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# Challenges in sign language translation for novice translators: using LSFB-to-French corpus data to inform translator education

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## ABSTRACT

This study investigates the unique challenges and strategies in translating from a signed to a spoken language, focusing on translation from French Belgian Sign Language (LSFB) to French. While research on sign language interpreting is thriving, studies on translation are rather scarce, often centring on the translation of spoken to signed languages. To address this gap, we analyse student and expert translations within a newly compiled LSFB-to-French translation corpus, applying error analysis to student translations. Findings highlight the error-prone segments in student translations and the creative strategies employed by experts to translate these segments, informed by Pym's taxonomy of translation solutions. The study aims to provide empirical evidence to enhance translator training resources, supporting the development of curricula tailored to the specific needs of signed-to-spoken language translation.

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## Introduction

Training students to translate from a signed to a spoken language requires specific approaches that extend beyond traditional spoken language paradigms. With the advent of learner translation corpora (Granger and Lefer 2023), there is now a valuable opportunity to analyse empirically the challenges faced by novice sign language translators and develop better strategies and materials for their training. This article examines comparable learner and expert translations from French Belgian Sign Language (LSFB) to French. Our objective is twofold: (1) to analyse challenges faced by student translators when translating from LSFB to French, using errors as a proxy for translation difficulties, and to identify error-prone segments in the LSFB materials used as source videos, and (2) to uncover the specific solutions used by professionals to navigate these challenging areas. Using an exploratory qualitative analysis of student errors and expert solutions for error-prone passages, we explore how corpus-based empirical evidence can be used to inform sign language translation education.

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Section 2 provides background and covers three key topics: translation from a signed to a spoken language, academic training in sign language translation in French-speaking Belgium, and learner translation corpus research, with a focus on error analysis. Section 3 details the corpus data and methodology used in the study, alongside the taxonomies used to annotate errors and solutions in learner and expert translations respectively. Section 4 presents and discusses the results of the analysis, including the implications of the findings for translator education. Finally, Section 5 summarises key insights.

## Background

### *Translating from a signed to a spoken language*

While research on sign language interpreting seems to be well established in the field of Translation and Interpreting Studies, research on sign language translation is less common. For example, in the *Routledge Handbook of Sign Language Translation and Interpreting* (Stone et al. 2022), only two chapters out of 33 are exclusively devoted to translation. In addition, research on sign language translation mostly focuses on translation from a spoken to a signed language (see Fernandes and Rosa 2014; François, Hulin, and Jamart 2017; Schleder Rigo 2015).

However, translating from a signed to a spoken language is crucial for deaf<sup>1</sup> communities. It enables them to express their original thinking in their academic and intellectual productions (Schleder Rigo 2015) and to be included in various areas of society (e.g. a sign language testimony recorded and translated in spoken language for a trial or a sign language video recorded as a complaint) (Marques 2014). It also contributes to their autonomy (Nicoloso 2010) and helps with the recognition of deaf literature, art and history (Blondel and Catteau 2021; Weininger et al. 2014).

Some authors have examined translations from a signed to a spoken language. Their studies reveal that this translation direction presents numerous challenges but also appears to allow for greater creative flexibility in translation choices (Tweney and Hoemann 1976) (see Troqe and Strasly (2018) for a similar observation regarding spoken-to-signed language translation).

Poem translation has been the focus of several studies. Nicoloso (2010) and Raniolo (2021) reflect on their own written translations of a poem from a signed to a spoken language, while Souza (2014, 2018), Weininger et al. (2014) and Catteau (2020) compare multiple translations of the same poem from signed to spoken languages, in both written and spoken form. Nicoloso (2010) reports the specific challenges she encountered, such as deciding whether to retain characters and dialogues conveyed through body and finger use, and avoiding additions or omissions. Other studies observe that translators tended to adopt more creative strategies, such as incorporating graphic elements, onomatopoeia or typographic variation.

Another genre examined in this body of research is academic texts, particularly translations from Libras (Brazilian Sign Language) into written Portuguese. Fernandes and Rosa (2014) discuss the ethical dimension of neutrality in translation, while Schleder Rigo (2015) identifies strategies specific to translating from a signed to a spoken language, such as collaboration with deaf source-text authors and the use of illustrations in target texts.

Other authors have tackled issues relating to domestication and foreignisation. For example, Klamt (2014) argues that domestication, in the context of poetry translation, would cause certain characteristic elements of sign language poetry to be lost (e.g. repetition of signs, visual metaphors, rhythm), while Leneham (2007) shows that foreignisation could further disadvantage deaf communities if used for a readership that is unfamiliar with these communities and the typical features of signed languages.

Given the scarcity of research on translation from signed to spoken languages, identifying consistent trends remains a challenge. As Wurm (2010) observes, work on sign language translation tends to be relatively isolated, addressing a wide range of topics with limited cross-referencing among studies. This fragmentation is further compounded by the fact that much of the existing research focuses on poetry – the most extensively studied genre to date – with findings that are not readily generalisable to other areas of signed-to-spoken language translation.

### ***Academic training in signed language translation in French-speaking Belgium***

In September 2014, the first university programme in sign language translation and interpreting was launched in French-speaking Belgium (see also Hanquet and Strasly in this issue). The three-year bachelor's degree and two-year master's degrees are currently offered at UCLouvain. Following challenges in two previous training experiences in the 1980s and mid-1990s (Haesenne, Huvelle, and Kerres 2008), it was decided to model the bachelor's and master's programmes on existing courses in spoken language translation and interpreting. As with other language combinations, the master's offers a choice between translation and interpreting. However, unlike other language combinations, the master's in interpreting only concerns LSFB (English is discontinued), but is bidirectional (French to LSFB and vice versa). This design was chosen to meet the specific needs of sign language interpreting.

