Transletters
International Journal of Translation and Interpreting

Directionality in translator training
Contrastive evaluation of L1 and L2 translations using the PIE method (Preselected Items Evaluation) and the ATA Framework for Standardized Error Marking

Amy Colman
Heidi Verplaetse
Winibert Segers
KU Leuven

Received: 29/05/2022
Accepted: 06/09/2022

Abstract

This paper illustrates the results of an experiment conducted in translator training in which thirty students translated a text from their L1 (Dutch) into their L2 (English). The students completed a questionnaire on their acquisition of the L1, the perceived difficulty of each translation direction and the main difficulties encountered. The translations were analysed and scored by means of PIE (Preselected Items Evaluation), and the errors identified were categorised using the error categories of the ATA Framework for Standardized Error Marking. While the students scored slightly higher into their L2, the scores and main error categories were similar in the two translation directions. The students whose L1 is not Dutch obtained similar scores to those whose L1 is Dutch. The students' perceived main difficulties were confirmed in the error categorisation. Finally, the perceived overall difficulty was higher than the item difficulty measured by means of PIE.

Key Words

Directionality, translator training, translation evaluation, Preselected Items Evaluation (PIE), ATA Framework for Standardized Error Marking.

ଓ ଌ

Introduction

Translation into the foreign language or L2 translation (Pokorn et al., 2019: 2) is generally discouraged. It is referred to by scholars as "service translation"

(Newmark, 1988/2001: 3), "prose translation" and "inverse translation" (Beeby Lonsdale, 1996: 5). Nevertheless, professional translators often translate into their L2 and L2 translation is also taught in most translator training institutions (Pokorn, 2016: 34), where it may be used to illustrate the differences between the L1 and the L2. In that case, the focus is more on contrastive linguistics than on translation teaching. Despite L2 translation being a common course type, few empirical studies have been conducted into L2 translation in translator training. Most of these studies aim to provide an insight into the differences between L1 and L2 translation, with many suggesting that the quality of L1 into L2 translation is inferior to that of L2 into L1 translation (Castillo Rodríguez, 2006; Pavlovic, 2007; Pokorn et al., 2019).

The present case study, which served as a pilot study for the first author's PhD, aims to investigate whether or not this is the case, albeit on a small scale. A translation experiment was conducted in the final year of the three-year Bachelor's programme in Applied Linguistics at KU Leuven. Thirty students translated two similar business texts, one from their L2 into their L1, viz., from English into Dutch, and one from their L1 into their L2. Their scores were calculated using Preselected Items Evaluation (PIE), a criterion- and norm-referenced analytical evaluation method based on a set number of preselected items (Kockaert and Segers, 2014), and the main errors were categorised using the error categories of the ATA Framework for Standardized Error Marking. PIE was used for the quantitative analysis, to calculate the number of errors made and the students' final scores. The error categories of the ATA Framework for Standardized Error Marking were used for the qualitative analysis, to identify the error types. PIE, which is based on the dichotomous categorisation of possible translation solutions as correct or incorrect, was used as it is thought to increase the inter-rater reliability of the evaluation (Tijtgat and Segers, 2019: 321) as well as the intra-rater reliability[1]. It also enables the evaluators to use statistical calculations to analyse the translations. However, it is limited in scope as it does not allow for an analysis of the full text and it does not include an error categorisation component. The authors opted for a combination of the ATA Framework for Standardized Error Marking with the PIE method as the former has a higher degree of subjectivity (Phelan, 2017: 191), particularly in its grading component. However, the ATA error categories are accompanied by detailed definitions. Hence the decision to use this method for the error categorisation only.

[1] The concepts of inter-rater and intra-rater reliability are explained in Weir (2005: 34).

The aim of this experiment is to objectively compare L2 into L1 translation and L1 into L2 translation both quantitatively and qualitatively, and to illustrate the key differences between the two.

1. The experiment

A translation experiment, which consisted of two 90-minute translation tests, was organised in March 2020 at the KU Leuven Antwerp Campus. The first was a test from English (L2) into Dutch (L1). The second was a test from Dutch (L1) into English (L2).

One week before the experiment, all 45 students following the course 'English Writing/Translating Business Texts' (at BA3 level[2]) were informed by means of an information letter[3] that they would be asked to translate two texts, one from English into Dutch, and one from Dutch into English, as part of the continuous assessment of their course. The texts would be similar in length and genre. They would also be asked to answer a few short questions about their first language (L1), the perceived difficulty of each translation direction and the main issues they encountered during the translation. The students were informed that they would receive a consent form on the day of the first test asking them to give their permission for their translations to be used for research purposes. Participation was voluntary and all translations would be pseudonymised by their lecturer before being passed on to the other two researchers involved in this project. Thirty students signed the consent form.

The tests were originally scheduled to be held during two separate 90-minute sessions on campus. Shortly before the first test, all physical lectures were cancelled as a result of the COVID-19 pandemic and it was decided that the translation tests would be administered online, within the same timeframe, viz., 90 minutes for each translation direction. Unfortunately, this approach meant that the researchers did not have full control of the testing conditions. The students were provided with a translation brief and asked not to use machine translation tools, such as DeepL and Google Translate. This was done to

[2] The final year of a three-year Bachelor's programme in Applied Linguistics.

[3] In Dutch, which is the L1 in this programme. As explained further in this paper, the participants' L1 may differ. Before starting the first translation test, they were asked to indicate, in writing, whether or not the definition of L1 provided applies to them for Dutch and if not, they were asked to briefly explain when, where and how they acquired Dutch.

ensure ecological validity (Neunzig, 2011) as the students were not allowed to use these tools during the lectures either. However, since no logging software was available, it cannot be ascertained whether or not the students completed the task without using such tools.

1.1 Source text selection

The Dutch source text was an excerpt from the 'Flanders Investment and Trade' website[4]. The site owner was asked for and granted permission to use the text for research purposes. The English source text was retrieved from the 'Thomas Smith Shipping' website[5]. The site owner was also asked for and granted permission to use the text for research purposes. Two evaluators, a professional translator and PhD student in Translation Studies at KU Leuven on the one hand, and the lecturer of the course during which the translation tests were administered on the other, selected the texts jointly. Based on their experience, they deemed the difficulty level of the two texts similar and appropriate for the students at this level of their education. It must be highlighted that the readability of the source texts was not analysed a priori. While readability does not equal translatability, it does give an indication of the level of similarity between source texts. However, as Pavlovic (2007: 62) points out, comparing source texts in different languages poses quite a few challenges.

The source texts cover topics discussed during the lectures. The Dutch text focuses on financial risks in business, while the English text deals with shipping and insurance. Both texts were retrieved from FAQ pages and follow the same format, viz., one or more questions, followed by an answer. It was decided not to opt for two source texts about the same topic to avoid terminological test bias. The source texts can be found in Annex A.

