) (7) they already expressed this so well (4)
Content	Utterances concern the ideas presented in the source text. The writers paraphrase ideas in the source text without selecting the ideas for the summary.	(6) what follows are the different forms of organization die stufen (6) (8) so that means that there are not enough mental resources in children (6) this model is like the one by the other guy (.) or what
General	Utterances concern the source text in general without clear indications as to whether the utterances concern the content or the language in the text.	(6) I like that (19) (16) the details listed here are a little all over the place (.) uh that is just as earlier in the text he said the same earlier okay

CODE	DESCRIPTION	EXAMPLE
Comments on summary		
Language	Utterances concern formulations in the summary.	(8) how do you spell that (9) (7) I could say (.) developing writers who lack (4) uh (3) why does word say that this isn't right (6)
Content	Utterances concern the ideas included in the summary.	(.) uh (.) have I already mentioned this yes i have (.) mh (.) okay the relationship is correct because it is one and the same stage
General	Utterances concern the summary in general without clear indications as to whether the utterances concern the content or the language in the text.	(types) gosh that is stupid (types) (types) I do not like this (types)
Translating	Formulating an idea in one language or reading a phrase from the source text, then formulating an equivalent in another language	(.) here it says develop independently also entwickeln sich unabhängig (5) konzentrieren sich auf focus on konzentrieren concentrate on
General comments	Comments without clear textual input and without clearly identifiable input. Utterances that are not specific to reading or writing.	(yawns) why am I already tired (9) I guess I will take a sip (drinks)
Addressing the researcher	Questions and comments directed at the researcher	can I do it like that (10) yes I will leave it like that
External search		
Typing	Typing items, e. g., in an online dictionary	(consults net, www.pons.de) auto automatisieren okay
Commenting	Assessing items from the list of results	(.) mh I don't like automated really (.) mh (16) no that is not right that is not what I want (19)
Unclassifiable	Utterances that cannot be clearly categorized	(17) mhmh okay (12) but I wanted (17) I see mh (4)

To code the sub-processes of source-based writing in the participants' TAPs, rater 03 received the complete list of codes listed in Table 2 with explanations and examples. Rater 03 then coded the entirety of a 50-min writing session that was not part of the present data set and was given feedback on the coding by the researcher. Subsequently, rater 03 and the researcher independently coded the entire 100-min writing session of TS II summarizing the English arti-

cle in English. The raters' codings were in agreement for 75 % of all units.[11] Based on feedback from rater 03, the researcher coded the remaining writing sessions alone.

In order to determine the amount of L1 use in L2 writing, three categories of language use were defined in the present pilot study. Units in which the participants used only their L1 and in which English appeared only as object language were coded as 'German'. Units in which the participants used only the L2 were coded as 'English'. Finally, units in which the participants used both, the L1 and the L2, without either one being object language, were coded as 'mixed', as in Example [9].

[9] TS II summarizing the English article in English
diese systems führen ja zu den stages [these systems do lead to the stages]

In this example, the participant did not use the L1 to think about L2 terms, but used L2 lexemes in an L1 sentence while considering different concepts from the article in question.

3 Results and discussion

In the following sections, the four participants' patterns of L1 use in their L2 writing processes are described. Possible relationships between the participants' patterns of language usage and the quality of their final texts will be discussed.

3.1 Resorting to the native language in foreign-language writing processes

Table 3 shows to which extent the four participants used German and English for the different sub-processes of L2 writing. Of all the sub-processes of writing defined for the present purpose, only those sub-processes are included in Table 3 in which the English students behaved unlike the Translation students.

