

## **CHALLENGES OF TECHNICAL TRANSLATIONS<sup>1</sup>**

**Abstract:** *Technical translation means much more than the correct use of terminology. It is also about the ability to write credible texts and to express information clearly and concisely. In the present paper, technical translation is dealt with from two perspectives: on the one hand, from a didactic perspective, as translation can be successfully used as a teaching/learning method in ESL/ESP classes. On the other hand, it is approached from a linguistic viewpoint since it incorporates such concepts as meaning, equivalence, text purpose and analysis, concepts examined in the context of semantics, pragmatics and stylistics. The Communicative Approach has been hailed as the best method to teach English as it lays great emphasis on the development of the four skills: reading, writing, speaking and listening. According to Harmer (2001: 84-86), accuracy is less important than fluency. Yet, there are fields in which accuracy is very important, one of them being science.*

**Key words:** *technical, terminology, challenges*

### **ENJEUX DES TRADUCTIONS TECHNIQUES**

**Résumé :** *La traduction technique signifie beaucoup plus que l'usage correct de la terminologie. C'est aussi la capacité d'écrire des textes crédibles et de transmettre l'information de façon claire et concise. Dans le présent article, la traduction technique est aperçue sur deux perspectives : d'une part, d'une perspective didactique, car la traduction peut être utilisée avec succès comme méthode d'enseignement / apprentissage en classe d'anglais langue étrangère / langage de spécialité. D'autre part, on a l'approche linguistique, étant donné qu'elle implique des concepts tels signification, équivalence, but et analyse du texte, des concepts examinés de perspective sémantique, pragmatique et stylistique. L'approche communicative a été reconnue comme la meilleure méthode pour enseigner l'anglais, car elle met l'accent sur le développement des quatre compétences : lire, écrire, parler et écouter. Selon Harmer (2001 : 84-86), trouver le terme adéquat est moins important que parler de façon fluente. Cependant, il y a des paliers où le terme adéquat est très important, l'un de ces paliers étant le langage scientifique.*

**Mots-clés :** *technique, terminologie, enjeux.*

### **1. What is technical translation?**

Technical translation encompasses the translation of special language texts, including not only the translation of engineering texts, but also texts in other disciplines such as economics and law. The translation of technical texts requires a good mastery of both the source and the target language. An understanding of the subject matter of the technical text is also necessary. As Jody Byrne points out, the reality of technical translations is influenced by a range of factors such as “technical communication, style, terminology, professional workflows, multimodal communication, legal requirements, technology and even psychology and pedagogy” (2009: 2-5). Klaus Schubert argues that technical translation cannot be fully described and modelled within the context of traditional Translation Studies. Technical translation takes place in a complex, highly interdisciplinary

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environment, the work of translators, the materials, the resources and the strategies used being influenced by several factors (*ibidem*).

Learning a technical language is a very complex process which goes far beyond the correct use of terminology. This process has a lot in common with "acquiring the skills of communication for a foreign natural language" (Hann, 1992: 15). Technical translations involve a lot of challenges. Hann shows that "grammar rules change, verbs and prepositions acquire new significances, and similar terms occur with entirely different implications within brief sections of the same engineering text" (*ibidem*).

Translation as a teaching method is seen as having a lot of disadvantages such as the students' dependence on their first language, the emphasis on reading and writing, the neglect of speaking and listening as well as the failure to meet the learners' practical needs. Moreover, the mere memorization of bilingual word lists does not encourage students to communicate freely in the target language. The method of translation fell into disgrace mainly because it was seen as hindering language acquisition. It was considered to discourage creativity and spontaneity because it lacks interaction. Advocates of the Communicative Approach point out that the use of the first language is counterproductive in the process of acquiring a second language and that therefore the use of translation is likely to do more damage than good, holding back students from taking the leap into expressing themselves freely in the new language (Carreres, 2006: 955).

Yet, translation from English into Romanian or vice-versa plays an undeniable role in the teaching/learning of ESP. For Romanian engineering students studying English as a second language, the first language is the reference system in the learning process. Although it is still largely associated with the Grammar Translation Method, translation is no longer seen as an obsolete teaching method. There are many advantages to translation if it is used properly in ESP classes.

