More than terminology: medical translation training

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Introduction

Due to the rapid scientific and technological breakthroughs and the surge of publications in the healthcare and medical sector, medical translation is a much-needed specialisation, and data suggest that it is one of the top industry sectors (ELIS 2021, 2022). Medical translation happens in a myriad of healthcare contexts, such as pharmaceutical companies, NGOs, governmental institutions, hospitals and practices, to name just a few.

Medical translation is mainly thought of as highly specialised and terminologically challenging, but medical translation is not restricted to highly specialised genres and its challenges are not limited to terminology (Montalt 2012: 1). Translated medical texts can vary in terms of the target audience (expert-to-expert communication, expert-to-layperson communication, or vice-versa, but also in a varying degree of semi-experts), modes (including Web texts, instructional videos, television documentaries or press conferences) and communicative contexts (from education and clinical practice to commercial). Due to the specificity of medical translation, training translators on how to translate miscellaneous texts for scientific and technical purposes or general purposes (sometimes referred to as 'general translation') is not enough.

Medical Translation at Leiden University

Medical Translation offered at Leiden University has been part of the master's degree in translation since 2021. This specialisation is included in a larger one-year full-time programme that aims to train future translators in a translation specialisation, offering a combination of courses and an internship. The curriculum is designed to offer varied theoretical and practical training, including courses on translation research and methods ('Translation Studies'), translation technology ('Translator's Tools'), and translation practice from English to Dutch and Dutch to English ('Advanced Translation'). The students admitted

to the program typically possess undergraduate qualifications in English Language and Culture or a language-related field, with a completed minor in translation, including Dutch-English and English-Dutch translation.

Leiden University's MA Translation program is part of the European Master's in Translation (EMT) Network, an initiative by the European Commission's Directorate-General for Translation. This network consists of European universities that have adhered to the EMT Competence Framework (for the most recent version, see EMT 2022) and offer master's level training in translation, with the aim of meeting the increasing demand for highly skilled professional translators who are experts in multilingual communication and able to adapt to the changing needs of the translation market in both public and private sectors.

Medical translation course

The Medical translation course comprises a total of 280 hours, of which 26 hours are allocated to lectures and tutorials and 86 hours are devoted to practical translation work. All practical assignments are carried out in a specialised computer laboratory, providing each student with individual access to computer-assisted translation (CAT) tools, namely MemoQ and SLD Trados. The 26 hours of lectures are delivered in interactive classrooms over a period of 13 weeks.

Learning outcomes

The learning outcomes of the medical translation course were developed with the intention to address various cognitive domains. The definition of the learning outcomes started from the taxonomy developed by Bloom et al. (1956) as revised by Krathwohl (2002) and ranged from achieving the lowest level of educational goals (Remember) to higher-order learning outcomes (Apply, Analyse, Evaluate, and Create).

The lectures and educational materials were aimed at introducing new knowledge and familiarising students with medical language and terminology, medical genres, their communicative purpose, their archetypal structure and form, and medical translators', revisers' and readers' expectations. One of the learning goals of a particular reading activity might be, for instance, to recognise a range of document types from various professional contexts, and their function, structure and form (Remembering).

The hands-on practice tasks were aimed at learning through practice and learning through collaboration and sought to foster the application of new knowledge to translate, self-revise and revise others, post-edit and prepare piv-

ot mediating medical texts. Importantly, the medical texts belong to different genres and are aimed at different audiences, and the tasks are conducted using CAT tools. One of the learning goals of a revision activity might include, for instance, implementing feedback from various sources (Apply).