Following the recommendations of the World Association of Sign Language Interpreters (World Association of Sign Language Interpreters 2017), the bachelor's programme is structured primarily around intensive language and culture courses in French, English and LSFB. These are supplemented with introductory courses in translation and interpreting. Students choosing the master's in translation are typically trained in translating and subtitling LSFB (and English) productions into French. Students translate exclusively from LSFB into French, since, as previously noted, the curricula were required to mirror those of spoken language programmes, which only included translation from the students' L2 into their L1 (Haesenne, Huvelle, and Kerres 2008). Internships complete the training at master's level, in line with recommendations for sign language interpreting programme evaluation from the European Forum of Sign Language Interpreters (EFSLI; Leeson, Alberdi, and Bown 2013). To address the lack of training in translation from French into LSFB, a university certificate in translation and interpreting aimed at deaf LSFB signers was offered in the 2023–2024 academic year by UNamur and UCLouvain (Saint-Louis campus), in collaboration with the University Jean Jaurès in Toulouse.<sup>2</sup>

With the full BA-MA programme, French-speaking Belgium joins the small group of countries and regions offering a complete curriculum for sign language interpreting, extending up to master's level, alongside Germany, England, Austria, Finland, Flanders,

France and, outside Europe, Australia, Brazil, Canada, Japan, the United States and New Zealand (Wit 2020; Napier 2009). Even fewer programmes differentiate between training in translation and training in interpreting. In fact, only Austria and Brazil offer this feature (see also Pérez-Rojas in this issue for the newly established online training in Colombia).

When the programme started in 2014, there were no resources for LSFb-French translation, and very few studies had been conducted on translation between a signed and a spoken language. Only the experience and practice of professional interpreters and translators was available to inform course development. To this end, a guide was written for student translators, gathering the expertise of three interpreters, two of whom were also instructors in the bachelor's programme (François, Hulin, and Jamart 2017). The guide's approach to identifying major pitfalls would benefit from additional insights and clarification founded on empirical analysis of student translation data, supplemented with expert translations.

### ***Learner translation corpus research and error analysis***

An effective method for gathering empirical insights into student productions is the compilation of learner translation corpora (LTCs). At the intersection of Learner Corpus Research (Granger, Gilquin, and Meunier 2015) and Corpus-Based Translation Studies (Granger and Lefer 2022), LTCs are essential resources that consist of electronic collections of translations produced by learners (translation students or foreign language learners), who translate into either their mother tongue or a foreign language under real-life conditions, such as in classroom settings. Compared to corpora of professional translations, LTCs capture the learning stages and challenges of students, offering empirical insights into the linguistic make-up of translations, frequent error patterns and translation competence acquisition. The first LTCs were collected in the early 2000s and were soon followed by similar initiatives (see Granger and Lefer 2023 for an overview).

One primary strand of LTC research is error analysis (Granger and Lefer 2023). By systematically categorising and analysing errors in student translations, researchers and translation trainers can identify specific areas where students struggle, such as content transfer issues, over-reliance on source language (SL) structures or inadequate command of target language (TL) norms. Error analysis in LTCs often involves detailed error schemes that help structure and systematise the annotation of student translations. In the early 2000s, the EU-funded MeLLANGE project introduced a comprehensive error typology that has significantly influenced subsequent frameworks (see Castagnoli et al. 2011; Kübler, Mestivier, and Pecman 2018), notably the most recent, the Translation-oriented Annotation System used within the Multilingual Student Translation (MUST) project (Granger and Lefer 2020, 2021).

One key application of error-annotated LTCs lies in translation curriculum development and materials design: error data allow trainers to adjust teaching methods and materials to address recurring issues specific to language pairs, study levels or translation domains. For example, Kunilovskaya et al. (2022) investigate translation challenges encountered by students in English-to-Russian translation, using the error-annotated RusLTC. They argue for more empirically-informed translation curricula that prioritise authentic error-prone items, helping trainers design teaching materials that better address students' actual needs.

An emerging focus in LTC research is the comparison of learner and professional translations, examining how levels of expertise influence translation choices and translation quality (De Sutter et al. 2017; Kunilovskaya and Lapshinova-Koltunski 2019; Kunilovskaya, Morgoun, and Pariy 2018). This contrastive analysis not only highlights linguistic differences in translation output across expertise levels but also contributes to understanding the developmental trajectory from novice to expert translation behaviour. However, most research to date relies on student and professional translations of different source texts, which hinders the comparability of the novice and expert datasets under scrutiny.

In summary, error-annotated LTCs provide foundational data for enhancing translation training. By systematically investigating translation errors, LTC research not only improves pedagogical practices but can also deepen theoretical insights into translation competence acquisition. To the best of our knowledge, signed languages have not yet been addressed in learner translation corpus research, a gap that this article seeks to fill.

## Data and methodology

This study relies on student and expert corpora that consist of comparable translations from LSFB to French performed by students in the master's programmes in translation and interpreting at UCLouvain and by professional interpreters. We included both translation and interpreting students in the study for two main reasons: first, the number of translation students available at the time of data collection was too low ( $n = 3$ ); second, all participating students had previously received formal training in translation as part of their bachelor's degree in translation and interpreting. We invited professional interpreters to participate as expert translators because including the only qualified LSFB-French translator would have raised a methodological concern, as they are the first author of the present study. Additionally, interpreters are occasionally required to perform translation tasks in their professional practice and are therefore familiar with the activity. To make the student and expert corpora comparable, participants received the same instructions and translation brief and translated the same source videos. Similar metadata were also collected for both groups.

The student translation corpus was compiled as part of the international Multilingual Student Translation project (MUST; Granger and Lefer 2020). The Hypal4MUST online platform, developed for the MUST project, enables the collection of metadata related to the source texts (e.g. genre, communicative function, intended audience), the translation tasks (e.g. task duration in minutes, tools and resources used) and the students who contribute data (e.g. age, mother tongue(s), self-rated proficiency in SL/TL). Translations were collected in class.