The ESP teacher's resort to translation cannot be seen as his/her failure to use only the target language in class. An argument in this regard is the fact that, as Harmer shows, "when we learn a foreign language, we use translation almost without thinking about it, particularly at elementary and intermediate levels" (Harmer, 2001: 131). As David Atkinson points out, translation encourages learners to think about meaning, not just manipulate forms mechanically, offering them real-life activities (Atkinson, 1993: 53-54). Translation is a useful aid in ESP classes since it stimulates interactivity and encourages learners to transfer the thought process from L1 into L2.

## **2. Challenges of translation for engineering students**

Translation activities and the use of L1 can help students understand specialised materials in the ESP classroom and improve their skills (Avand, 2009: 45). The method of translation is beneficial to elementary students, but it may be useful even at intermediate and advanced levels. Romanian engineering students prefer translation as a learning aid for several reasons. There are students who are not very comfortable with speaking freely in the classroom. These students do not regard translation as a time-consuming, boring, or inefficient activity. On the contrary, they find it useful especially in the introduction of new specialised vocabulary. Since they dislike monolingual instruction, they feel more relaxed and self-confident if they are allowed to use Romanian in bilingual activities. Since engineering is an exact science, most students need to make sure that they have understood a concept perfectly. In other words, accuracy is very important to them. When it comes to

the introduction of new words, they would rather be given an accurate equivalent of the technical word than an explanation of it, no matter how clear and concise it is.

ESP students encounter lexical, grammatical, and sociocultural difficulties when dealing with translation tasks. Lexical problems stem mainly from the lack of direct correspondence between Romanian and English technical vocabularies. Technical words are specific to a particular topic, discipline or field of study. They can be understood and acquired by studying the respective field. These words are the responsibility of the subject specialist. Such words as *pedal*, *accelerator*, *piston*, *cylinder*, *distribution*, *combustion* do not pose any problems to ESP students studying to become automotive engineers even if their scientific knowledge is poor. Their similarity with their Romanian equivalents helps Romanian students guess their meanings. In other situations, this similarity may be misleading. Thus, they may translate *kinetic energy* as *energie chinetică*, *thermal energy* as *energie termală* instead of *energie cinetică* and *energie termică*.

Even students whose level of English is high may encounter problems in finding accurate equivalences between English and Romanian if their level of scientific knowledge is low. The mere definitions of such words as *crankshaft* and *camshaft* will not help an ESP student who lacks basic technical knowledge peculiar to his/her field of study to distinguish between the two terms.

*crankshaft* - a long metal rod, especially one in a car engine, that helps the engine turn the wheel (arbore cotit)  
*camshaft* - a device that causes the valves of an engine to open or close at the correct time (arbore cu came).

If students are unaware of the function of a *clutch* in a car, such a definition as "a mechanism for connecting and disconnecting an engine and the transmission system in a vehicle, or the working parts of any machine" will hardly help them find the correct equivalent in Romanian (ambreiaj).

On the other hand, students whose level of English is not very good may be faster in finding the Romanian correspondent of an English technical word if they have wide scientific knowledge. The more familiar ESP students are with their field of study, the easier it will be for them to understand and acquire the technical vocabulary. Rarely do they feel the need to translate a technical text if the topic dealt with has been studied with the subject specialist in advance.

ESP students also have a lot of difficulty with those words designating car parts which have different names in British English and American English: *aerial/antenna*, *bonnet/hood*, *boot/trunk*, *indicator/turn signal*, *number plate/license plate*, *wing/fender*, *accelerator/gas pedal*.

A large number of English technical terms are polysemantic, sometimes being part of word combinations which have no exact equivalents in Romanian. *Cylinder*, for instance, refers to *many cylindrical parts of machines* and *the cylindrical chamber in which the steam acts upon the piston*. *Arm* is used with the technical meaning of *lever*. *Body*, when used in technical texts, may have the following meanings: *mass*; *box*; *drawer*; *casing*. *Finger* means *hand*, *pointer*, *ratchet*. *Hand* is part of the compounds *handbrake* and *handset*. *Head* is part of the compounds *headlamp* and *headlight*. It is also used to refer to *the head of a nail*, or *the head of a cylinder*. *Dog* means *safety piece*, *champ*, *hook*. *Horse* is part of the compound *horsepower*. *Work* has in technical texts a different meaning from the one students are familiar with. In the sentence *The amount of energy needed to do a task -*

for example, *lifting a load to a certain height by crane - is called work*, students have a tendency to translate *work* as *muncă*, not as *lucru mecanic*. When dealing with a polysemous word, students should be encouraged to try to guess its meaning from the context. The different meanings of polysemous words can be taught by starting from the primary meaning (which more often than not belongs to general English) and extending the meaning based on the general English word.