1.2 Translation brief

The translation brief included the number of words in each source text (English into Dutch: 250 words, and Dutch into English: 239 words), the time allocated for each translation (90 minutes), a link to the website from which the text was retrieved, information about the target audience (English into

[4] https://www.flandersinvestmentandtrade.com/export/internationaal/financieel/met-welke-financi%C3%ABle-risicos-moet-ik-rekening-houden [Last accessed on 1 August 2021]

[5] https://www.tcsmithshipping.com/frequently-asked-questions/ [Last accessed on 1 August 2021]

Dutch: potential Dutch-speaking clients in Belgium and The Netherlands; Dutch into English: potential clients in the United Kingdom), and finally, instructions on how to save and e-mail the translations to the lecturer. The L2 into L1 translation test (English into Dutch) was administered first, in line with the lecturer's usual approach, so as to guarantee ecological validity (Neunzig, 2011).

The students were explicitly told not to use machine translation tools as they had not familiarised with these tools during the course. However, since there was no physical supervision and no logging software was available, it cannot be guaranteed that the students followed these instructions. However, the lecturer did explicitly tell the students that their translations would be compared with the DeepL and Google Translate output. A cursory comparison did indeed reveal some strings that matched those in Google Translate and DeepL in some of the students' translations, but since this study did not analyse the translation process, it cannot be established whether these matching strings were merely coincidental or rather the result of the use of these tools.

2. Quantitative analysis

The translations were analysed quantitatively using Preselected Items Evaluation (PIE), a criterion- and norm-referenced analytical and item-based evaluation method (Kockaert and Segers, 2014; Segers and Kockaert, 2016; Kockaert and Segers, 2017; Segers et al., 2018; Tijtgat and Segers, 2019). PIE was used to calculate the student scores only.

PIE consists of five phases:

(1) A set number of items are selected for the evaluation before the test is administered[6].
(2) The translation solutions for each item are categorised dichotomously, as correct or incorrect.
(3) The test takers' raw scores are calculated.
(4) Psychometric analysis: the item difficulty (p-value) and discrimination index (d-index) of each item is calculated.
(5) The test takers' final scores are calculated based on the items with a good p-value and d-index only (Kockaert and Segers, 2014: 237-238).

[6] The test takers are unaware of which items have been preselected.

Phase 1 and 2 are criterion-referenced, viz., based on a number of criteria, e.g., "what the examinees know or what they can do" (Reynolds et al., 2006: 60). Phase 4 and 5 are norm-referenced. This means that the scores of the individual test takers are compared with the scores of all test takers combined (Segers and Kockaert, 2016: 70). Phases 1 to 3 are called "PIE criterion-referenced only" (Colman et al., 2021: 239). Phases 1 to 5 are the full version of PIE, "PIE criterion- and norm-referenced" (*ibid.*). The latter is optional and not recommended for small groups of test takers, which may hamper the statistical calculations of the p-value and d-index. In this experiment, an attempt was made to use the full version of PIE, but the final step, the recalculation of the scores, proved impossible as too few items had both a p-value and d-index within the established ranges. As a result, only the raw scores were used.

2.1 PIE item selection

The first phase of PIE is the selection of a set number of items in the source texts, viz., words or short phrases (Kockaert and Segers, 2014: 238). The items were selected based on the curriculum and the intended learning outcomes.

Before the tests were administered, both evaluators independently selected approximately twenty items in the texts. They then compared their initial selections and agreed upon a final selection of twenty items based on an intersubjective consensus. In Annex B you will find the initial independent item selections by both evaluators[7] for both translation directions, as well as the final selections based on an intersubjective consensus.

The evaluators did not select 10 items for the PIE analysis, as prescribed by the literature, but rather 20 items, which had so far never been tested.

2.2 Dichotomous categorisation of translation solutions

In the second phase of PIE, once the evaluators had agreed on the twenty items for the PIE analysis, they categorised the possible translation solutions for each item as correct or incorrect. In their search for correct solutions, they

[7] Further in this paper, 'Evaluator 1' refers to Amy Colman, the professional translator and PhD student who is the first author of the present paper. 'Evaluator 2' refers to Heidi Verplaetse, the lecturer of the course during which the translation tests were administered and second author of this paper. Heidi Verplaetse is also the co-supervisor of Amy Colman's PhD.

relied on authoritative sources, which included monolingual and bilingual dictionaries such as Van Dale, The Oxford English Dictionary and the Cambridge English Dictionary, the IATE database and the Financial Times Lexicon. They also used concordancers such as Linguee and Reverso Context, which the students had used during the lectures prior to the tests. They were also allowed to use these tools during the tests. Incorrect solutions were found in dictionaries, e.g. under the incorrect heading for a given term, and in concordancers. The students were taught how to use the latter correctly and with a critical eye.

PIE neither allows for a 'grey area' between correct and incorrect solutions, nor for a weighting component in the evaluation. Hence, the translation solutions for each item are either correct or incorrect. One could, of course, argue that language is fluid and not every solution is necessarily 100% correct or incorrect. However, if PIE did include a 'grey area' or weighting, it would be impossible to use binary variables in the statistical component of PIE for the calculation of the item difficulty (p-value) and the discrimination index (d-index) of each item.

When doubts arise about the correct and incorrect translation solutions for an item, the item in question should be discarded. This lack of flexibility could be considered a limitation of PIE but it increases the inter-rater and intra-rater reliability of this evaluation method.

Annex C contains the final selection of twenty items including the correct and incorrect translation solutions for each item for both translation directions.

2.3 Calculation of the raw scores

The third phase of the PIE analysis is the calculation of the raw scores. This can be done using Microsoft Excel© as follows:

(1) Create a table.
(2) List the students' names, which were pseudonymised in this study, in the first column.
(2) Create a row with the preselected items.
(3) Analyse the translations and mark each correctly translated item with 1 and each incorrectly translated item with 0 in the table. These are the binary variables needed for the psychometric analysis in the next phase.
(4) Add up the number of correctly translated items for each student, e.g., 11 correctly translated items results in a score of 11/20.

Annex D contains an overview of the raw scores for both translation directions.

Once the raw scores have been calculated, Microsoft Excel© can be used to calculate the mean (or average), median and mode. These calculations are not required for the PIE analysis but they give an insight into the central tendency (Pidgeon and Yates, 1968: 43). This data is useful for future comparisons or to keep track of the group scores over time.

Table 1 shows the mean, median and mode[8] for both translation directions.