Table 3: Language usage in the sub-processes of writing

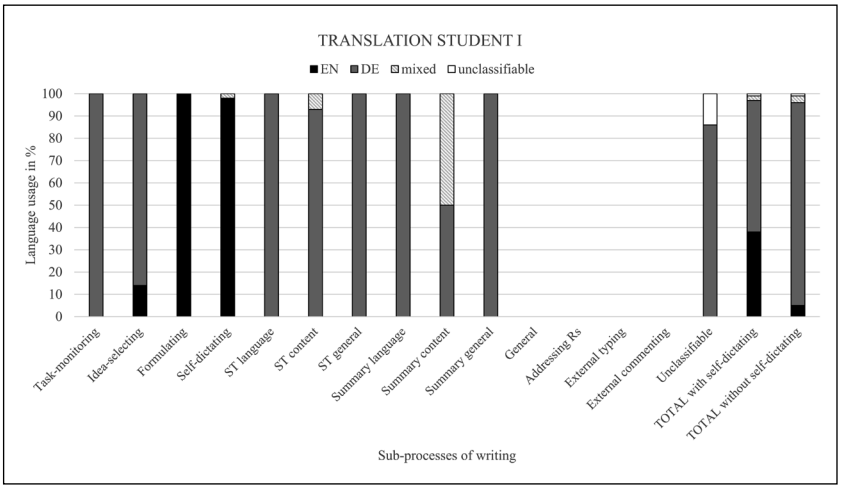
Participants / Units	**Translation Student I**	**Translation Student II**	**English Student I**	**English Student II**
Total number of units[12]	180	540	387	607
Task-monitoring	DE: 100 %	DE: 100 %	EN: 86 % DE: 7 % mixed: 7 %	EN: 3 % DE: 96 % mixed: 1 %
Idea-selecting	EN: 14 % DE: 86 %	EN: 5 % DE: 67 % mixed: 28 %	EN: 79 % DE: 18 % mixed: 3 %	EN: 55 % DE: 17 % mixed: 28 %

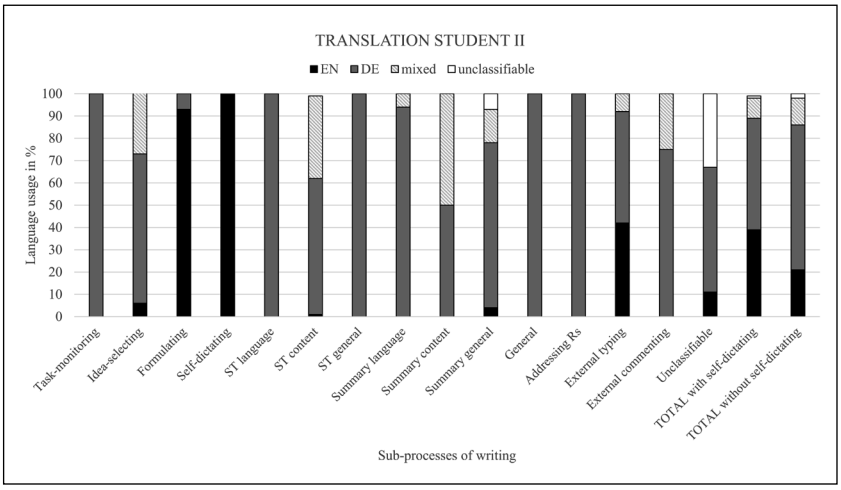
[11] For future applications of the coding scheme, the explanations and examples will be optimized in order to increase interrater agreement.

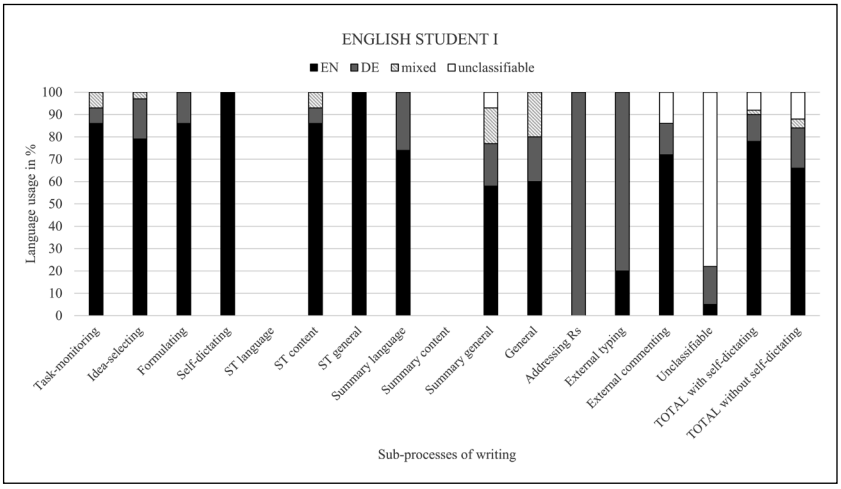
[12] This total number of units represents all units identified in the participants' TAPs, except utterances in which the participants were merely reading out loud.

