28. Teaching terminology in postgraduate translation programmes: an integrated approach

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SUMMARY
Terminology has had an implicit relationship with translation for millennia and now increasingly with formal training. This relationship has become more explicit as the focus, particularly in translation practice, has shifted to fields of specialisation where every translator is required to have a good understanding of concepts and their relations. This shift has implications for Terminology Studies but also for specialised translation training. In this paper we examine how these implications are taken into account in a postgraduate translation programme in the UK and how the need to adapt to translation market requirements has led to the development of a more comprehensive model of terminology training, which includes a variety of core and subsidiary modules and a diverse range of teaching and assessment methodologies.

Διδασκαλία της ορολογίας σε μεταπτυχιακά προγράμματα μετάφρασης: μία ολοκληρωμένη προσέγγιση

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ΠΕΡΙΛΗΨΗ
Η ορολογία έχει μία έμμεση σχέση με τη μετάφραση εδώ και χιλιάδες χρόνια και όλο και περισσότερο στις μέρες μας με την παρουσία προγραμμάτων κατάρτισης. Η σχέση αυτή έχει γίνει πιο προφανής καθώς η έμμεση σχέση αυτή έχει γίνει πιο προφανής καθώς η έμμεση σχέση αυτή έχει γίνει πιο προφανής καθώς η έμμεση σχέση αυτή έχει γίνει πιο προφανής καθώς η έμμεση σχέση αυτή έχει γίνει πιο προφανής.
Introduction

Although translation is a practice with a history of thousands of years, it only truly emerged as an academic and research area in the last century, with the groundbreaking advances in applied linguistics and language studies. Alongside it, terminology became a much more formalised field of research, closely linked to specialised translation in particular. It was therefore only in the latter part of the 20th century that these two fields became more evident in academic training, with terminology studies slowly emerging in the 1970s (cf. for example [2-5, 11-12, 15]). A number of translation training programmes, both at undergraduate and postgraduate levels, now incorporate terminology-related modules and activities, in one form or another in their curriculum. This, to a large extent, reflects the shift in the needs of the translation market itself, as the demands for formal academic and specialised training, with a greater focus on terminology practice, have increased with clear implications for teaching methodologies and learning objectives. However, these implications still remain relatively unexplored.

The aim of this paper is therefore to explore a more comprehensive curriculum for a translation training programme in order to accommodate the shifting needs of the professional translation market. For that purpose we will use, as a model, an existing postgraduate programme (MA in Translation, focusing on specialist translation) which currently runs at the University of Surrey and look into the various levels of interaction between terminology and translation training. In what follows, we look at the relationship between terminology and technical translation (as our exemplar) from a number of different perspectives, aiming to show their interrelatedness and hence, the value of an integrated approach.

1 Objectives of Technical Translation Classes

Applied translation classes offer students the opportunity to develop their translation skills through practice, i.e., through interactive class work complemented by independent study[17].

The objectives of technical translation classes in our programme are:

- To familiarize students with the special language—including terminology and phraseology—employed in different fields and genres (Language/s for Special Purposes or LSP/s), at different levels of specialization, in both source and target language, so that they may convey the pertinent information accurately, clearly and
succinctly, while conforming to the grammatical rules and style profile of the target language.

- To provide students with a good grounding in the specific terminology encountered in the texts considered as well as the issues and concepts to which they relate.
- To enable students to recognize and solve terminological problems.

In the present context, text type and genre are defined as follows:

- **Text type (Texttyp)** relates to the function of the text. In technical (and scientific) communication, texts are predominantly informative and descriptive, their main function being referential.

- **Genre (Textsorte)** refers to the various categories of texts such as manuals, product descriptions, newspaper articles and scientific papers.

2 Topics

Although to a large extent the choice of topics in a technical translation syllabus depends on the tutor’s area of experience, it would be advantageous to consider as broad a range of topics, genres and levels of specialization as possible, in order to help students understand how issues such as the subject matter of a text, its targeted readership, its setting, style and register will affect their linguistic choices in the production of a target text that satisfies the demands of the task. This will also help students acquire a working knowledge of the LSPs of different scientific, technological and medical fields, develop their knowledge of discourse conventions in those fields and recognise terminological problems such as polysemy, homonymy and synonymy.