	L2 into L1 (English into Dutch)	L1 into L2 (Dutch into English)
Mean (average)	14	15
Median	14	15.5
Mode	15	16

Table 1. Mean, median and mode

2.4 Psychometric analysis: calculation of the p-value

The fourth phase of PIE starts with the calculation of the item difficulty or p-value, which shows the number of test takers who have translated an item correctly. It is also known as "item facility" (Weir, 2005: 202). The p-value is calculated by dividing the number of correct translations for a specific item (marked with 1) by the total number of students (in this case 30). It ranges from 0 to 1 (Reynolds et al., 2006: 143; McCowan and McCowan, 1999: 18). The higher the p-value, the more test takers have translated the item correctly. A good p-value lies between 0.30 (too easy) and 0.70 (too difficult) (Colman et al., 2021: 259).

In the L2 into L1 translation (English into Dutch) the average p-value of all the items combined is 0.7. Hence, the selected items combined have a good difficulty level, although 0.7 is the cut-off value. In this translation direction, the items which have a p-value between 0.30 and 0.70 and which can thus be

[8] The mean is the average (Pidgeon and Yates, 1968: 43). The median is the score half way in the set of scores once arranged from high to low (*ibid.*). This is a useful value if the set contains excessively high or excessively low scores, as these distort the mean (Boyle and Fisher, 2007: 37). The mode is the most frequently occurring score (Pidgeon and Yates, 1968: 43).

retained for the recalculation of the scores are items 5, 9, 14, 17 and 18. Items 10 and 19 are borderline, as they have a p-value of 0.733, which is just over the limit.

In the L1 into L2 translation (Dutch into English), the average p-value of all the items combined is 0.76, which is just above the cut-off value of 0.7. In this translation direction, the items which have a p-value between 0.30 and 0.70 and which can thus be retained for the recalculation of the scores are items 5, 7, 9 and 19. Items 10, 16 and 17 are borderline, as their p-value is 0.733, once again just over the limit.

Hence, it appears that all the selected items combined were either perfectly in line with the students' competences in both translation directions or perhaps even slightly too easy. The average p-values of both translation directions are similar. This indicates that the items in both translation directions, and by extension perhaps also the two source texts, are of a similar difficulty level. This is also an interesting finding from the lecturer's point of view. The course during which the tests were administered incorporates both L2 into L1 translation and L1 into L2 translation. The lecturer always strives to select source texts of a similar difficulty level for translation, or translatability, across the students' different translation competences for L1 into L2 and L2 into L1 translation. This appears to have been achieved in this experiment, since the average p-value of the items in both translation directions is more or less 0.7.

2.5 Psychometric analysis: calculation of the d-index

The next step of PIE is the calculation of the discrimination index (d-index), which indicates how well an item discriminates between test takers whose total raw score is high and test takers whose total raw score is low. Generally, it is expected that test takers with a high total raw score translated an item correctly. Those with a low total raw score are expected to have translated the same item incorrectly. If this is the case, the test and every item in the test are measuring the same thing (McCowan and McCowan, 1999: 20).

For this experiment, it was decided to use the extreme groups method to calculate the d-index, as described in the literature. This method only takes account of the 27% of test takers with the highest scores to make up the top group and the 27% of test takers with the lowest scores to make up the bottom group. However, small groups may include multiple test takers with the same scores, as is the case in this experiment. This makes it difficult to apply the

27% share for each group, as it would not be fair to exclude test takers from the calculations. In this experiment, to apply the 27% share, the top group and bottom group should have included 8 students each. However, it was decided to include the multiple test takers with the same scores in the calculation. As a result, in the L2 into L1 translation (English into Dutch), the top group is made up of 13 students (43%) and the bottom group is made up of 11 students (37%). In the L1 into L2 translation (Dutch into English), the top group is made up of 8 students (27%) and the bottom group is made up of 11 students (37%). A good d-index is anything above 0.3 (Ebel, 1979: 267).

In the L2 into L1 translation (English into Dutch), the items which have a d-index of over 0.3 and can thus be retained for the recalculation of the scores in the final phase of PIE are items 5, 10, 14 and 17. Item 6 is borderline with a value of 0.30.

The only items which have both a p-value and d-index within the established ranges are items 5, 10, 14 and 17. A recalculation based on merely 4 items out of 20 in phase 5 of PIE would compromise the quality of the PIE test construct, as pointed out by van Egdom et al. (2018: 37).

In the L1 into L2 translation (Dutch into English), the items which have a d-index of over 0.3 and can thus be retained for the recalculation of the scores in the final phase of PIE are items 2, 8, 9, 10, 16, 17 and 19.

In this translation direction, only 5 items have both a good p-value and a good d-index, viz., items 9, 10, 16, 17 and 19. In view of this outcome, only the raw scores were used for this experiment.

A possible explanation for this lack of items with both a good p-value and a good d-index is that either the selected items or the source texts overall were too easy for the test takers, since the average p-value of all items combined is 0.7 for L2 into L1 (English into Dutch) and 0.76 for L1 into L2 (Dutch into English).

The group might also have been too heterogeneous. In fact, the raw scores in both translation directions show there are a few outliers with excessively high or low scores. The items might have been too heterogenous as well. On the one hand, some items were translated correctly by virtually all students. This indicates that the students have assimilated the course contents well, as many of these items had been tackled in class. On the other hand, some items were translated incorrectly by the majority of students.

Several items also have a negative d-index. This indicates that students who obtained a high raw score overall did not necessarily translate an item correctly, as would be expected. Likewise, students who obtained a low raw score overall did not necessarily translate an item incorrectly. Hence, the items do not discriminate well between test takers. This could be due to overthinking on the part of the test takers with high raw scores, resulting in errors. Conversely, test takers with a low score overall may have translated an item correctly merely by chance. In addition, as explained in the introduction, machine translation tools may have been used. By incorporating translation process research into future experiments of this type, researchers could shed light on the reasons for perhaps 'unexpected' p-values and d-indices.

Finally, it is very likely that the group of test takers was too small to be representative. The psychometric analysis, which consists of phases 4 and 5 of PIE, is not recommended for small groups of test takers, although there is no consensus on the minimum group size required. Further research is needed to establish whether or not the use of phases 4 and 5 of PIE is worthwhile, particularly when working with smaller groups, as is often the case in translator training.

3. Qualitative analysis

The main errors in each translation direction were categorised using the error categories of the ATA Framework for Standardized Error Marking[9]. The ATA Flowchart for Error Point Decisions[10] was not used to calculate the students' scores since these were calculated using Preselected Items Evaluation (PIE). Since the latter is a dichotomous method, it allows for statistical calculations, which would be impossible to carry out with the grading component of the ATA Framework for Standardized Error Marking. In addition, PIE is thought to have a higher inter-rater reliability than the ATA Framework for

[9] https://www.atanet.org/certification/how-the-exam-is-graded/error-marking/[Last accessed on 26 July 2021]. A detailed description of the error categories can be found on https://www.atanet.org/certification/how-the-exam-is-graded/error-categories/ [Last accessed on 26 July 2021].

[10] https://www.atanet.org/certification/how-the-exam-is-graded/error-points/ [Last accessed on 26 July 2021].