Participants / Units	**Translation Student I**	**Translation Student II**	**English Student I**	**English Student II**
ST content	DE: 93 % mixed: 7 %	EN: ≈ 2 % DE: 61 % mixed: 37 %	EN: 86 % DE: 7 % mixed: 7 %	EN: 33 % DE: 43 % mixed: 24 %
ST general	DE: 100 %	DE 100 %	EN: 100 %	EN: 4 % DE: 83 % mixed: 13 %
Summary language	DE: 100 %	DE: 94 % mixed: 6 %	EN: 74 % DE: 26 %	EN: 5 % DE: 90 % mixed: 3 % unclassified: 2 %
Summary content	DE: 50 % mixed: 50 %	DE: 50 % mixed: 50 %	/	EN: 14 % DE: 72 % mixed: 14 %
General	/	DE: 100 %	EN: 60 % DE: 20 % mixed: 20 %	EN: 9 % DE: 91 %
Addressing researcher	/	DE: 100 %	DE: 100 %	DE: 97 % EN: 3 %
External commenting	/	DE: 75 % mixed: 25 %	EN: 72 % DE: 14 % unclassified: 14 %	EN: 13 % DE: 87 %
TOTAL with self-dictating	EN: 38 % DE: 59 % mixed: 2 % unclassified: 1 %	EN: 39 % DE: 50 % mixed: 9 % unclassified: 2 %	EN: 78 % DE: 12 % mixed: 2 % unclassified: 8 %	EN: 33 % DE: 59 % mixed: 4 % unclassified: 4 %
TOTAL without self-dictating	EN: 5 % DE: 91 % mixed: 3 % unclassified: 1 %	EN: 21 % DE: 65 % mixed: 12 % unclassified: 2 %	EN: 66 % DE: 18 % mixed: 4 % unclassified: 12 %	EN: 19 % DE: 71 % mixed: 5 % unclassified: 5 %

In contrast to Table 3, which comprises only the sub-processes of writing in which the English students behaved unlike the Translation students, Figure 1 illustrates the percentages per language category for each of the sub-processes of writing as detailed in Table 2 for each of the four participants.


TRANSLATION STUDENT I
EN
DE
mixed
unclassifiable
Language usage in %
100
90
80
70
60
50
40
30
20
10
0
Task-monitoring
Idea-selecting
Formulating
Self-dictating
ST language
ST content
ST general
Summary language
Summary content
Summary general
General
Addressing Rs
External typing
External commenting
Unclassifiable
TOTAL with self-dictating
TOTAL without self-dictating
Sub-processes of writing


TRANSLATION STUDENT II
EN
DE
mixed
unclassifiable
Language usage in %
100
90
80
70
60
50
40
30
20
10
0
Task-monitoring
Idea-selecting
Formulating
Self-dictating
ST language
ST content
ST general
Summary language
Summary content
Summary general
General
Addressing Rs
External typing
External commenting
Unclassifiable
TOTAL with self-dictating
TOTAL without self-dictating
Sub-processes of writing


ENGLISH STUDENT I
EN
DE
mixed
unclassifiable
Language usage in %
100
90
80
70
60
50
40
30
20
10
0
Task-monitoring
Idea-selecting
Formulating
Self-dictating
ST language
ST content
ST general
Summary language
Summary content
Summary general
General
Addressing Rs
External typing
External commenting
Unclassifiable
TOTAL with self-dictating
TOTAL without self-dictating
Sub-processes of writing

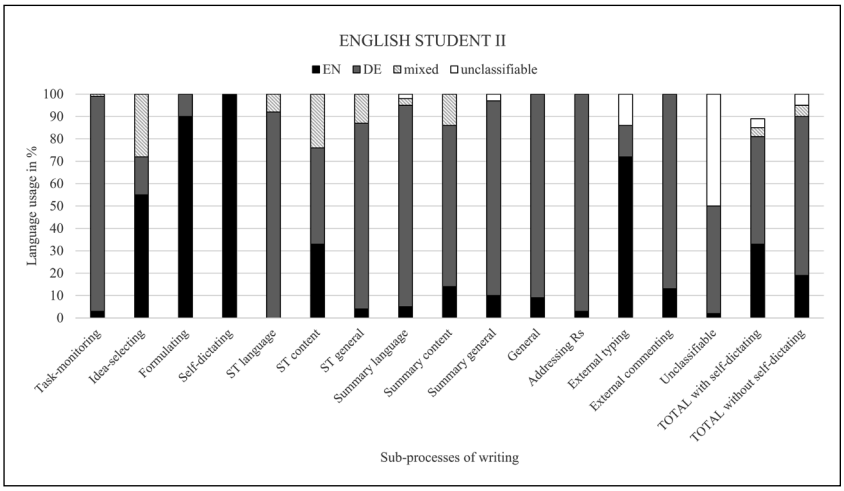


Figure 1: Language usage in sub-processes of writing (TS I, TS II, ES I, ES II)