The expert translation collection protocol was built on the basis of the collection protocol of the student corpus. Interpreters were contacted via email and offered remuneration for their work. Professionals worked from home with a one-month deadline to complete the tasks. Metadata were collected using two online questionnaires. The first was the *Translation and Interpreting Competence Questionnaire* (TICQ; Schaeffer et al. 2020), which was translated into French for this study. The TICQ allows data to be collected on the participants' linguistic background and their professional experience in translation and interpreting. The second questionnaire was a short survey of the time spent translating each source video and the tools used while translating.

In both cases, participants were given the same translation brief asking them to provide an autonomous text for a broad French-speaking readership with no knowledge of the deaf community or signed languages.

### **Source texts**

The two videos used as source material were taken from the LSFB Corpus (Meurant 2015). The LSFB Corpus contains 80 hours of conversations in LSFB. The videos display deaf signers conversing in pairs in semi-directed interviews moderated by a deaf person. The signers have different profiles: age group, regionality and linguistic background (Meurant, Gobert, and Cleve 2016).

The first video selected was produced by two native signers (S026 and S027) discussing their sign names (Task A): explaining the origins of their sign names and what they think about them. In deaf culture, individuals are assigned a sign name, in addition to their civil name, by a member of the deaf community. This two-minute video addresses a topic widely discussed within the deaf community and reflects the type of content future translators are likely to encounter, given that longer monologues are relatively uncommon in sign languages. The second video displays two signers (S40 and S41), one native and the other near-native (LSFB exposure before the age of seven; Lepeut et al. 2024), where one signer was asked to watch a short animated video and retell it to the other signer, who then had to complete the end of the story. This video (Task B) is 2 minutes 38 seconds long.

### **Participants**

The two videos were translated by eight students and three professional interpreters. Eight students translated Task A and two of them also translated Task B. Five were in the master's in interpreting (1st year = 3; 2nd year = 2) and three were in translation (1st year = 1; 2nd year = 2). The two students who translated the story (Task B) were translation students (1st and 2nd year), a constraint shaped by the practical conditions of the pedagogical context in which the corpus data were collected. All students had graduated from the bachelor's in translation and interpreting and had French as one of their mother tongues (one student had a second mother tongue). All of them started learning LSFB at the beginning of their university programme.

All three professional interpreters had graduated from the master's in interpreting. Two of them had enrolled in the programme after several years of working with the French Belgian deaf community, through an entry trajectory that validates learning from experience, and the third professional had completed the bachelor's in translation and interpreting before enrolling in the master's. All three had French as their mother tongue and LSFB as their L2. All translated both videos.

### **Translation errors in student translations**

Once students had uploaded the translations and metadata onto Hypal4MUST, we annotated translation errors using a built-in annotation system, called the *Translation-oriented Annotation System* (TAS; Granger and Lefer 2021). TAS provides a structured taxonomy for identifying and tagging errors in student translations. Developed collaboratively within the MUST project (Granger and Lefer 2020), TAS aims to balance

granularity and usability across diverse language pairs, ensuring compatibility with both pedagogical and research contexts. TAS's design acknowledges the subjectivity inherent in translation error identification, guiding annotators to adopt a descriptive, rather than an interpretative, approach to error tagging. TAS categorises errors into eight major groups (level 1 categories, see [Table 1](#)).

Each first-level category is subdivided into specific error types (levels 2 and 3 of the taxonomy). For example, the Content (CT) category includes distortion, omission, addition and indecision. TAS also includes meta-tags, such as Source Language Intrusion (SLI, for errors influenced by SL structures), Distortion (DIS), Error Repetition (REP), and PLUS (for particularly effective translation choices).

All student translations for Task A were annotated in one batch using the teacher interface of Hypal4MUST. However, of the eight student translations for Task A, one was discarded as the student completed less than half of the translation. Student translations from Task B were annotated after each data collection session.

On the Hypal4MUST annotation interface, the platform displays the source text alongside the student translation. Hypal4MUST was not designed to support videos as source texts, as the platform was originally developed for spoken languages. An existing French version of the LSFB video, drawn from the LSFB Corpus, was therefore used as a placeholder for the source text on the paragraph and sentence alignment interface ([Figure 1](#)). This was done solely for technical reasons.

Since Hypal4MUST does not support video input, ELAN (Max Planck Institute for Psycholinguistics, The Language Archive [2022](#)) was used to align the students' translations with the corresponding source videos. In parallel, the two videos were segmented into Basic Discourse Units (BDUs), following the procedure outlined in Gabarró-López and Meurant ([2016](#)). This method involves segmenting the sign language discourse into bounded units, first at the syntactic and prosodic levels, and then delimiting segments where these levels coincide. An ELAN file was created for each student translation, incorporating the ID-glosses from the LSFB Corpus project (on the concept of ID-gloss, see Johnston [2010](#)) and the BDU segmentation. The error annotations generated in Hypal4MUST were then transferred to these ELAN files ([Figure 2](#)). Based on the error-annotated translations, BDUs particularly prone to errors were identified.

**Table 1.** TAS error taxonomy, level 1 (Granger and Lefer [2021](#)).

|                               |                                                                                                                                                                                                                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Content (CT)                  | Errors arising from a failure to reflect accurately the content of the source text (mistranslations, additions, omissions).                                                                                                                                                                                                |
| Lexis and terminology (LT)    | Problems with single words, multiwords and terms.                                                                                                                                                                                                                                                                          |
| Grammar and syntax (GR)       | Sentence grammar errors and word grammar (i.e. lexico-grammatical) errors; also inflectional morphology errors.                                                                                                                                                                                                            |
| Mechanics (ME)                | Errors related to spelling, punctuation and typography.                                                                                                                                                                                                                                                                    |
| Discourse and pragmatics (DP) | Issues related to cohesion and information structuring, such as the use of connectors and thematic progression.                                                                                                                                                                                                            |
| Register and style (REG)      | Errors resulting from the use of words or structures which do not fit with the communicative function(s) of the translation, and clumsy, awkward chunks of text that do not contain any errors as such but that one would want to reformulate; also cases of redundant or unnecessary words that would be better left out. |
| Culture (CL)                  | Errors related to culture-specific references: instances where explanations of realia or cultural concepts are missing and cases where realia or proper names are translated when they should have been left untranslated, and vice versa.                                                                                 |
| Translation brief (TB)        | Cases of failure to comply with the specifications of the translation brief.                                                                                                                                                                                                                                               |