Standardized Error Marking (Tijtgat and Segers, 2019: 321). The intra-rater reliability is also thought to be higher.

A major advantage of the ATA Framework for Standardized Error Marking is that it includes a set of detailed error categories. This gives lecturers, students and researchers a good insight into the types of errors made in each translation direction. It is also a method mainly used in professional translation, for certification purposes. As such, it bridges the gap between translator training and professional translation.

3.1 Main error categories in the L2 into L1 translation

In the L2 into L1 (English into Dutch) translation direction, the items which were translated incorrectly by the greatest number of students, hence the most difficult items for this group, were items 4, 6 and 20.

Item 4 (deal with customs) was translated incorrectly by 27 out of 30 students (90%). The main ATA error category for this item is **literalness**, which accounts for **75%** of the errors (translated as, among others: onderhandelen met, rekening houden met, geconfronteerd worden met, te maken krijgen met, handelen met, zich bezighouden met).

Item 20 (stevedoring) was translated incorrectly by 25 students out of 30 (83%). The main ATA error category for this item is **terminology/word choice**, which accounts for **44%** of cases (translated mostly as "stuwadoors", which is "stevedores", while the source text says "stevedoring"; this refers to the service rather than the service provider, known as the "stevedore").

Item 6 (fully licensed) was translated incorrectly by 23 students out of 30 (77%). The main ATA error category for this item is **terminology/word choice**, which accounts for **74%** of cases (translated as, among others: geheel erkend, volledig erkend, volledig gelicentieerd, volledig bevoegd, geautoriseerd).

The additional main errors are:

Item 17 (all-risk insurance cover), which was translated incorrectly by 13 students out of 30 (**43%**). It was misspelled (ATA category: **spelling**) by **54%** of students. It appears that the students struggled with the rules on the spelling of compound nouns and hyphenation in Dutch (translated as, among others: all risk verzekeringsdekking, alle risicoverzekering, all risk verzekering, all risks-verzekering, All risk dekking (the latter is also a **capitalization** error).

Item 18 (wish to avail) was also translated incorrectly by 13 students out of 30 (**43%**). **85%** of all errors can be classified as **terminology/word choice** errors. The incorrect translations include: interesse heeft in, geïnteresseerd bent in, wenst te benuttigen, van… wilt profiteren.

Item 14 (deep-sea container) was translated incorrectly by 15 students out of 30 (**50%**). **33%** struggled with **spelling**, more specifically, they incorrectly hyphenated the word ("diepzee-container(s)").

Hence, in this experiment, the most common errors in L2 into L1 (English into Dutch) can be categorised as **terminology/word choice and spelling**, and to a lesser extent **literalness**.

3.2 Main error categories in the L1 into L2 translation

In the L1 into L2 (Dutch into English) translation direction, the items which were translated incorrectly by the greatest number of students, hence the most difficult items for this group, were **items 8, 5 and 19**.

Item 8 (offerte) was translated incorrectly by 24 students out of 30 (**80%**). In **63%** of cases, this item was translated as "offer", which is a **faux ami**. The remaining students (**37%**) translated this item as "tender", which is a **terminology/word choice** error.

Item 5 (onderhevig aan) was translated incorrectly by 20 students out of 30 (**67%**). This item was mainly translated as "susceptible to" and "liable to" (both **45%**), which can be classified as **terminology/word choice** errors.

Item 19 (ingedekt) was also translated incorrectly by 20 students out of 30 (**67%**). 19 of these 20 students (**95%**) translated it as "covered" rather than "hedged". This too can be classified as a **terminology/word choice** error.

The additional main errors are:

Item 9 (onvermogen), which was translated incorrectly by 14 students out of 30 (**53%**). All the students who translated this item incorrectly made a **terminology/word choice** error. The incorrect translations include: inability, incapacity, bankruptcy and impotency.

Item 7 (doorrekenen aan) was translated incorrectly by 11 students out of 30 (**37%**). All the students who made this error translated the item literally, as "charge (to/for)", "recharge" or "include the risk in the prices for your customers". These are **literalness** errors.

Hence, in this experiment, the most common errors in L1 into L2 (Dutch into English) can be categorised as **terminology/word choice**, and to a lesser extent **literalness** and **faux amis**.

A comparison between the two translation directions shows that **terminology/word choice** is the main error category in both directions.

3.3 Errors not covered by the PIE analysis

The evaluators identified additional errors that were not covered by the items selected for the current PIE analysis. Examples include errors that fall under the ATA error category 'spelling': "carrier" translated as "veroeder" instead of "vervoerder"; "Tomas" instead of "Thomas"; "Valetta" instead of "Valletta"; and "costumer" instead of "customer". A detailed overview of the additional errors not covered by the PIE items goes beyond the scope of this paper. However, it is important to note that since PIE does not allow evaluators to evaluate the full text and thus identify all the errors made, this limitation may pose a validity issue. Hence the need for further empirical research into the application of PIE.

4. Questionnaires

4.1 Participants' acquisition of L1

The students were asked whether the following definition of L1 applies to them for Dutch, which is the L1 in this course:

"L1 denotes the language that some scholars refer to as the 'mother tongue' or 'native language', i.e. the dominant language whose linguistic and communicative aspects are fully mastered by the speaker" (Pokorn et al., 2019: 2).

If not, they were asked to specify how old they were when they acquired Dutch and how and where they learned the language (at home, at school, at work, other).

A total of 29 students out of 30 answered the question. Student 24 forgot to reply and was thus not included in the calculations. 5 students answered that their L1 was not Dutch (students 1, 11, 17, 19 and 22). Four of these students

indicated that they learned Dutch in kindergarten, from age 2.5 to 5 (students 1, 11, 17 and 19). The remaining student learned Dutch at the start of primary school, at approximately age 6 (student 22).

As such, 17% of the students who participated in this study indicated that Dutch is not their L1, and that they acquired Dutch aged 2.5 to 6.

In the L2 into L1 translations (English into Dutch), four of these students obtained either an average score (student 19) or an above-average score (the remaining students). Student 1 even obtained the highest score in the entire tested group (17/20).

In the opposite translation direction, viz., L1 into L2 (Dutch into English), two of these students scored better than in the L2 into L1 (English into Dutch) translation (students 11 and 17). Two students obtained the same score (students 19 and 22) and the remaining student obtained a much lower score (student 1).

4.2 Perceived difficulty of both translation directions

Once they had completed the translations, the students were asked how difficult they felt each translation direction was (easy, average, difficult or very difficult), and what the main difficulties were. The latter was an open-ended question.

For the L2 into L1 (English into Dutch) translation direction, **59% of students** indicated that the difficulty level was **average** and **41%** indicated that they found the text **difficult** to translate.[11]

For the L1 into L2 (Dutch into English) translation direction, **53% of students** indicated that the difficulty level was **average** and **40%** indicated that they found the text **difficult** to translate. One student found the text average to difficult and another found the text very difficult to translate.