With these objectives in mind, the course covers the following content:

1. Introduction to professional practice
2. Medical language and terminology
3. Expert-to-expert communication
4. Expert-to-lay communication
5. Common text types and target audiences
6. Intralingual translation and shifting genres
7. Revision of medical texts (self-revision, revision of others and quality control)
8. Indirect translation in healthcare settings
9. Machine translation in healthcare settings

Overview of activities throughout the course:

1. Specialised terminology-related activities:
   1.1 Roots, prefixes and suffixes matching game
   1.2 Gap-fill worksheet
   1.3 Text analysis of translated and non-translated texts
   1.4 Determinologisation of texts according to skopos and target audience
   1.5 Glossary creation
2. Translation activities:
   2.1 Interlingual translation
       2.1.1 Instructions for use (IFU)
       2.1.2 Informed consent (IC)
       2.1.3 Fact Sheet for Patients (FSP)
       2.1.4 Patient information leaflet (PIL)
       2.1.5 Drug advertisement
   2.2 Intralingual translation
       2.2.1 Revising a manual for physicians into a FSP
3. Writing activities

Training approach

In line with the literature on translator training, including the move from teacher-centred towards student-centred teaching (Kelly 2005), four key principles were prioritised in the classroom.

First, the tasks were introduced in an order that allows students to build their skills cumulatively. The scaffolding technique, as defined by Calvo (2015), allows students to move progressively through the course from more closely guided and supervised activities towards greater independence in the learning process.

Second, self-reflection is key to improving the effectiveness of the learning process and the quality of students' translations. Reflective practices can improve students' self-awareness in the form of collaborative (peer and group reflection) and introspective (self-reflection) activities. Such an approach emphasises explicit learning outcomes and promotes student reflection on the relevance of the learning goals for their professional life. This approach also fosters autonomous learning and cultivates a habit of reflective practice among students.

Third, activities are task-based, which means they are designed to simulate real or realistic professional tasks so that students are faced with (semi-)genuine professional challenges and practice solving them. Tasks here are understood as a 'chain of activities with the same global aim and a final product. (...) On the way, both procedural (know how) and declarative (know what) knowledge are practised and explored' (González Davies & Colina 2004: 23).

Fourth, an array of different sources and phases of feedback are used that is in line with a constructive and active learning approach (Washbourne 2014). Each submitted activity receives one or more of the following types of feedback:

- Instructor individual feedback – Written individual feedback is given weekly to students.
- Peer-feedback – After being anonymised, the translation and revision tasks are redistributed among peers for revision. Students are asked to revise their colleagues' translations following specific guidelines for revision (Mossop 2019: 136–157).
- Group feedback – General feedback summarising the more frequent and serious errors is given in class using anonymised examples from submitted work.
- Examples of feedback – After the tasks are completed, examples of similar work are given so that the students are able to compare their own work with the work of others and, by doing so, identify potential problem areas and read the corresponding feedback.

To incentivise interaction with the provided feedback, students are asked to revise their first submissions based on these four types of feedback, consider which type of corrections or advice applies to their own work, and if it does, use it to revise their translations and revisions. There is also space for students to respond to the feedback in writing in the form of comments added to their own work or during group feedback.

The remainder of this section outlines a sample of tasks for hands-on practice.

1 Introduction to terminology with a Roots, prefixes and suffixes matching game

The core of scientific medical terminology in any language is constituted by basic combining forms inherited from Greek and Latin. The use of Greek and Latin etymological forms is one of the principal ways to communicate medical

knowledge, as many medical terms are based on the same etymological forms. These forms consist of more than five hundred roots, prefixes, and suffixes. In most modern languages, these roots, prefixes and suffixes are combined in multiple ways to expand the initial forms into thousands of terms. This is also one of the reasons why translation trainees are hesitant to learn medical translation. It's common for students to express that medical texts are difficult to read and understand (Peñalver & Urbieta 2020: 4; Wakabayashi 1996). However, translators can deduce the meaning of medical terms by understanding these fundamental building blocks of medical terminology, namely the Greek and Latin roots, prefixes, and suffixes. In order to tackle this, students were presented with a series of exercises to familiarise them with common roots, prefixes and suffixes, one of which was a Roots, prefixes and suffixes matching game. This decision to introduce an element of gamification[1] into medical terminology exercises helped engage students and maintain their interest. It also facilitated and sped up the learning process.