| Target language                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Source language                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paragraph 0<br>A : Quel est ton anthroponyme ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Paragraph 0<br>S026 : OK , tu t'appelles comment ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Paragraph 1<br>B : Mon nom est Mylène et voici mon anthroponyme : MY .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Paragraph 1<br>S027 : Mon prénom est Mylène et mon nom-signe est « les-lettres-M-et-Y » .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Paragraph 2<br>A : Pourquoi est-il signé comme ça ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Paragraph 2<br>S026 : « les-lettres-M-et-Y » , ok , et pourquoi ce nom-signe ?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Paragraph 3<br>B : Lorsque j'étais petite , avec ma grande sœur , nous étions deux sourdes et lorsqu'elle est née , elle avait de bonnes joues , il a donc été facile de lui trouver un anthroponyme . Il se signe sur la joue .<br>Cependant , lorsque je suis arrivée après elle , il a été difficile de m'en trouver un qui me convienne parfaitement . Mes joues , mon rire , mes vêtements ne suffisaient pas à me trouver un anthroponyme . En effet , mes parents éprouvaient beaucoup de difficulté pour parvenir à me trouver quelque chose .<br>Ils ont décidé d'attendre quelque temps afin de voir ce qu'ils trouveraient pour moi . Mon prénom commençant par « M » et « Y » , c'était une idée provisoire qui était logique et évidente . | Paragraph 3<br>S027 : J'ai une grande sœur - mes parents sont sourds aussi - et quand elle est née , ils n'ont pas eu de difficultés à lui trouver un nom-signe puisqu'elle avait déjà un visage joufflu , ils l'ont appelée « la-joue-potelée » .<br>Mais quand je suis née , ils n'arrivaient pas à me trouver un signe qui serait lié à mon caractère , une caractéristique physique ou autre chose .<br>Alors ils ont décidé de m'appeler provisoirement « les-lettres-M-et-Y » en lien avec la première et la deuxième lettre de mon prénom , le temps de me trouver un autre signe .<br>Mais le temps a passé et finalement , par habitude , mon signe est resté « les-lettres-M-et-Y » . |

Figure 1. Student translation on Hypal4MUST.

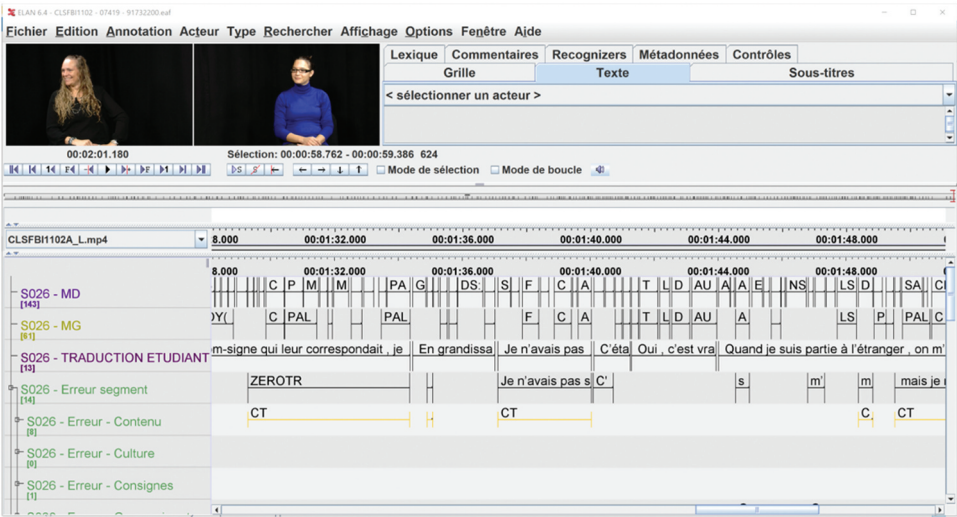


Figure 2. Student translation ELAN file.

### Translation solutions

The six expert translations were collected in one batch via email. Experts sent one anonymised text document for each translation, while the metadata were collected through the two online questionnaires. Expert translations were directly aligned with the videos using ELAN following the same procedure as for student translations.

Pym (2016, 2018) taxonomy was used to analyse translation solutions employed by the experts to render segments that proved particularly prone to student errors. Pym's taxonomy is divided into eight categories and three main groups (Table 2).

**Table 2.** A typology of translation solution types for many languages (Pym 2018, 45).

|            |                   |                                                                                                        |
|------------|-------------------|--------------------------------------------------------------------------------------------------------|
| Copying    | Copying words     | Copying sounds, morphology, script, etc.                                                               |
|            | Copying Structure | Copying prosodic features, fixed phrases, text structures, etc.                                        |
| Expression | Perspective       | Changing sentence focus, semantic focus, voice, renaming an object, etc.                               |
| Change     | Change            |                                                                                                        |
|            | Density Change    | Generalisation/specification, explicitation/implicitation, multiple translation, etc.                  |
|            | Resegmentation    | Joining, cutting sentences, re-paragraphing, etc.                                                      |
|            | Compensation      | New level of expression, place in text (notes, paratexts), etc.                                        |
|            | Cultural          | Corresponding idioms, units of measurement or currency, relocation of culture-specific referents, etc. |
|            | correspondence    |                                                                                                        |
| Material   | Text tailoring    | Correction/censorship/updating, omission or addition of material, etc.                                 |
| Change     |                   |                                                                                                        |

## Results and discussion

Over the entire corpus of student translations – seven translations for Task A and two translations for Task B – the most frequent error types per 100 words were Content errors (CT), followed by Register and Style (REG) and Discourse and Pragmatics (DP) errors (Table 3).