Although the task description and the academic article were in English and the participants were required to write an English-language text, both TS I and TS II used their L1 German in the majority of the units identified in their TAPs. Not surprisingly, *self-dictating* and *formulating* occurred almost entirely in English, the language of the final summary. However, in three out of 15 relevant categories, the Translation students used no other language than their L1 German. These three are (a) *task-monitoring*, (b) *commenting on the language of the article*, and (c) *making general comments on the article*. TS I used only German in 95.0 % of the utterances made about the English academic article and in 98.0 % of the utterances concerning the English summary. TS II exhibited a similar behavior: The student commented only in German when speaking about the language of the source text and about the source text in general. Also, 94.0 % of the comments made by TS II about the language of the English summary were made in German. For *task-monitoring*, the reliance on the L1 by TS I and TS II was not unanticipated as Wang/Wen (2002: 240) reported a similar observation: In their study, participants had relied heavily on their L1 for *process-controlling* and less so for more language-close sub-processes of writing.

In the present pilot study, ES I and ES II behaved unlike TS I and TS II. In only two out of the 15 sub-processes of writing, i.e., when addressing the researcher to ask for clarifications and when looking up terms in online dictionaries, ES I resorted more often to her L1 than to English. In all other sub-processes of writing, English was the dominant language in ES I's utterances. ES II, like ES I but unlike the Translation students, resorted more often to the foreign language English (55.0 %) than to the native language German (17.0 %) when selecting ideas for the summary. While this may be the only sub-process of source-based writing in which ES II used English more often than German, there are a range of sub-processes in which ES II resorted to both English and German during the writing process while the two Translation students used only their L1 German and did not use English at all. For the sub-processes of *task-monitoring*, *commenting on the language of the English source text*, and *commenting on the English source text* in general, both TS I and TS II used only German, while ES II also used English. For *comments on the language of the summary* and *on the summary in general*, TS I

used only German, while ES II also used English. In *general comments* and when *addressing the researcher*, TS II used German exclusively. In contrast, ES II also used English in *general comments*. Additionally, ES II was the only participant to ever address the researcher in English, despite both of them being native speakers of German.

Thus, there appears to be a relationship between the participants' language usage during L2 academic writing processes and the linguistic habits of the academic communities in which the participants were socialized. For instance, in the retrospective interview, TS II described the ratio between the academic courses they had taken in German versus those in an L2 at the department in which the student was enrolled as follows:

> [10] TS II in the retrospective interview
> Gerade wenn es um Kulturwissenschaft und so geht, ist das Meiste schon auf Englisch, dann muss man auch auf Englisch sprechen, man muss auch sein Referat auf Englisch halten, man muss auch seine Hausarbeit auf Englisch schreiben ähm und es gibt ein paar Kurse da behandelt man zwar englischsprachige Themen, aber man spricht auf Deutsch ähm und Sprachwissenschaft ist das Meiste auf Deutsch. [In cultural studies, most courses are held in English, the discussions are in English, we have to give presentations in English and hand in English term papers. There are also classes where the material is English, but the discussions are held in German. In linguistics, most courses are in German.]

This balance between courses offered only in English, courses in which German is used to discuss English material, and courses that are taught exclusively in German stands in stark contrast to the English-only policy at the English department where the students enrolled in the English Language and Literature program were completing their English degrees. Most courses ES I and ES II attended were taught exclusively in English, irrespective of whether the courses were concerned with cultural studies, literary studies, or linguistics.