Task 1 Roots, prefixes and suffixes matching game

Each group of 4 students received 74 Flash Cards, of which 37 are roots, prefixes or suffixes, and the other 37 are definitions. The cards were previously shuffled so that when they are dealt on the table, the etymological forms are not shown next to their definitions. Your task, as a group, is to match the etymological form with its meaning.
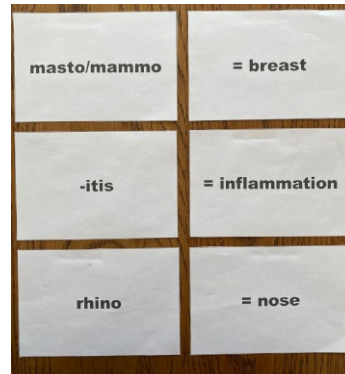

Figure 1 Image of six of the Flash Cards

2 Indirect translation activities

Indirect translation in this context is understood as a translation done via a third language and, for the purposes of medical translation training, includes two elements: (1) translating from an intermediary text and (2) translating specifically for the purpose of a second translation (Pięta 2021; St. André 2009; Torres-Simón et al. 2021). The ability to translate from and into pivot languages was recently added to the EMT 2022 Competence Framework and translation is here understood as:

'encompassing not only the actual meaning transfer phase between two languages (interlingually), including the use of pivot languages, or within the same language (intralingually), but also all the strategic, methodological and thematic competences that come into play before, during and following the transfer phase per se – from document analysis to final quality control procedures'. (p. 7)

The following tasks were inspired by the suggested activities found in Pięta, Bueno Maia & Torres-Simón (2022).

Task 1 Translate a brochure indirectly (Portuguese – English – Dutch)

Read the public health information material made available to you. This brochure was translated from Portuguese to English and was published by the Portuguese National Health Service.

> Your aim is to translate this English translation to Dutch. Be mindful that the target audience is Dutch speakers living in Portugal.

Task 2 Revise the intermediate English translation

Your aim now is to revise the intermediate English translation that you worked on in Task 1 to facilitate the work of the second translator, who is asked to render this text into Dutch. Now that you have translated this text into Dutch, you are aware of its translation problems. The English translation was not translated with a further translation in mind, so there is plenty of room for improvement. The following two tasks were designed to support you in this revision.

2.1 Identify and briefly explain in the form of annotations the problems in the English translation that are likely to make the second translator's task more difficult.

2.2 Revise this intermediate English language translation so that it is more 'translator-friendly'. Essentially, you should improve the text in a way that will reduce ambiguity and complexity with the goal of making the text easier to translate. For a reminder about how this can be done, reread Chapter 3 of *Indirect Translation Explained* (Pięta, Bueno Maia & Torres-Simón 2022). To revise the file, use SDL Trados or MemoQ.

Task 3 Reflect on the best strategies to create a 'translator-friendly' intermediate version

Now that you have translated indirectly (Task 1) and revised an intermediate English language translation (Task 2), you should be able to identify what are the most helpful strategies to create a 'translator-friendly' intermediate version. This will be particularly useful for you to know when working professionally. This will be part of your toolkit of go-to strategies.

3.1 Let's first see if your intermediate English language version is easier to translate to Dutch. In other words, let's put the revision you did (Task 2.2.) to the test. Your aim now is to translate the new intermediate English language version to Dutch.

3.2 Reflect on the differences between all the texts you have worked with. That is, compare the texts from all the previous tasks with the aim of creating your own checklist of different aspects that need to be verified before submitting an English translation that will be translated by a second translator into Dutch.

Conclusion

Although medical translation is among one of the top industry sectors, training and research in this specialisation has received little attention, especially when compared with other fields. There are also a limited number of didactic-oriented papers on this topic that describe tasks that can be successfully implemented in the classroom. We hope that this paper describing a medical translation course with a great emphasis placed on student-centred and competence-based learning can assist trainers in designing their own medical translation courses and tasks for hands-on practice.

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Notes

1   Gamification refers to 'the use of game design elements in non-game contexts' (Deterding et al. 2011).