The distribution of error types at level 1 is consistent across all tasks. Differences can be found at lower levels. For Task A, four of the top five most frequent errors are content-related (incorrect meaning, omission, inexact meaning and incomprehensible) and one is register-related (heaviness) (Table 4). By contrast, for Task B, only content-related errors could be found in the top five, but in a different order (incomprehensible, addition, inexact meaning, omission, incorrect meaning; Table 4).

We identified BDUs with a higher number of errors, using two students as a minimum threshold. For Task A, six segments were selected where students made a minimum of 10 errors (Figure 3), and for Task B, three segments were selected where students made at least four errors (Figure 4). This threshold of four errors is lower because only two students translated Task B.

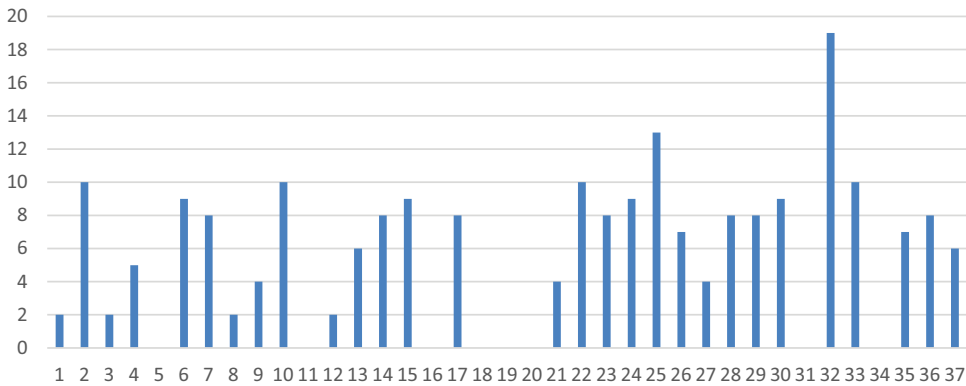
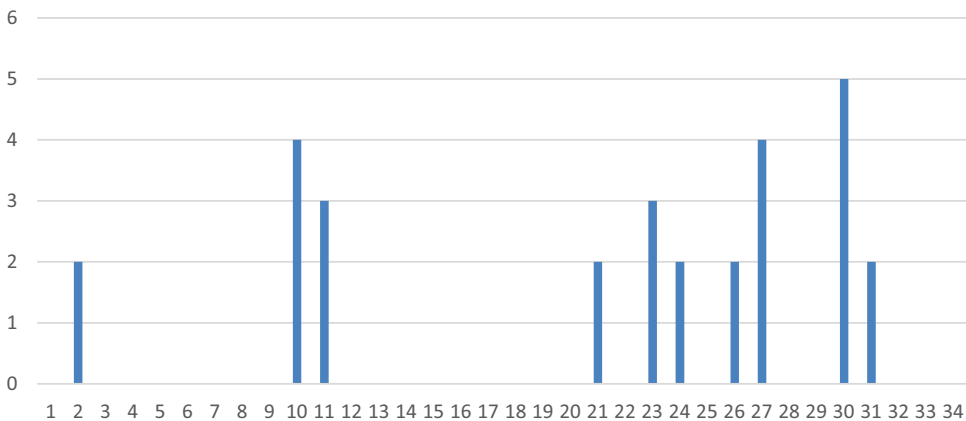
Across BDUs, some errors were consistent and did not seem to be linked to a particular difficulty in the text or task, such as concord errors (between subject and verb or determiner and noun) or poor collocation choices. Those error types are not specific to the LSFB-French language pair and emphasise the need to focus on target-language fluency, even if the TL is the students' native language. However, some errors specific to the source language, LSFB, were found at the level of lexical recognition. It seems that students mixed up signs that are phonologically close. Adam et al. (2011) found that to recognise a sign, British Sign Language users first use the location parameter (i.e. the place of the sign on the body) to narrow down lexical search. They then use the other parameters in this specific order: handshape, movement, orientation (of the palm) and facial expression (mouthings). Table 5 shows some examples of mixed-up signs.

**Table 3.** Total error count at the first level of TAS (all student data).

|     | Total error counts | Error frequencies per 100 words |
|-----|--------------------|---------------------------------|
| CT  | 115                | 2.60                            |
| REG | 28                 | 0.63                            |
| DP  | 19                 | 0.43                            |

**Table 4.** Total error counts at the third level of TAS for tasks A and B.

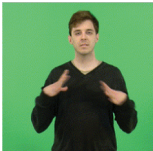
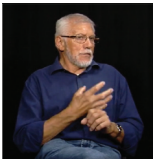
|                      | Task A - Total error counts | Task A - Error frequency per 100 words | Task B - Total error counts | Task B - Error frequency per 100 words |
|----------------------|-----------------------------|----------------------------------------|-----------------------------|----------------------------------------|
| CT incorrect meaning | 40                          | 1.29                                   | 4                           | 0.30                                   |
| CT omission          | 34                          | 1.10                                   | 5                           | 0.38                                   |
| REG heaviness        | 8                           | 0.26                                   | 1                           | 0.08                                   |
| CT incomprehensible  | 7                           | 0.23                                   | 3                           | 0.26                                   |
| CT inexact meaning   | 6                           | 0.19                                   | 4                           | 0.30                                   |
| CT addition          | 6                           | 0.19                                   | 6                           | 0.45                                   |

**Figure 3.** Number of errors/BDU for Task A.**Figure 4.** Number of errors/BDU for Task B.

These sign confusions caused major content transfer errors, where the meaning of source and target do not coincide. For example, [Table 6](#) compares the student and expert translations of the last example mentioned in [Table 5](#). Training students to identify lexical signs and distinguish between similar signs therefore seems essential.