In light of these observations, Knapp's (2014) *continuity principle of language choice* might be amended. Knapp (2014: 183) argues that, for students, "the language in which information [is] provided or in which questions [are] asked determines the language in which the following verbal activity [is] performed". While the 18 MA students who Knapp (2014: 179) observed resorted to the language in which respective lectures were held for note-taking, the present study indicates that another factor might exert considerable influence on students' language choices when working on academic writing tasks: the language practices that are typical of the academic community in which the students have been socialized. This relationship could be termed the *community continuity principle of language choice*. The participants in the present study appear to have behaved in accordance with the language practices characteristic of the courses they attend, and, inherently, the academic community into which they are being socialized. While TS I and TS II, socialized in an academic department where courses are offered in English, German, and with mixed language approaches, resorted extensively to German in the English writing sessions, the students in the English Language and Literature degree program relied on the English language in accordance with common practice in their department.

3.2 Translating

The sub-process of writing defined as *translating* for the present context hardly ever occurred in the participants' TAPs; when it did, it was limited to finding equivalents for individual lexemes:

[11] TS II summarizing the English article in English
diese Fähigkeit ist nur da this ability ähm (5)

[12] ES I summarizing the English article in English
these stages are to be seen as a mh Annäherung approximation

While translating in a narrow sense hardly ever occurred in the participants' TAPs from the writing sessions in which the English summaries were produced, it can be argued that translating in a broader sense may have occurred frequently when the participants used their L1 German to verbalize their understanding of the English source text. In these cases, no errors that could have been caused by interference or cognitive fixedness could be identified in the participants' TAPs since the passages of the English article that the participants were commenting on in German were rarely read out. It was not possible to determine which exact passages from the English original text might have given rise to interference or L2 fixedness in the participants' subsequent L1 utterances.

It is also noteworthy that the Translation students and not the English students considered the writing sessions in which the language of the summary was not the language of the source academic article to be more difficult than the writing sessions in which the language of the summary and the language of the article were the same. TS I conceded in the retrospective interview:

[13] TS I in the retrospective interview
Also über den Schwierigkeitsgrad kann ich sagen ähm […] dann war es natürlich einfacher oder generell wenn ich in der gleichen Sprache schreiben konnte wie der Ausgangstext […] dann kamen eben der Übersetzungsprozess nochmal hinzu zum Formulierungsprozess. [Concerning the difficulty, I can say that writing in the same language as the original text was easier […] the translation process was added to the formulation process.]

In this excerpt from the retrospective interview, TS I expressed that translating and formulating appeared to be two distinct sub-processes of writing and that having to complete both processes increased the difficulty of the writing session. TS II expressed a similar opinion in the retrospective interview:

[14] TS II in the retrospective interview
Grundsätzlich sind die Sitzungen mit der gleichen Sprache einfacher als unterschiedliche Sprachen […] zu switchen ist schwierig, weil man dann die Wörter übertragen muss und dann braucht man sehr lange auch um sich geeignete Wörter irgendwie zu überlegen. [Generally speaking, writing sessions with the same language are easier than with different languages […] switching is difficult since you have to transfer the words and you need a lot of time to find suitable words.]

Like TS I, TS II found the writing session in which the language of the source text and the language of the summary were different to be the more difficult one.

In contrast, the English Students, who had not received training in translation or interpreting, did not identify code-switching or translating as problems that would make the writing session requiring two languages more difficult than the writing session requiring only one language. ES I found reading the academic article in English to be the most considerable challenge, more so than having to produce an English text:

[15] ES I in the retrospective interview
Ich würde sagen, dass es schon für mich anstrengender war, das auf Englisch zu machen, und zwar mehr glaube ich Englisch zu lesen als zu schreiben also hat einfach mehr Energie verbraucht, obwohl ich mehr Englisch lese eigentlich im Studium. [I would say that it is more challenging for me to do this in English, that is, I think, reading English more than writing English, it just uses up your energy, even though I read more in English for my studies.]

In comparison, ES II did not think that the writing sessions differed in terms of difficulty or effort:

[16] ES II in the retrospective interview
Vom Arbeitsaufwand her fand ich die jetzt nicht so über so belastend oder Ähnliches, also eigentlich relativ gleich. [I did not find it too effortful or anything, so they were basically the same.]