These figures show that the perceived difficulty is more or less the same in both translation directions, with **just over half the group** stating that the text difficulty was **average** in both directions, and **about 40%** of students stating that the texts were **difficult** to translate. This perceived difficulty is not entirely in line with the average p-values of the selected items, which are quite high, and the overall raw scores of the students, which are also quite high. This

[11] Student 3 did not reply and was thus not included in the calculation.

indicates that the preselected items were either perfectly chosen or relatively easy to translate for the tested group.

When asked what the **most difficult translation direction** was, **50%** answered L2 into L1 (English into Dutch) and **50%** answered L1 into L2 (Dutch into English). As for the main perceived difficulties, of those who felt that the **L2 into L1** (English into Dutch) translation was the most difficult, **60%** felt that the **terminology** in the English source text was **difficult** to translate. Other perceived difficulties include syntax and style. This is not reflected in the items discussed above. Surprisingly, one student felt that generally, translation into Dutch (L1) is more difficult. This particular student did not indicate that Dutch is not their L1. They felt that terminology about trade, which was the topic of the source text, is easier to find from Dutch (L1) into English (L2) than vice versa since trade is often conducted in English. Another student indicated that they struggled to translate into L1 (Dutch) because the course was mainly taught in English.

Of those who found the L1 into L2 (Dutch into English) translation direction more difficult, **27%** indicated that they find **translation into L2 by definition more difficult** than translation into L1. Other reported difficulties in this translation direction include the **terminology and collocations** in the source text (**both 13%**), longer source text sentences, syntax, idioms and register. One student felt they required more time for the L1 into L2 translation.

4.3 Main perceived difficulties in each translation direction

As for the main difficulties encountered in the L2 into L1 (English into Dutch) translation direction, **90%** indicated they struggled mainly with **terminology**, **10%** with **syntax** and **10%** with **collocations**, **7%** with **style** and **7%** with **idiomatic expressions**. One student felt they were not given enough time to complete the translation task.[12]

In the L1 into L2 (Dutch into English) translation direction, **83%** indicated they struggled mainly with **terminology**, **14%** with **syntax**, **10%** with **register**, and **7%** with **collocations**. One student felt they were not given enough time to complete the translation task, while another indicated that they lacked familiarity with the topic.

[12] Student 2 did not reply and was thus not included in the calculation.

As for the error categories, **terminology/word choice** is indeed the main error category in both translation directions.

Conclusions

This experiment shows that while the scores for L2 into L1 translation are slightly lower than those for L1 into L2 translation, the scores for the two translation directions are comparable and quite high, with an average of 14/20 for L2 into L1 translation and 15/20 for L1 into L2 translation. However, the group is small and heterogeneous, with a few outliers with excessively high or low scores in both directions, which influences the average.

The average item difficulty (p-value) of the selected items is also similar in both translation directions. When selecting the source texts, the goal was to select two texts of more or less the same difficulty level. It cannot be conclusively determined, based on the 20 items selected in each text only, that the difficulty of the entire texts is indeed of the same level. However, the similar average item difficulty in both translation directions does point to that direction.

In the questionnaires, more or less half the students felt that one translation direction was more difficult, while the other half felt the other translation direction was more difficult. This balanced result is reflected in the scores, which are similar in both translation directions. However, the perceived difficulty was higher than the item difficulty calculated by means of PIE. This indicates that either (1) the students underestimated their abilities, or (2) they assimilated the course contents very well, or (3) the items were relatively easy for the tested group. As for the students whose L1 is not Dutch, their scores are not lower than their peers' scores in either translation direction, on the contrary, they are either average or above average.

The students indicated that they struggled the most with terminology in both translation directions. This is confirmed by the error categorisation by means of the ATA Framework for Standardized Error Marking, which shows that terminology/word choice is indeed the main error category in both translation directions.

As the first study of its kind in Flanders (Belgium), this small-scale experiment gives a good insight into the differences and similarities between L2 into L1 translation and L1 into L2 translation in terms of student scores, the errors made and the perceived difficulty of both translation directions. PIE, the

evaluation method used to calculate the scores, provides an objective result that allows for statistical calculations, which could, in the future, even be automated. Combined with the error categories of the ATA Framework for Standardized Error Marking, it offers a valuable insight into student performance. While small in scale and scope, the methodology used in this experiment could be replicated in larger-scale directionality experiments. If used with larger groups of test takers, this would also allow for PIE to be tested in its criterion- and norm-referenced version. This would enable researchers to further investigate the limitations of PIE, the usefulness of its norm-referenced component and the automation potential of this evaluation method.

References

Beeby Lonsdale, A. (1996) *Teaching Translation from Spanish to English: Worlds Beyond Words*. Ottawa: University of Ottawa Press.

Boyle, J. and Fisher, S. (2007) *Educational testing: A competence-based approach*. Malden/Oxford/Victoria: Blackwell Publishing.

Castillo Rodríguez, C. (2016) 'Translating Tourist Texts Into Non-Mother Tongue: An Experiment with a Multilingual Corpus.' *Opción* (32), pp. 419-436.

Colman, A., Segers, W. and Verplaetse, H. (2021) 'Refining the PIE method (Preselected Items Evaluation) in translator training.' *Current Trends in Translation Teaching and Learning E*, pp. 236-276.

Ebel, R. L. (1979) *Essentials of Educational Measurement.* Englewood Cliffs, N.J: Prentice Hall.

Kockaert, H. and Segers, W. (2017) 'Evaluation of legal translations: PIE method (Preselected Items Evaluation).' *The Journal of Specialised Translation*, 27, pp. 148-163.

Kockaert, H. and Segers, W. (2014) 'Evaluation de la traduction : La méthode PIE (Preselected Items Evaluation).' *Turjuman*, 23(2), pp. 232-250.

McCowan, R. J. and McCowan, S. C. (1999) *Item Analysis for Criterion-Referenced Tests.* Buffalo, New York: Center for Development of Human Services.

Neunzig, W (2011) 'Empirical Studies in Translation: Methodological and Epistemological Questions.' *TTR: traduction, terminologie, redaction*, 24(2), pp. 15-39.

Newmark, P. (2001) *A Textbook of Translation*. Shanghai: Shanghai Foreign Language Education Press (Original work published 1988).

Pavlovic, N. (2007) *Directionality in Collaborative Translation Processes* (Publication No. T.2197- 2007) [Doctoral dissertation, Universitat Rovira i Virgili] [Online] [Accesssed on 26 July 2021]. http://hdl.handle.net/10803/8770

Phelan (2017) 'Analytical assessment of legal translation: A case study using the American Translators Association framework.' *The Journal of Specialised Translation*, 27, pp. 189-210.