Examining each BDU closely and linking student errors and expert solutions brought out difficulties inherent in each video and its discourse type: metalinguistic aspects,

Table 5. Examples of sign confusions in student translations.

| Signs in source video         | Erroneous signs found in student translations                                     |                                                  | Parameter(s) in common                                                            |                                |
|-------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------|
| CORPS (body)                  |  | VÊTEMENTS (clothes)                              |  | Location, handshape            |
| HYPERACTIVITÉ (hyperactivity) |  | BAGARREUR (fighter)                              |  | Location, handshape            |
| DISCUTER (to discuss)         |  | (Séance d')<br>INFORMATION (information session) |  | Only the mouthing is different |

cultural adaptation and dealing with spontaneous discourse in Task A; character reference and expressing point of view in Task B.

A clear example of difficulties caused by metalinguistic aspects and cultural adaptation can be seen in Task A, when one signer presents her name in French, and then in LSFb (Table 7). Her name is formed using the letters from her civil name and represented by means of the LSFb fingerspelling system (on this topic, see Delaporte 2002). The examples below (Table 7) illustrate students' insecurity when translating this passage in Task A.

Students explained the visual components of the sign in their translation, describing the articulatory parameters of the signs at some length (i.e. their handshape, location, orientation, movement). By contrast, all three experts chose to simply translate the use of the letters, replicating the source structure at both sentence and morphological level. Their decision to render the sign names more concisely than the students may seem unexpected, given the translation brief, which specified a target audience with no prior

Table 6. Comparing student and expert translations – sign confusion.

|                                                                                                                                                                                      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| (LSFB Corpus, Session 11 Task 02, 01:44 - 01:48) <sup>3</sup>                                                                                                                        |  |
| Student translation                                                                                                                                                                  |  |
| Parfois, quand je vais à des séances d'information à l'étranger, on me dit que mon signe n'est pas très beau et que je pourrais le changer pour un plus joli [...].                  |  |
| <i>Sometimes, when I go to information sessions abroad, I'm told that my sign isn't very pretty and that I could change it for a prettier one [...].</i>                             |  |
| Expert translation                                                                                                                                                                   |  |
| Quand je voyage à l'étranger et que je me présente à d'autres sourds, on me dit parfois que ce n'est pas très beau comme signe, que ce serait mieux un signe lié à mes boucles.      |  |
| <i>When I travel abroad and introduce myself to other deaf people, I'm sometimes told that it's not a very nice sign, that it would be better to have a sign linked to my curls.</i> |  |

**Table 7.** Comparing student and expert translations – sign names.

(LSFB Corpus, Session 11 Task 02, 00:04 - 00:08)

**Student translations**

Mon nom signe est, avec la main droite, la lettre B, la paume face au visage, qui en descendant, pivote la paume vers l'extérieur et devient un Y.

*My sign name is, with the right hand, the letter B, palm facing the face, which as it goes down, rotates the palm outwards and becomes a Y.*

Le nom-signes est un élément propre à la culture et à la communauté sourde. Celui-ci peut représenter un trait physique et, ou de caractère, il peut également être en lien avec le prénom d'une personne. En ce qui me concerne, mon nom-signe se signe comme la lettre « m », (le pouce est replié derrière les quatre autres doigts tendus vers le bas) ainsi que la lettre « y » (similaire au signe des surfeurs, c'est-à-dire le pouce et l'auriculaire tendus, le reste des doigts pliés et la paume orientée vers la personne en face de soi, le tout effectue un mouvement vers le bas).

*The sign name is an element specific to deaf culture and the deaf community. It can represent a physical or character trait, or it can be linked to a person's first name. As for me, my sign name is signed as the letter 'm', (the thumb is bent behind the other four fingers stretched downwards) as well as the letter 'y' (similar to the surfer sign, i.e. the thumb and little finger stretched out, the rest of the fingers bent and the palm facing the person in front of you, all in a downward movement).*

**Expert translation**

Je m'appelle Mylène et on le signe MY.

*My name is Mylène and it's signed MY.*

knowledge of the deaf community. However, later in the video the signer explains the origin of her sign name. It is therefore likely that the professionals did not consider additional explanation necessary to meet the needs of the target audience. When using explication and adding material, students made errors (e.g. 'the letter B' instead of 'the letter M' in the first example). In another BDU, where another signer mentions sign names, one expert also chose the same method of intersemiotic explanation (i.e. adding material to clarify the visual information given by the sign): '*Ils ont donné un prénom-signé à mon frère, une main en griffe qui descend sur la joue, à ma sœur, un index crochu qui tourne sur la tempe donc "celle qui réfléchit", puis à mon autre sœur, une pichenette sur le coin de la bouche, et à moi, le "S"*' (English: They gave my brother a sign name, a clawed hand that moves down the cheek, my sister got a hooked index finger that circles the temple, meaning 'the one who thinks', then my other sister got a little flick on the corner of the mouth, and me, the 'S'). In this BDU, the other experts and most students chose to use the individuals' names in French (a solution that presupposes prior knowledge of the signer, access to external information or the ability to lipread), without mentioning the manual form of their sign names (i.e. Christophe, Laurent), or even to generalise into '*Pourtant, d'autres membres de ma famille, tels que ma sœur par exemple, ont des nom-signes qui font clairement référence à un trait unique chez eux, souvent leur caractère*' (English: Yet other members of my family, like my sister for example, have sign names that clearly refer to something unique about them, often their personality). These examples underline the difficulty of using metalanguage for translators, whether novices or experts, because it involves the need for a semiotic transposition between visual information and a written equivalent. This difficulty leads some translators to mention and explain the form of the sign name, even if in the source production the name appears only in use (on the concepts of use and mention, see Authier-Revuz 1984). In this case, they choose either to render the form of the sign literally (in an attempt to copy it exhaustively) or to add material to explain its form and cultural function. In some cases, when the spontaneity of the source discourse is a source of ambiguity, the solution chosen is to generalise. These two cases offer helpful examples for use with students when

discussing the benefits of generalisation in resolving ambiguities in the source text and incorporating explanatory content to meet the needs of the target audience.

Changing density with generalisation is a translation solution that students do not always master. In the example below (Table 8), most students tended to stick to the text and introduced some heaviness into the translation, while experts chose to generalise the examples given by the signer.