Romanian engineering students may encounter problems with different systems of units which are used in different parts of the world. Some of them may be familiar with the conversion of kilograms into pounds, for instance, but most ESP teachers will not find it so easy. To avoid confusion, it is preferable not to change units in the translated text.

Technical dictionaries are a valuable aid when doing technical translations. Unfortunately, there are situations when they are not enough. If students look up such words as *quench*, *anneal* and *temper* in an English-Romanian technical dictionary, they will be quite confused. Thus, both *quench* and *temper* mean a *căli*. Both *anneal* and *temper* mean a *tempera*. In reality, *quenching*, *annealing* and *tempering* refer to distinct types of heat treatment (*quenching* - metal is heated, then dipped in water or oil to cool it rapidly; *annealing* - metal is heated, then allowed to cool slowly; *tempering* - metal is heated and kept at a high temperature for a period of time). Both the ESP teacher and students may be confused by such words as *torque* and *couple*. According to technical dictionaries, they both mean *cuplu*. Yet, they are not synonyms. A short text will make the difference between them obvious:

“As an engine produces a couple - rotary force - the moving parts of the machine it is driving will produce resistance, due to friction and other forces. As a result, torque (twisting force) is exerted on the output shaft of the engine” (Ibbotson, 2009: 86).

Besides lexical problems, ESP students often encounter grammatical problems when translating technical texts. Thus, they are likely to produce sentences like “The pliers is on the workbench” and “The pincers is here” instead of “The pliers are on the workbench” and “The pincers are here”.

Some words usually regarded as uncountable nouns (*energy*, *mobility*) behave as countable nouns in engineering contexts:

*Energy* cannot be created or destroyed, only converted from one form to another.  
It needs an *energy* of 400 joules.

### 3. ESP teachers' attitude to translation

Some ESP teachers have negative attitudes to translation because they associate it with the dull, lengthy activities they had to carry out when they themselves were students. They also see it as independent from the four skills which define language competence: reading, speaking, listening and writing. It prevents learners from thinking in the L2 and ESP teachers from maintaining an English-speaking environment in the class. Translation activities may be tricky for ESP teachers. They take a lot of preparation. Although nobody expects an ESP teacher to be an expert in the technical field, a good comprehension of the topic being translated is extremely valuable since technical terms do not always have direct translations in the target language.

Other ESP teachers see technical translation as a form of communication which involves interaction and cooperation between students. If well designed, translation activities practise not only reading and writing, but also speaking and listening. The aim of translation is the improvement of language proficiency, not the development of translation skills.

Translation is a useful skill especially for people who travel a lot. Being a mediator between two people or two groups who cannot speak the same language requires translation. Technical translations are among the most demanded types of translation services. Low-quality translations may lead to malfunctioning systems or damaged devices. Those teachers who are aware that these situations are imminent in the students' personal and professional lives will see the validity of translation as an activity in communicative classrooms.

The choice of materials is very important when designing translation activities. A close cooperation with the subject specialists will help ESP teachers select texts about topics that have already been studied by students in their specialist courses. ESP teachers should know exactly when to use translation, which groups of students they should use it with and how much time to allot to it so that it shouldn't dominate classroom practice.

Designed well, translation activities in ESP classes can practise the four skills. Translation in groups can stimulate ESP students to discuss the meaning and use of language at the deepest levels while trying to find equivalents in another language. The class may be divided into two groups. Each group is given a short text to translate into the target language. Then the groups exchange their papers and they are asked to translate the other group's version into their mother tongue. The comparison of the original text with the new version may have interesting, often amusing results. Students may be asked to look at translations which contain mistakes. They are asked to discuss the causes of errors. They may also be asked to bring in short texts which they find interesting. They can discuss and translate them. Choosing the right materials and activities will undoubtedly have a positive impact on the students' motivation and dynamics.

## Conclusions

Although in the last 40 years or so, the use of translation has been described as a counterproductive practice, a lot of theorists and researchers have re-assessed the role of translation as an instrument to support and enhance L2 acquisition. In ESP classes, translation activities have an undisputed value if they are designed with a specific aim in mind and if they are used efficiently.

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