Pidgeon, D. and Yates, A. (1968) *An introduction to educational measurement*. London: Routledge & Kegan Paul.

Pokorn, N., Blake, J., Reindl, D. and Pisanski Peterlin, A. (2019) 'The influence of directionality on the quality of translation output in educational settings.' *The Interpreter and Translator Trainer*, pp. 1-21.

Pokorn, N. (2016) 'Is it so different? Competences of teachers and students in L2 translation classes.' *Rivista Internazionale di Tecnica della Traduzione / International Journal of Translation 2016*(18), pp. 31-48.

Reynolds, C. R., Livingston, R. B. and Willson, V. (2006) *Measurement and assessment in education*. Boston: Allyn and Bacon/Pearson.

Segers, W., Kockaert, H. and Wylin, B. (2018) 'Vertaalevaluatie en subjectiviteit.' *Tijdschrift N/f* (13), pp. 41-51.

Segers, W. and Kockaert, H. (2016) 'Can subjectivity be avoided in translation evaluation?' In M. Thelen, G.-W. van Egdom, D. Verbeeck and B. Lewandowska-Tomaszczyk (eds.), Łódź Studies in Language, vol: 41, Translation and Meaning: New Series. Frankfurt am Main: Peter Lang, pp. 69-78.

Tijtgat, E. and Segers, W. (2019) 'Wat is een goede vertaling? Vertaalevaluatie: methodes en technieken.' In G. De Sutter and I. Delaere (eds.), *In balans. Een inleiding tot vertaal- en tolkwetenschap*, Leuven/Den Haag: Acco, pp. 307-328.

van Egdom, G.-W., Verplaetse, H., Schrijver, I., Kockaert, H., Segers, W., Pauwels, J., Bloemen, H. and Wylin, B. (2018) 'How to Put the Translation Test to the Test? On Preselected Items Evaluation and Perturbation.' *In* E. Huertas Barros, S. Vandepitte and E. Iglesias-Fernández (eds.), *Quality Assurance and Assessment Practices in Translation and Interpreting*, Hershey, PA: IGI Global, pp. 26-56.

Weir, C. J. (2005) *Language Testing and Validation: An Evidence-based Approach*. Basingstoke/New York: Palgrave Macmillan.

Annex A
Source text from L2 (English) into L1 (Dutch)

YOUR QUESTIONS

ANSWERED HERE!

WHAT DOCUMENTS ARE REQUIRED TO EXPORT MY GOODS?

Generally speaking, you would need a commercial invoice and packing list. We will produce a bill of lading. However, depending on the goods and the nature of cargo, additional documents may be required. Contact us and we will guide you.

WHICH METHODS OF TRANSPORT DOES THOMAS SMITH OFFER?

Thomas Smith offers the full range of transport methods and services, including road, airfreight, deep-sea container, warehousing, packing, documentation and, of course, marine insurance.

DO I NEED CARGO INSURANCE?

Liability is in accordance with the trading conditions of the carrier. It is highly recommended that you insure your cargo to protect your interests against limitations specified in the carrier's trading conditions and our standard trading conditions. Thomas Smith is able to offer a very favourable all-risks insurance cover for your cargo. Please contact us should you wish to avail yourself of this offer.

WILL I NEED TO DEAL WITH CUSTOMS WHEN SHIPPING OVERSEAS?

Thomas Smith is a fully licensed customs broker with a direct electronic connection with local customs and can prepare all the necessary customs formalities on your behalf.

DOES THOMAS SMITH PROVIDE QUAYSIDE STORAGE FACILITIES?

Thomas Smith has its own warehousing as well as access to quayside storage facilities both at Valletta and the Malta Freeport.

WHAT TYPES OF CONVENTIONAL CARGO DOES THOMAS SMITH HANDLE?

All types of conventional and bulk cargoes can be handled by Thomas Smith. Services include booking appropriate berth, craneage, stevedoring, and local transportation.

Source text from L1 (Dutch) into L2 (English)

Met welke financiële risico's moet ik rekening houden?

Handel drijven is geen kansspel. U moet altijd de potentiële risico's inschatten en afwegen tegen de financiële draagkracht van uw bedrijf. Een kort overzicht maakt u wegwijs in wat een mijnenveld kan blijken:

- Voor **commerciële risico's** zoals kredietwaardigheid, betalingsonzekerheid, wanbetaling, weigering van geleverde goederen,… kan u zich beschermen door een kredietverzekering af te sluiten, die onder meer verliezen en schade wegens insolvabiliteit of wanbetaling door de klant, annulatie van orders en contractbreuk of onvermogen dekt.
- Het risico bestaat dat de **wisselkoers** waartegen de oorspronkelijke offerte werd gemaakt, verschilt van die op het moment van betaling. Dat kan in uw voordeel zijn, maar evengoed in uw nadeel. Verschillende formules bestaan om de gevolgen van koersschommelingen geheel of gedeeltelijk te ondervangen. Het is aan te raden om hierover met uw bankier aan tafel te gaan zitten.
- Sommige producten (olie, koffie, graan, ertsen,…) zijn erg onderhevig aan marktprijzen. Deze **waardeschommelingen** kunnen via de bank worden ingedekt of u kan het risico doorrekenen aan uw klanten. Als u zelf geld moet lenen om de productie te financieren of om een langere betalingstermijn toe te staan, hangt u voor de kosten af van de **interestvoeten** op de markt. Dit kan wegen op de kostprijs en op de marge van uw transactie.

Een transportverzekering dekt **verlies of schade van goederen tijdens transport over land, op zee of in de lucht**, en tijdens de tussentijdse opslag of overslag.

Annex B

Initial item selection for the L2 into L1 translation (English into Dutch)

The items in bold were selected by both evaluators.

Item	Evaluator 1	Evaluator 2
1.	**commercial invoice**	**commercial invoice**
2.	**packing list**	**packing list**
3.	will produce	**bill of lading**
4.	**bill of lading**	**airfreight**
5.	**Airfreight**	**deep-sea container**
6.	**deep-sea container**	warehousing
7.	**Liability**	**liability**
8.	**trading conditions**	in accordance with
9.	**Carrier**	**trading conditions**
10.	**all-risks insurance cover**	the **carrier**
11.	deal with	a very favourable
12.	**Overseas**	**all-risks insurance cover**
13.	**fully licensed**	(should you) wish to avail (yourself of this offer)
14.	Quayside	shipping **overseas**
15.	Warehousing	**fully licensed**
16.	Malta Freeport	customs broker
17.	handled by	with a direction electronic connection with local customs
18.	**Berth**	quayside storage facilities
19.	**Craneage**	**berth**
20.	**Stevedoring**	**craneage**
21.		**stevedoring**

Initial item selection for the L1 into L2 translation (Dutch into English)

Please note that evaluator 2 selected an additional 10 items in this text.