Another difficulty that led to numerous errors on the part of learners concerned the processing of implicit information and, in particular, polysemous signs such as PALM UP. PALM UP is a one- or two-handed gesture where the hands are open with the palms facing upwards (Gabarró-López 2017). In the example below (Table 9), some students failed to explicitate the causality that is expressed by the PALM UP sign, while experts did not hesitate even to add elements (see the sequence in bold).

The final PALM UP occurs within a structure known as *constructed action* (Cormier, Smith, and Sevcikova-Sehyr 2015; Metzger 1995), in which the signer depicts the parents' actions and attitude in failing to find a name for their child. When PALM UP has to be rendered in written form, the translator is once again faced with the challenge of intersemiotic transposition. The expert chose to explicitate: '*Difficile donc de trouver quelque chose de marquant*'.

Since Task B involves a narration, the signed discourse contains numerous instances of constructed action. In these structures, the signer adopts the role of the story's characters, representing their actions from an internal perspective. French does not have straightforward equivalent iconic resources to make characters and their actions visible or to convey the expression of their subjectivity. Both students and experts opted

**Table 8.** Comparing student and expert translations – generalisation.

|                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (LSFB Corpus, Session 11 Task 02, 00:29 – 00:37)                                                                                                                                                                                                          |
| Student translation                                                                                                                                                                                                                                       |
| Ils ont réfléchi à certaines de mes caractéristiques physiques, au niveau des expressions de mon visage, au niveau du caractère, le fait que je rigole beaucoup, également au niveau des vêtements mais cela a été une tâche ardue, ils n'ont pas réussi. |
| <i>They thought about some of my physical characteristics, my facial expressions, my personality, the fact that I laugh a lot, and also my clothes, but it was an arduous task and they didn't succeed.</i>                                               |
| Expert translation                                                                                                                                                                                                                                        |
| Ils n'ont pas trouvé chez moi de signe distinctif marquant (trait physique, mimique, attitude, ...) qui pourrait être utilisé pour me nommer.                                                                                                             |
| <i>They didn't find any distinctive features about me (physical traits, facial expressions, attitude, etc.) that could be used to name me.</i>                                                                                                            |

**Table 9.** Comparing student and expert translations – explicitation.

|                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (LSFB Corpus, Session 11 Task 02, 01:12 – 01:17)                                                                                                                                                                     |
| LSFB glosses                                                                                                                                                                                                         |
| PARENTS – ASSIGN – NOTHING – GROW – SILENCE – CALM – PALM UP – WHAT – SAY – NOTHING – PALM UP – PARENTS – PALM UP                                                                                                    |
| Student translation                                                                                                                                                                                                  |
| Mes parents n'avaient pas d'idées de nom-signe pour moi. J'étais une enfant très discrète, très calme.                                                                                                               |
| <i>My parents didn't have any ideas for a name for me. I was a very discreet, very quiet child.</i>                                                                                                                  |
| Expert translation                                                                                                                                                                                                   |
| Mes parents ne m'ont pas attribué de signe faisant référence à un trait physique ou de caractère. J'étais une petite fille taiseuse, très calme, pas difficile. Difficile donc de trouver quelque chose de marquant. |
| <i>My parents didn't give me a sign referring to a physical or character trait. I was a quiet little girl, very calm, not difficult. So it was hard to find anything that stood out.</i>                             |

for third-person narration (a natural choice when writing in French), but this entails a shift in perspective. The challenge then becomes to infuse the story with an internal viewpoint using other strategies. The creative strategies employed by one of the students are underlined below (Table 10).

However, opting for a perspective change and rendering the translation in the third person can result in a heavier style, particularly when the protagonists' names or pronouns are repeated (Table 11). In Table 11, the student used exclusively '*l'homme, la femme*' (the man, the woman) or the personal pronouns, while the expert chose more creative lexical words to refer to the protagonists, '*son propriétaire, sa voisine*' (owner, neighbour), thereby changing the density of the sentence.

Faced with the high density of visual information contained in the constructed action structures, translators must choose the degree of informational precision of their output (Table 12). In Table 12, the student condensed the information and missed some elements of the source material (the signer enacting the narrator shaking the poster at the window), while the first expert found a solution that also condenses the information (density change) but still renders the idea of repetition of the movement. The second expert chose to copy the source text structure in its entirety. An additional difficulty with this segment is that the source production is ambiguous as to whether the character is planning to write on a poster or is writing on the poster. One expert solved this issue by using the infinitive: '*Il demande alors à son collègue de lui donner une grande affiche pour écrire un message et le brandir par la fenêtre*'.

The analysis of student productions reveals, in addition to typical learner errors related to language proficiency, several challenges posed by the source material. While some stem from the specificity of the task (metalinguistic commentary on sign names

**Table 10.** Comparing student translations – perspective change.

(LSFB Corpus, Session 19 Task 12, 03:08 - 03:14)

Student translations

Lorsqu'il enlève sa feuille du visage de la femme, elle aperçoit la trace de son rouge à lèvres restée dessus. Elle rit.

*When he removes his paper from her face, she sees the trace of her lipstick left on it. She laughs.*

Surprise, elle retire doucement la feuille de son visage et la tend à son propriétaire. Ce dernier la récupère et s'aperçoit avec amusement que l'empreinte des lèvres rouges de la femme est maintenant dessinée sur la feuille.

*Surprised, she gently pulls the paper away from her face and hands it to its owner.*

*The owner retrieves it and is amused to see that the imprint of the woman's red lips is now drawn on the sheet.*

**Table 11.** Comparing student and expert translations – density change (referent).

(LSFB Corpus, Session 19 Task 12, 03:07 - 03:14)

Student translation

Une bourrasque fait voler une feuille des bras du jeune homme sur le visage de la femme. Lorsqu'il enlève sa feuille du visage de la femme, elle aperçoit la trace de son rouge à lèvres restée dessus. Elle rit. Le jeune homme aussi, après avoir vu la marque.