Due to their educational background, the Translation students, and not the English students, may have been aware of the potential difficulties of reporting ideas accurately in a language that was not the language of the original material. It might be possible that TS I and TS II were more reflective and critical towards their reading and writing processes involving more than one language than ES I and ES II who had not been trained in translation or interpreting. This possible difference in awareness between the participant pairs in the present pilot study could be likened to the difference in awareness that Risku (1998) argues exists between expert and novice translators. In her discussion of the differences between lay translators and expert translators, Risku (1998) contends that lay translators generally regard translation as a merely passive transmission of information. Translation experts, in contrast, view the act of translation as a process of constructing, instead of merely transmitting, sense (Risku 1998: 250). While translation experts have developed the ability to critically reflect on their translation activity, translation novices tend to be less reflective in their translation activity: "Decision-making is characterized by the same type of inadequate reflection that becomes apparent during the entire process" (Risku 1998: 258; own translation). [13] Also, translation novices tend to have a reductive view of translation as mere reporting involving another code: "Either there is no awareness of the responsibility for purposefully navigating the situation, or that responsibility is delegated to others, while the rationale of the translation is conceptualized as a mere transmission where one code is substituted for another" (Risku 1998: 258; own translation)[14]. Thus, in novice translation processes, the metacognitive awareness and the sense of responsibility found in experts appear to be lacking.

[13] „Das Entscheidungsverhalten ist durch dieselbe mangelhafte Reflexion gekennzeichnet, die während des gesamten Prozesses zu Tage tritt." (Risku 1998: 253)

[14] „Die Verantwortung für die Situationssteuerung wird entweder nicht erkannt oder an andere delegiert und der Sinn des Übersetzens beschränkt sich auf eine Art Wiedergabe mit Codewechsel." (Risku 1998: 258)

3.3 Text quality

Table 4 shows the number of relevant ideas that each of the participants included in their summaries as well as the number of incorrect and superfluous elements. The texts are presented in the order in which they were written by the participants, i.e., Translation Student I wrote an English summary in the first writing session and a German summary in the second session, while Translation Student II, for instance, completed a German writing session first and an English writing session last.

Table 4: Number of relevant ideas, incorrect and superfluous elements

Participants / **Relevant Ideas**	**Translation Student I**		**Translation Student II**		**English Student I**		**English Student II**	
Language of summary	EN	DE	DE	EN	DE	EN	DE	EN
Progression through five stages by integration of six skill systems	0.5	1	1	1	1	1	0.5	1
Automatization of sub-skills to a sufficient degree	1	/	1	1	1	1	/	/
Focus depending on stage: process, product, or reader	/	/	/	/	/	/	/	/
Development of sub-skills not necessarily sequential and possibly independent	/	/	0.5	1	0.5	/	/	0.5
Automatization frees cognitive capacity for progression to higher stages	0.5	/	/	1	1	1	/	/
Sufficiently automatized production of written discourse + sufficiently automatized generation of ideas	0.5	0.5	0.5	1	0.5	1	/	1
Associative Writing + sufficiently automatized observance of conventions of correctness, style and genre	0.5	1	1	1	1	/	1	1
Performative Writing + sufficiently automatized consideration of communicative effects	1	1	1	1	1	1	1	0.5
Communicative Writing + sufficiently automatized application of evaluative skills that have been developed by reading other people's texts	0.5	0.5	0.5	0.5	1	1	0.5	1

Unified Writing + sufficiently automatized usage of writing as a means of reflection	0.5	0.5	0.5	/	1	1	/	/
TOTAL	5	4.5	7	8.5	9	7	3	6
Participants / **Incorrect and Superfluous**	**Translation Student I**		**Translation Student II**		**English Student I**		**English Student II**	
Incorrect	1	/	1	1	1	4	7	4
Superfluous	2	7	3	1	/	2	2	2

While the German summaries had been expected to be more complete than the English summaries since the participants' L1 was German, no clear conclusion can be drawn here. Only ES I included more of the relevant ideas in the German summary than in the English summary. The participants who used their L1 more extensively did not produce more complete texts than participants who used their L1 less.

While TS I did not include any wrong elements in the German summary of the English text, there were more than twice as many superfluous elements in their German summary as in their English summary. Similarly, TS II included wrong elements in both the English and the German summary, and the German summary contained more superfluous elements than the English summary. Only ES I included less superfluous details and committed less content errors in the German than in the English summary. Thus, three out of four participants did not produce better L1 than L2 texts in the present context.