The items in bold were selected by both evaluators

Item	Evaluator 1	Evaluator 2
1.	**Kansspel**	rekening houden
2.	**Draagkracht**	(is geen) **kansspel**
3.	**Kredietwaardigheid**	(financiële) **draagkracht**
4.	**Wanbetaling**	maakt u wegwijs
5.	Insolvabiliteit	een mijnenveld
6.	**Annulatie**	kan blijken
7.	**Omvermogen**	**kredietwaardigheid**
8.	**Waartegen**	betalingsonzekerheid
9.	**in uw voordeel**	**wanbetaling**
10.	**in uw nadeel**	weigering van
11.	**Ondervangen**	contractbreuk
12.	**onderhevig aan**	**onvermogen**
13.	Waardeschommelingen	wisselkoers
14.	**Ingedekt**	**waartegen**
15.	**Doorrekenen**	offerte
16.	**verlies**	**in uw voordeel**
17.	**schade van**	**in uw nadeel**
18.	over land	koersschommelingen
19.	Opslag	(geheel of gedeeltelijk) te **ondervangen**
20.	**Overslag**	aan tafel te gaan zitten
21.		ertsen
22.		zijn erg **onderhevig aan** marktprijzen

23.		**ingedekt**
24.		(u kan) het risico **doorrekenen** aan
25.		een langere betalingstermijn (toe te staan)
26.		hangt u voor
27.		wegen op
28.		marge van uw transactie
29.		**verlies** of **schade van** goederen
30.		**overslag**

Annex C

Final item selection for the L2 into L1 translation (English into Dutch) based on an intersubjective consensus including the dichotomous categorisation of possible translation solutions for each item

The solutions marked with an asterisk (*) are correct solutions proposed by the students which were added to the list after the analysis

Item	***Correct translation solutions***	***Incorrect translation solutions***
1. will produce	stellen op, zullen opstellen, maken op, zullen opmaken *voorzien, *zorgen voor	zullen produceren, produceren, overleggen, zullen maken, maken, zullen vervaardigen, vervaardigen
2. bill of lading	cognossement, connossement, vrachtbrief	B/L, BOL, bill of lading, Bill of Lading, Bill of lading, bill of Lading, Bill Of Lading, zeevrachtbrief
3. Liability	Aansprakelijkheid	schuld, verplichting, verplichtingen, passiva, toerekeningsvatbaarheid, oninbare vordering, verantwoordelijkheid, verantwoordelijkheden, verplichting, plicht, onderhevigheid, vatbaarheid
4. DEAL WITH CUSTOMS	douaneformaliteiten afhandelen/uitvoeren/ vervullen	omgaan met, behandelen, handelen met, rekening houden met, onderhandelen met, contact opnemen met (+ de douane), zaken doen met, afhandelen, aanpakken (+ de douane)
5. OVERSEAS	overzees (adjective), overzee (adverb), naar overzeese landen/gebieden *(transport) over zee	buitenlands, naar het buitenland, intercontinentaal, extern
6. fully licensed	met alle (nodige) vergunningen, met alle (nodige) licenties *met een volledige vergunning, *met volledige vergunning, *die	onder licentie, geoctrooieerd, gemachtigd, geautoriseerd

	over een volledige vergunning beschikt	
7. QUAYSIDE	op de kade/kaai/walkant /wal, aan de kade/kaai, langs de kade/kaai, kade-/kaai- (e.g. "kadeopslagvoorzieningen") * kaden/kades (plural)	(aan/langs/op de) kadezijde, kaaizijde
8. Malta Freeport	(de) Malta Freeport	de vrijhaven/vrije haven van/in Malta, vrije poort van/in Malta
9. handled by	afgehandeld worden, kan afhandelen, behandeld worden), kan behandelen *behandelt (active voice)	verwerkt worden, kan verwerken
10. craneage	kraangebruik, kraan, kranen, hijskraan, hijskranen, hijswerkzaamheden *het gebruik van kranen	kraancapaciteit, kraangeld
11. commercial invoice	handelsfactuur	commerciële factuur, handelsrekening, commerciële rekening, handelsbon, handelsnota, leveringsbon
12. packing list.	pakbon, paklijst	leveringsbon, detailnota, vrachtbrief, inpaklijst, verpakkingslijst, verpaklijst
13. airfreight	luchtvracht, luchtvrachtvervoer, luchtvrachtdiensten, luchttransport *luchtvervoer	vrachtvervoer
14. deep-sea container	diepzeecontainer(s), diepzeecontainerschepen	zeewaardig containerschip, diepzee-containerschepen, zeecontainerschepen, deep-seacontainerschepen, binnenschip, binnenvaartschip

15. trading conditions	Handelsvoorwaarden	marktomstandigheden, voorwaarden inzake het handelsverkeer, handelsomstandigheden, marktomstandigheden
16. carrier	vervoerder, transporteur, expediteur, transporteur, vrachtvaarder, expeditiebedrijf, transportbedrijf, vervoersbedrijf	drager, ladingdrager, bagagedrager, vervoersmaatschappij, koerier, luchtvervoerder, (lading)drager, transportondernemer
17. all-risks insurance cover	verzekering tegen alle risico's, allriskverzekering, allriskverzekeringsdekking *allerisicoverzekering	all-riskverzekering (and other spelling variations; in Dutch it should be one word)
18. wish to avail	gebruik wil maken (van) *gebruik wenst te maken/wilt maken	genieten van, profiteren van
19. berth	ligplaats(en), aanlegplaats(en)	kaai, kade, jetty, kooi, laadperron, laadplaats, slaapplaats, ankerplaats
20. stevedoring	laad- en losdiensten, laden en lossen, stuwadoorsdiensten, diensten van havenarbeiders *stuwadoordienst	stuwadoorsbedrijf/ stuwadoorsbedrijven (IATE), havenwerkers, havenarbeiders, dokwerkers

Final item selection for the L1 into L2 translation (Dutch into English) based on an intersubjective consensus including the dichotomous categorisation of possible translation solutions for each item.