Acquiring a working knowledge of the LSP of a field however does not simply mean introducing terms/phrases and their TL equivalents. According to Hann[7], “the main source of error is not obscure terminology” but “concerns ‘invisible’ but fundamental concepts that have a precise significance” in a given field. This necessitates familiarizing students with the basic principles and concepts the terms relate to, in accord with the objectives set out in §1. Although this can be done to a certain extent in applied translation classes through handouts (comparable texts, glossaries etc) and discussion, a deeper understanding of scientific principles and concepts can only be gained in special classes in which these are presented systematically. In this way, the chances of students building up their knowledge of how
particular technological and scientific sub-fields are structured can be optimised. This, in turn, can help them make decisions about the correct choice of terms, where definitions in available terminology resources (e.g. dictionaries and on-line glossaries) are underspecified.

Furthermore, it should be understood that professional translators tend to specialize, focusing on a few related areas, developing and tailoring their specialized knowledge and language skills for translation in those fields. It can also be argued that the choice of subject fields for a syllabus should be based on market demands for the particular language pair, and that having all students in all language combinations work through the same set of exercises in broad categories of experience is not practical or efficient[6]. Nevertheless, there are at least two arguments for a broad sci-tech syllabus: firstly, as teachers of translation or syllabus designers we cannot anticipate the precise future professional needs of a diverse group of students – in age, qualification, nationality, language combination, etc. – in a fast-moving market; secondly, diversification is a serious organisational and resource issue for the institution delivering the teaching.

3 Genres

Possible genres to consider are:

- Scientific papers
- Conference proceedings
- Text books
- Popularized science magazines and books
- Newspaper articles
- Public information booklets
- Product descriptions, specifications and marketing documents
- Manuals and guides
- Web pages

all of which have their own style (e.g. academic, didactic, professional-pragmatic, etc.) and discourse-specific conventions. They address different readerships (e.g. experts, educated laymen, the public, etc.) at different levels of professional competence. Their level of specialization reflects the level of abstraction of the topic (e.g. science papers have the highest level of abstraction) as well as the shared knowledge of the interlocutors (e.g.
science papers are written by and for experts). This of course is reflected in the register of the LSP used to communicate information, which may become apparent at the morphological, syntactic, phraseological, lexical and terminological levels[12].

It should be noted that some genres combine features from different text types. For example, a product description (or marketing document) combines informative writing with advertising, i.e. it is both informative and vocative (cf. [13]). A newspaper article can be both informative and expressive. This also raises the issue of variable register.

The issues of readership, style, register and level of abstraction/redundancy can be further highlighted by considering the same topic in different genres. For example, a public information booklet on AIDS has a lower level of specialization and addresses a wider (and scientifically less sophisticated) audience than a scientific paper on the same topic. Less specialized texts are usually more expressive, with a higher level of redundancy and a more variable register. The difference in the level of specialization may even affect the LSP, with lower register (more widely used and understood) terms and phrases being employed when addressing a less sophisticated audience, e.g., ‘white blood cells’ instead of ‘leucocytes’. The majority of terminology resources do not provide information of this kind.

The above issues may also be highlighted by considering different levels of specialization in the same genre. For example, product descriptions can be specific or general. Specific product descriptions (stand-alone documents) address a more sophisticated audience (familiar with the class of products) than general product descriptions (part of a larger document, e.g. a manual) which address less sophisticated audiences (not familiar with the class of products). Specific product descriptions are shorter, tighter versions of general product descriptions as the audience and the writer share more information. This of course is reflected in the style, register and choice of terminology relating to the higher level of abstraction of specific product descriptions.

Manuals may also address audiences at different levels of professional competence, which again is reflected in their register, style and level of abstraction/redundancy. For example, a manual for car mechanics is much more specialized than a guide for used-car buyers. Depending on the level of specialization, manuals (and other commercial types of technical documentation) make greater use of a more personal style when addressing the reader and use active structures rather than passive structures, as these may be ambiguous and cumbersome, inviting unnecessary nominalizations (adding to the length and complexity of statements) and leading to an inflated vocabulary. Furthermore, in most cases the use of
humour, idiomatic expressions, slang and other culture-specific analogies is avoided, with a view to facilitating translation. Nonetheless, in some manuals, especially in the introduction/preface, more idiomatic expressions are used e.g. “Operation is a snap”. This is also observed in marketing documents and websites, for which ‘transcreation’ (translation + creation or creative translation; defined as the cultural and linguistic adaptation of a text (but not of the technical content) to meet the needs of the target market) is ideally suited. The following two examples show how the aforementioned parameters can vary in the same genre. The lexical density of the more specialized text is notable.