*A gust of wind blows a paper from the young man's arms onto the woman's face. When he removes the paper from the woman's face, she sees the trace of lipstick that has remained on it. She laughs. The young man laughs too, after seeing the mark.*

Expert translation

Elle vient se plaquer contre le visage de la femme. La femme rend la feuille à son propriétaire qui constate qu'une trace de rouge à lèvres s'y est imprimé. Il regarde en rigolant le dessin des lèvres de sa voisine.

*It comes to lie against the woman's face. The woman returns the paper to its owner, who notices a trace of lipstick on it. He looks at his neighbour's lips, laughing.*

**Table 12.** Comparing student and expert translations – density change and copying structure.

(LSFB Corpus, Session 19 Task 12, 04:38 - 04:47)

## Student translation

Il cherche et demande dans tout le bureau une énorme feuille de papier sur laquelle il pourra écrire en grand et la brandir par la fenêtre, au-dessus de sa tête.

*He searches and asks around the office for a huge sheet of paper on which he will be able to write in large letters and hold it up to the window above his head.*

## Expert translations

Il cherche alors, dans tout le bureau, auprès de ses collègues une grande affiche sur laquelle il inscrit un message pour la femme. Mais il a beau agiter énergiquement son grand papier vers elle à la fenêtre, ça ne marche pas.

*He looks around the office asking his colleagues for a large poster with a message for the woman. But no matter how vigorously he waves his large piece of paper at her at the window, it doesn't work.*

Ensuite il demande à tous ses collègues du bureau si quelqu'un peut lui donner une grande affiche. Sur cette affiche, il écrit un message en grand et le montre à la fenêtre pour que la dame le voit enfin, il secoue ses bras, mais sans succès.

*Then he asks all his office colleagues if someone can give him a large poster. On this poster, he writes a large message and shows it at the window so that the lady can finally see it. He shakes his arms, but without success.*

versus narration), all are related to the challenge of the intersemiotic transposition inherent in signed-language-to-text translation.

Sign names have no equivalents in Francophone culture. Learners seem concerned with addressing this difference, adding material to contextualise cultural specifics or to convey the sign name visually. They face the same challenge in maintaining fidelity when translating the dense visual information of signers' narrations, encoded through multiple articulators in constructed action, into the linearity of French text. The solutions used by experts (and sometimes by learners as well) are varied, ranging from copying to expression change through generalisation, density change and perspective change, and form an interesting set of resources to incorporate into translation exercises with students. The examples gathered in the corpus data analysed here highlight that the most convincing solutions for textually transposing constructed action structures include those that strike a good balance between the density of visual information and the rendering of the character's actions with a few touchstones from their internal point of view. This study thus draws attention to the importance of training students to identify, in French texts, the variety of available resources for making the characters' subjectivity apparent. This work on the perception and identification of French forms and structures can then be combined with commentary and comparisons of translations, followed by exercises in editing and actual translation tasks. Additionally, exercises where students have to recognise specific lexical signs and distinguish between similar ones seem beneficial, given the number of lexical confusions observed in the two tasks under analysis.

This study underscores the fact that Pym's (2018) typology, although primarily developed for contexts involving translation from one written language to another, is useful for shedding light on translation challenges beyond that context. Faced with the specific challenges of translating linguistic productions from the visual-gestural semiotic system of LSFB into the semiotic system of French text, translators resort to strategies similar to those identified by Pym. The most frequently used strategies are copying (essentially copying structures) and expression change through generalisation, density change and perspective change.

## Concluding remarks

This exploratory study provides the first empirical investigation of the translation challenges faced by learners working with the LSFB-French language pair, alongside an evidence-based inventory of expert solutions to those same challenges. In addition to its descriptive contributions, the study offers methodological approaches to the analysis of errors and solutions in signed-to-spoken language translation. Segmenting the source videos into Basic Discourse Units enabled identification of the passages most prone to student errors, as well as the solutions proposed by experts for the same segments. Furthermore, the inclusion of two separate translation tasks in the corpus revealed both shared and task-specific patterns in translation challenges and solutions. For example, challenges involving intersemiotic transposition showed consistent features across the tasks, whereas differences emerged in how students handled metalanguage (e.g. sign names) and narrative perspective (e.g. constructed action). These findings highlight the importance of using varied task designs to capture the complexity of translation competence development in signed-to-spoken language contexts. Finally, incorporating multiple translations of the same source videos proved crucial for identifying recurrent errors in student work and the range of appropriate solutions.

The empirical insights generated by this study offer valuable guidance for translator education. In particular, sign language translation curricula should place greater emphasis on developing students' ability to distinguish between articulatorily similar lexical signs, a skill shown in our corpus data to significantly affect the appropriateness of translation solutions, especially as regards content transfer. The same goes for constructed actions. Moreover, practical translation courses could benefit from incorporating targeted exercises that train students to identify translation challenges and explore potential solutions. These could include: (1) identifying specific translation solutions in an existing translation (as proposed by Pym 2018); (2) translating the same segment using different solutions; (3) analysing translations to detect errors or suboptimal choices, and proposing improved alternatives; (4) comparing two translation solutions for the same segment and evaluating their effectiveness.

More generally, our study encourages exploration of Pym's typology of translation solutions beyond written-to-written language translation. By extending its application to intersemiotic contexts, such as written-to-signed-language translation, spoken-to-written-language translation (e.g. subtitling), or even text-to-dance adaptation, new possibilities arise for testing its usability and robustness across modalities.

While the study offers valuable preliminary insights, it is important to acknowledge its reliance on a limited number of translations. While this limitation does not diminish the broader insights derived from the study, it signals the need for further research using larger corpora in order to validate and expand upon the findings presented here. Future studies should examine whether integrating these findings into translator training, following the suggestions outlined above, can effectively support the development of signed-to-spoken-language translation skills.

## Notes

1. We have chosen to use the lowercase ‘d’ in line with more recent literature, such as Henner and Robinson (2023).
2. <https://formation-continue.unamur.be/certificat-lsfb-fr>.
3. Available on <https://www.corpus-lsfb.be/accueil.php>.

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