The solutions marked with an asterisk (*) are correct solutions proposed by the students which were added to the list after the analysis

	Item	***Correct translation solutions***	***Incorrect translation solutions***
1.	draagkracht	capacity, strength, standing, viability, capability, (financial) standing	(load) bearing capacity, creditworthiness, credit standing, bearing strength, capacity to pay, ability to pay tax, fiscal capacity, taxable capacity, tax-paying ability, throw-weight, carrying capacity, lift
2.	kredietwaardigheid	creditworthiness	credit rating, credit standing, solvency, credibility credit report
3.	wanbetaling	default (of payment) payment default, non-payment	nonpayment, payment deferral, payment rejection, payment refusal
4.	ondervangen	manage, absorb, offset, overcome, counter *obviate	control, prevent, capture, anticipate, compensate for, address, tackle, respond to, mitigate/cushion
5.	onderhevig aan	dependent on, subject to, prone	liable for/to, susceptible to
6.	waardeschommelingen	fluctuations in value, value fluctuations	changes in fair value, value surges/swings/oscillations /variations/ ups-and-downs/ups-and-downs, value variability/volatility
7.	doorrekenen aan	pass on to, transfer	calculate/charge to, recharge to

8.	offerte	quotation, quote	tender, bid, offer, estimate, proposal
9.	onvermogen	insolvency Note: since "insolvabiliteit" is also used above in the same sentence, a solution to avoid repetition could be a description: the client's/customer's inability to pay/meet their financial obligations/ lack of (available) funds	bankruptcy, poverty, debt, inability, incapacity, powerlessness, impotence
10.	overslag	transshipment, trans-shipment, transhipment	transfer of goods, loading and unloading
11.	kansspel	should not be left to chance, game of chance * a gambling game, * gambling	betting, gaming, lottery
12.	ertsen	ore, ores	specific types of ores, e.g. metal ores
13.	weigering van	rejection of, refusal of	denial of, declining of, turning down of, turning away of
14.	contractbreuk	breach of contract/agreement, contract breach	contract break/breakage, contract breech
15.	wisselkoers	(foreign) exchange rate, rate of exchange, conversion rate	spot rate, benchmark rate

16.	waartegen	at which	against which
17.	verlies	loss of *lost (goods)	loss
18.	in uw voordeel	to your advantage *in your favour, *advantageous to, *an advantage, *can benefit you	at/in your advantage
19.	ingedekt	hedged	covered, covered up/in
20.	betalingstermijn	payment term *term of payment, *payment period	time-to-pay, time limit for payment, date of payment, payment terms, payment date, payment deadline, insta(l)lment, payment conditions

Annex D

Raw scores for the L2 into L1 translation (English into Dutch)

EN-NL	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	RAW SCORES
	will produce	bill of lading	liability	deal with customs	overseas	fully licensed	quayside	Multi Freeport	handled by	cranage	commercial invoice	packing list	airfreight	deep-sea container	trading conditions	carrier	all-risks insurance cover	wish to avail	berth	stevedoring	ITEMS 1-20
Stud. 1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	17
Stud. 2	1	1	1	0	0	0	1	0	1	1	1	1	1	0	1	1	0	1	1	0	13
Stud. 3	1	1	1	0	1	0	1	1	0	0	1	1	1	0	1	1	0	0	1	0	12
Stud. 4	1	1	1	1	0	0	1	1	0	0	1	1	1	1	1	1	1	0	0	0	13
Stud. 5	1	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0	0	15
Stud. 6	0	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	0	14
Stud. 7	1	1	1	0	1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	0	14
Stud. 8	0	1	1	0	1	1	1	1	1	0	1	1	1	0	1	0	0	1	1	0	13
Stud. 9	1	0	1	0	0	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	12
Stud. 10	0	1	1	0	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	16
Stud. 11	1	1	1	0	1	0	1	1	1	1	1	1	0	1	1	1	1	0	1	0	15
Stud. 12	1	1	1	0	1	0	1	1	0	1	1	1	1	0	1	1	1	1	0	0	14
Stud. 13	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	0	11
Stud. 14	1	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	16
Stud. 15	0	1	1	0	1	0	1	1	1	1	1	1	0	0	1	1	0	1	1	0	13
Stud. 16	1	1	1	0	0	0	0	1	1	0	1	1	1	0	1	1	0	1	0	0	11
Stud. 17	1	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	0	0	15
Stud. 18	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	0	1	0	14
Stud. 19	1	1	1	0	1	0	1	0	1	1	0	1	1	0	1	1	1	1	1	0	14
Stud. 20	1	1	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	16
Stud. 21	1	0	1	0	1	0	1	0	1	1	1	1	1	0	0	1	0	0	1	0	11
Stud. 22	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	16
Stud. 23	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	15
Stud. 24	1	1	1	0	1	0	1	1	0	1	1	1	1	0	1	1	1	1	1	0	15
Stud. 25	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	16
Stud. 26	1	1	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	0	15
Stud. 27	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	0	14
Stud. 28	1	1	1	0	0	1	1	1	1	0	1	1	1	0	1	1	0	0	0	0	12
Stud. 29	1	1	1	0	0	1	1	0	1	1	1	1	1	0	1	1	0	1	0	0	13
Stud. 30	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	1	0	16

Raw scores for the L1 into L2 translation (Dutch into English)

NL-EN	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	RAW SCORES ITEMS 1-20
	draagkracht	kredietwaardigheid	wanbetaling	ondervangen	onderhevig van	waardeschommelingen	doorrekenen van	offerte	onvermogen	overslag	kaszegel	uitzon	weigering van	contractbreuk	wisselkoers	waartogen	verlies van	in uw voordeel	ingedekt	betalingstermijn	
Stud. 1	1	0	1	1	1	1	0	0	0	1	1	1	1	1	0	1	0	1	0	1	13
Stud. 2	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	19
Stud. 3	0	0	1	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	13
Stud. 4	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	0	1	1	0	0	14
Stud. 5	1	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	16
Stud. 6	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	17
Stud. 7	1	1	1	1	0	1	1	0	1	1	0	1	1	0	1	1	1	1	0	1	15
Stud. 8	1	0	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	0	0	13
Stud. 9	1	1	1	0	1	1	1	0	1	1	1	1	0	1	1	1	0	0	0	1	14
Stud. 10	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	17
Stud. 11	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	1	16
Stud. 12	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	0	0	1	15
Stud. 13	1	1	1	1	0	1	0	1	1	0	1	1	1	1	1	0	1	1	1	1	16
Stud. 14	1	1	1	1	0	1	1	0	1	0	1	1	1	1	1	1	1	1	0	1	16
Stud. 15	0	0	0	0	1	1	1	0	0	1	1	1	0	1	1	1	1	1	0	1	12
Stud. 16	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	17
Stud. 17	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	17
Stud. 18	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	15
Stud. 19	1	1	1	1	0	1	1	0	0	0	1	1	1	1	1	1	0	1	0	1	14
Stud. 20	1	1	1	1	0	1	1	0	0	0	1	1	1	1	0	0	0	1	0	1	12
Stud. 21	1	1	1	1	0	1	1	0	0	0	1	1	1	1	1	0	0	1	1	1	14
Stud. 22	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	0	1	0	1	16
Stud. 23	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0	1	1	0	0	14
Stud. 24	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	17
Stud. 25	1	1	1	1	0	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	15
Stud. 26	1	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	17
Stud. 27	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	17
Stud. 28	1	1	1	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	1	0	11
Stud. 29	1	1	1	1	0	1	1	0	0	1	1	1	1	1	1	0	1	1	1	1	16
Stud. 30	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1	0	1	16