If a fault appears in the fuel injection system, first ensure that all the system wiring connectors are securely connected and free of corrosion. Ensure that the fault is not due to poor maintenance, i.e. check that the air cleaner filter element is clean, the spark plugs are in good condition and correctly gapped, the cylinder compression pressures are correct and that the engine breather hoses are clear and undamaged…

(extracted from a BMW Service and Repair Manual)

Description of problem: You try to start the car by turning the key, and the key won’t turn. Because the key won’t turn, the engine won’t start. Sometimes after you play with the key, you can’t get it to turn. Maybe, in frustration, you had someone else try. It worked for them, they had the magic. This problem doesn’t always happen. Sometimes everything will work fine. [followed by instructions]


Texts such as product descriptions, specifications and manuals highlight other aspects of technical documentation that translators need to be aware of, such as formatting techniques (a rhetorical support of arguments) used to structure information in a visually accessible manner (e.g. procedures, itemization, enumeration and parallelism) and the integration of text and graphics.

4 Terminological issues

As mentioned above one of the aims of technical translation classes is to help students recognise and solve terminological problems, as terms are essential components of the propositional meaning of lexically dense, special-language texts. Some of the issues involved are:
• Standardisation/international, national and company standards
• Terminologisation/neosemanticisation
• Neologisms
• Loan translations
• Compound/multi-word terms
• Sub-technical terms
• Acronyms
• Units of measurement and symbols
• Polysemy and homonymy
• Synonymy, alternative terminologies, familiar (less formal) equivalents
• Frequency of occurrence

For example, by considering different topics (cf. §2), students are made aware that each field has its own variety of LSP and that terms can designate different concepts in different fields, irrespective of whether they are semantically related (polysemy) or not (homonymy), e.g.:

(linguistics) transfer of meaning from one language to another

(translation) (mathematics) transformation that consists of a shift in spatial coordinates

(vector) (genetics) process by which a nucleotide base sequence of mRNA is converted into a sequence of amino acids to form a polypeptide chain

The situation is further complicated when the TL equivalent is different in each field, e.g.,

(mathematics) a quantity that has magnitude and direction - διάνυσμα

(vector) (genetics) an agent used to carry a DNA fragment into a host cell - φορέας
In the case of synonymy the relevant parameters would be frequency of occurrence (choosing the term that is most commonly used in the respective fields), international, national and company standards and in some cases the level of specialization. In commercial documentation (product descriptions, etc.), many companies prefer to use different terms for the same object, e.g.

- catalytic converter
- automotive catalyst
- automotive catalytic converter
- exhaust catalytic converter
- exhaust gas catalytic converter

The problem, of course, is to make sure that the above refer to the same component. Whichever the case may be, terminology must be used consistently throughout the document as variations may lead to confusion. Students need to be aware that terms are usually context-independent but subject-field specific. However, it should be noted that consistency may not mean re-using the identical form repeatedly throughout a text, as this can lead to over-specification for the reader where multiword/compound terms are concerned. Such terms tend to get ‘clipped’ when subsequently mentioned in a text, even where this introduces polysemy:

- When fitting your own extension cable fit a 13 amp plug […] to one end of the cable and…

- A “male” connector is already attached to the electrical supply cable on your machine and is designed to be non-rewireable. […] Should the cable and plug become damaged or need replacing,…

(extracted from a Black & Decker ‘Manual Feed Strimmer’ user manual)

The awareness that needs to be developed in the students’ own practice is when to resume use of the full term. This, however, is not always easy to achieve, as over-specification and simplification often occur in a rather arbitrary manner, as in the following example, in which both ‘fuel filter’ and ‘fuel rail’ are repeated in full, but ‘electric fuel pump’ becomes ‘fuel pump’ and then ‘pump’, and ‘fuel injectors’ becomes ‘injectors’.
The fuel supply system consists of a fuel tank (which is mounted under the rear of the vehicle, with an electric-fuel pump immersed in it), a fuel filter, fuel feed and return lines. The fuel pump supplies fuel to the fuel rail which acts as a reservoir for the four fuel injectors which inject fuel into the inlet tracts. The fuel filter incorporated in the feed line from the pump to the fuel rail ensures that the fuel supplied to the injectors is clean.