In the writing sessions in which the participants were required to produce English summaries based on the English article, ES I and ES II both included more incorrect elements in their summaries than TS I and TS II. TS I and TS II resorted to their L1 more than to the language of the text and the summary in eight out of 15 sub-processes of writing, while ES II in particular avoided using the L1. Consequently, one can argue that the participants who frequently resorted to their L1 produced better L2 texts than the participants who avoided their L1.

4 Conclusion

The first hypothesis (H1) stated that participants with training in translation and interpreting would make more extensive use of their L1 during L2 academic writing than the English students who had not received training in translation or interpreting. This hypothesis was confirmed. The present pilot study provides support, accordingly, for the idea that the linguistic practices students encounter in their academic surroundings exert substantial influence on their personal linguistic practices. It appears that students are in part guided by what can be termed the *community continuity principle of language choice*. Not only the language in which input is presented, as suggested by Knapp (2014), determines the linguistic choices students will make, but also the linguistic practices suggested to the students by the academic community in which the students are socialized. Thus, academic communities should assume their responsibility for enabling students to use the entirety of their linguistic abilities in the best possible manner.

The second hypothesis (H2) was that those students who used their L1 more extensively even when reading an L2 text and writing in their L2 would produce more complete, more

accurate, and more precise summaries than participants who used the L1 to a lesser extent. This hypothesis cannot be fully supported based on the present observations. Only in terms of accuracy, but not in terms of completeness and precision did TS I and TS II, who had resorted heavily to their L1 during the L2 writing processes, outperform ES I and ES II.

Finally, it had been hypothesized that students enrolled in a Translation degree program would be at an advantage since their translation competence would allow them to overcome possible cognitive fixedness and to resist interference between languages when using *translating* as a sub-process of writing (H3). *Translating* in the sense of formulating or reading first in one language and then transferring the already verbalized content into another language hardly ever occurred in the participants' TAPs, and thus no clear conclusion can be drawn here.

In order to generalize the findings from pilot studies such as the present one to more extensive settings, at least two modifications would have to be introduced. First, the number of participants would have to be increased in order to produce data sets that are more representative of the student populations in question, as current research in the field is primarily focused on participant groups of less than eight (Van Wejien et al. 2009: 237). Second, as Van Wejien et al. (2009: 237) also recommend, repeated measurements per task condition should be introduced into the study design. For the present study, this would mean that writing tasks would have to be completed two or more times to ascertain whether the participants' behavioral patterns remain constant over several writing sessions. Additionally, the categorization of sub-processes of source-based academic writing detailed in Table 2 and the corresponding differentiation between L1, L2, and 'mixed' utterances in TAPs based on source-based academic writing tasks could be employed for analyzing tertiary students' behavior in response to more complex writing tasks, such as the composition of literature reviews or term papers. These academic writing tasks involve multiple complementary or even contradictory sources of varying length, relevance, and quality and would put the writers' cognitive capacities under even more substantial strain than a summary-writing task, thus probably giving rise to an even greater need for preventing cognitive overload.

While the present study did not necessarily yield results in favor of L1 use during L2 writing processes and the observations made in the present pilot study do not necessarily lead to the conclusion that translation students might be at an advantage in comparison to students with little to no translation competence, there is a range of studies that provide support for the usefulness of students' full idiolects, including their L1, in L2 writing and learning processes (cf. Kern 1994, Kim 2010, Pellatt 2012). Thus, a potentially fruitful research field remains open for linguists who wish to identify the best-possible language use strategies to be taught to todays' students who need to acquire discipline-specific knowledge and communicative competencies in EMI environments.

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Appendix

List of relevant elements of Carl Bereiter's model of writing development (1980)

Foundation

Learners progress through five stages of writing development by integrating six skill systems.

A skill system has been integrated once the pertaining subskills have been automatized to a sufficient degree.

In each of the stages, writers concentrate their focus on matters concerning either the writing process, or the writing product, or the prospective reader, depending on the stages.

The six skill systems need not be acquired sequentially and can develop independently of one another.

The process of automatization frees cognitive processing capacity for higher-order skill systems.

Associative writing

Sufficiently automatized production of written discourse + sufficiently automatized generation of ideas

Performative writing

Associative writing + sufficiently automatized observance of conventions of correctness and style

Communicative writing

Performative writing + sufficiently automatized consideration of communicative effects

Unified writing
Communicative writing + sufficiently automatized application of evaluative skills

Epistemic writing
Unified writing + sufficiently automatized usage of writing as a means of reflection

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