(extracted from a BMW Service and Repair Manual)

As far as neologisms are concerned, the terms should be both grammatically and semantically well-motivated. The criteria for assessing the correctness of a term, as set by Pavel[10] include lexicosemantic adequacy, conformity to morpho-syntactic rules and functionality. Furthermore, in many cases it is also a matter of standardization, or rather the lack of it, i.e., newly coined terms may not yet be standardized and are infrequently used. For example:

- **bit** (Binary digit)  
  δυφίο (ΔΥαδικό ψηφίο)  
  [derived in an analogous manner to the English term; non-standardised]  
  bit, μπιτ [standardised]

- **byte**  
  δυφισυλλαβή [non-standardised]  
  byte, μπάιτ [standardised]

Newly coined (and non-standardised) terms may also lead to the creation of other non-standardised terms, e.g.,

- **κβαντοδυφίο** for qubit (quantum bit)
- **πολύ-γιγαδυφιακός** for multi-gigabit

Problems such as the above can be considered in translation classes: as they arise in the texts the students are asked to translate, and strategies for solving these problems are discussed and developed. Nonetheless, a more systematic approach to the problems of terminology can only be developed in special classes, owing to the limited number of contact hours and the length of the texts the students deal with. Texts by their nature also tend to be hybrid in a number of ways, including, for instance, terms from more than one subject field.
More specifically, terminology theory classes give students a good grounding in the principles of terminology, and the structure of special language vocabularies and their codification in terminology collections, better equipping them to recognise and solve terminological problems, assess equivalence, and organise and compare concept systems. In other words, the principles are considered at the general rather than a subject-specific level.

5 Managing terminology

Apart from skills purely in translation and/or linguistics, a well-trained translator (and, accordingly, a terminologist) nowadays needs to also have good research skills. With printed resources presenting their known disadvantages (unavailability, becoming outdated too quickly, etc.), the Internet is admittedly an extremely useful and powerful research tool with which trainee translators should ideally become familiar in the course of their studies. On-line dictionaries and encyclopaedias are normally updated regularly and new corpora of parallel texts in various domains become available in various formats all the time; therefore the ability to evaluate and use this material for terminology and translation purposes is an obvious asset.

In the context of our programme, this issue is addressed from the very start of the learning process by means of workshops that are specifically designed to highlight websites and keyword techniques with search engines, such as Google, that would be of particular use to translators. On-line databases and terminology collections in various language combinations are identified and advanced research techniques with search facilities are practised hands-on in order for students to familiarise themselves with the applicability of those skills in their translation tasks. Continuous practice in that area takes place throughout the academic year, mostly as part of the preparation of specialised translation assignments.

Students are encouraged to carry out their own research in order to retrieve, evaluate, manipulate and abstract information validated through approved channels, which can be used in domain or subject-field specific situations. The use of both paper and electronic resources (dictionaries, glossaries, etc.) and corpora, as reference material, is particularly relevant in technical translation, as it is a means of resolving problems and aiding decision-making, an aspect of the strategic competence of the translator[1]. Different types of corpora can resolve problems relating to terminology (e.g., accuracy, frequency of occurrence, synonymy, polysemy and homonymy) and phraseology (e.g., collocational patterns, stylistic appropriateness, level of specialization and concision), by suggesting translation strategies
and offering domain-specific terms (parallel corpora) or by demonstrating the use of language in context and extending domain or subject-field specific knowledge (comparable corpora). A corpus-based approach to the training of translators is discussed by Saridakis & Kostopoulou[16].

In relation to the above, the ability to navigate the web and use email, local/international networks, search engines etc. in order to locate and retrieve (validated) information is also of particular importance. Another relevant dimension of computer literacy in this instance is the ability to manipulate computer interfaces such as Computer Assisted Translation (CAT) tools, e.g. translation memories, terminology management databases, localization tools, etc., all of which have essentially led to the evolution of a new translation process[8].

Terminology management classes deal with terminology research and development, which involves computer technologies used to facilitate the creation, use and maintenance of specialised databases enabling the use of validated terminology in translation tasks and thus ensuring consistency and quality, particularly with respect to the type of textually-based information of immediate relevance to the translator (see the examples above regarding audience variation within the same subject field, and compound clipping).

Rapid developments in today’s global multilingual market have given rise to a need for new marketable skills in the translation market as well. A well-trained translator needs to be familiar with terminology principles and practices, particularly in the context of translation companies which take on large multilingual projects and therefore have to manage their translation and specialist terminology resources effectively. For the purposes of terminology management, dedicated software tools have been commercially developed in recent years. Not only do these tools offer real practical help to translators and terminologists, but they also expand the scope of their capacity and enhance their productivity.

As part of our postgraduate programme, a module entitled “Terminology for Translation” consists of hands-on practice using two terminology management tools (namely Trados MultiTerm and System Quirk) which provides our translation students with the basic skills for the operation of Terminology Management System software but also an insight into the general principles of terminology management and how the application of these principles affects a translation project cycle and the translation process itself.

Given the diverse range of skills and operation involved, both beyond the ‘narrow’ scope of translation, there is also a wide range of learning objectives including:
• to be able to use the basic storage and retrieval functions in a terminology management system
• to be able to compile a bilingual terminology in a specified domain
• to be able to use a translation memory tool to store, retrieve and use translation and terminology data

In order to achieve these objectives, a variety of teaching methods is used, with emphasis on individual and group work in computer labs, where students are instructed and monitored while performing a number of hands-on tasks. Similarly, there are two different means of assessment for this module. Firstly, an individual assignment, where the student can evaluate a terminology resource, compile a small original terminology or evaluate a terminology management system. Secondly, and more innovatively in the context of terminology practice in translation training programmes, there is a group assignment, where students work in teams of three, each student playing a distinct role in a small-scale translation project simulation exercise. One of these roles is that of a terminologist-cum-translator, whose primary duties are the management of the team’s terminological resources and the compilation of a small termbase with terms extracted from the text which the team needs to translate for the assignment. This variety of assessment methods allows the tutors to have a more comprehensive idea about the skills acquired by the students, but it also allows the students themselves to explore terminology at many different levels and relate to principles of good practice in terminology management.

6 Translation assessment

As far as the assessment of technical translation is concerned, the criteria are:

• Comprehension, accuracy and completeness of message
• Readability
• Terminology, lexis and phraseology
• Grammar and text-related features such as coherence and cohesion
• Spelling, punctuation, figures, names, dates etc
• Layout (where applicable)

It should be mentioned that there are alternative ways of assessing a translation and, the weighting of the above is entirely up to the tutor and may vary with the genre and intended
audience/translation brief. It should, however, also be mentioned that normative equivalence, error analysis and convergent thinking (converging on the most commonly used equivalent expression), albeit necessary, restrict the translator. There are more ways than one to say the same thing. According to Lewis (as quoted in [17]), “a spectrum of likelihood – with forms being more or less likely to occur – especially in particular situations or media of expression” should be recognized and applied. In other words greater tolerance should be shown for variant forms of wording and phrasing, and imposing an arbitrary view of “rightness” should be avoided. Instead, variants should be carefully considered, compared and contrasted, and their weaknesses and strengths weighed against each other[17]. This also applies to technical translation, i.e., even though terminology is subject-field specific, phraseology can and does vary and may be functionally motivated, e.g. in order to introduce different perspectives on the same object[14]. As long as the phrasing is stylistically appropriate and the information is accurately conveyed, alternatives can be accepted.

7 Conclusion

In this paper we hope to have shown how terminology for translation purposes can be studied for pedagogical reasons in a number of complementary ways incorporating not only linguistic and pragmatic issues, but also text-based and knowledge-based approaches, further differentiated by the use of both paper and electronic resources and tools as well as by the application of individual and group working methods.

8 References


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