# *THE CHALLENGES OF TERMINOLOGY AND EQUIVALENCE IN ESP CLASSES / LES DÉFIS DE LA TERMINOLOGIE ET DE L'ÉQUIVALENCE DANS L'ENSEIGNEMENT DE L'ANGLAIS POUR LES ÉTUDIANTS NON-SPÉCIALISTES DE LA LANGUE / PROVOCĂRILE TERMINOLOGIEI ŞI ECHIVALENŢEI ÎN PREDAREA LIMBII ENGLEZE PENTRU NEFILOLOGI*[1]

***Abstract**: This article aims to highlight a particular aspect of ESP, namely the issue of equivalence in regards to terminology and the challenges this poses in teaching. The study refers to the acquisition of lexical content by students of science, namely biology, ecology and agriculture, and analyzes the complications involved. These are related to the choice of materials, the use of authentic texts, as well as the learners' capacity to identify and translate accurately the specialized terms, and the teacher's guidance in this regard. There are several categories of vocabulary that pose certain problems when it comes to equivalence and these categories will be analyzed in this article.*

***Key words**: ESP, terminology, scientific vocabulary, equivalence*

**Introduction**

One of the daunting aspects of ESP teaching is terminology, the specialized vocabulary and methods to help learners with its acquisition, given that the English teacher is a student too, as they must learn about the field involved in order to accurately offer equivalence for the specific terminology. Equivalence, as a concept in translation, is a controversial element as various theorists either place emphasis on it, or dismiss it altogether. In scientific text, its role is particularly important. Due to this, scientific translation is usually regarded as no more than knowledge of the subject and its terminology. However, the ESP class does not train future translators, but deals with future scientists who will need English in their professional life and that involves more than simple terminology. The purpose of the ESP class is to give students the tools to function in their field of activity and be able to face any linguistic challenges. In this regard, the ESP teacher must take into account the needs of the learners and formulate a curriculum that includes the most significant linguistic issues and challenges of scientific English: elements of grammar that are more likely to be used in the given field and specific lexica1 content, the terminology of the field. This article will concentrate on the lexical aspect.

**Why is terminology equivalence important?**

There are various opinions regarding the teaching of terminology and its adequate translation. Teaching terminology may be seen by some teachers and learners as very important, if not the very purpose of the class, one the most obvious differences between ELT and ESP. Others may oppose this imperative (Hutchinson and Waters, 1991) as not the task of the ESP teacher and generally as useless since terminology can be found in dictionaries and most professionals are accustomed to such specialized lexicon from experience.

However, vocabulary in ESP is very important (Coxhead, 2013: 116) and it should not be simply assumed that it is too vast, does not endure in the learner's memory and can, when needed, be found in a dictionary. Good specialized bilingual dictionaries are still a rarity, although there are numerous terminological data banks, or in short term banks (Nkwenti-Azeh, 2001: 249) available online, but these are usually monolingual and do not provide equivalence in all languages. One of the main reasons for this lack is the difficulty to compile a comprehensive glossary, as well as to find equivalence, as a linguist, for domains that have nothing to do with philology: law, medicine, biology, agriculture,

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engineering, aviation etc. Another important reason is that such a dictionary would be quickly outdated. Specialized vocabulary evolves every day given that the professional fields to which it belongs are always in flux. Discoveries and innovations are made everyday and the language must keep up. A considerable number of new specialized words and phrases enter the language very often. English is *lingua franca* for these domains and many such terms are coined by inventors and taken over by other specialists as such or are loaned and adapted to their mother tongue. As Juan C. Sager observes, "new scientific terms spread to the international scientific community through a small number of vehicular languages, for example English, French and Japanese" (2001:253).

Thus, building a good glossary of significant terms and phrases from the learners' professional field is a difficult imperative. The problem is how much vocabulary is relevant and worth teaching (Coxhead, 2013:116). The size of such a glossary may range between 1000 and 5000 words, which could be seen as excessive by both learners and the teachers that are not familiar with the domain. So, the question remains, how much is too much or too little? Unfortunately, technical vocabulary has not been the subjects of too many studies. But there are ways to determine, as an ESP teacher, what should the course include in terms of specialized lexical content, such as consulting with experts in that particular field, using specialized dictionaries or scales, and corpus linguistics (Coxhead, 2013:117). It is impossible for a teacher to offer all the terms or all the versions of equivalence, or for a student to assimilate all this information, but the important thing is for students to understand that there are strategies they can employ to be able to choose the most suitable option in a particular situation (Mishchenko, 2010).

**Using Corpora in ESP classes**

ESP classes should be based on a corpus of authentic texts (Kennedy and Bolitho, 1991:48) carefully chosen according to the level of the learners, both in terms of linguistic proficiency and the knowledge of their own field of study. First-year biology or ecology students do not have complex knowledge of plant morphology or animal anatomy, therefore the ESP teacher can provide simpler, more general texts involving broad knowledge of the field. Even such texts will contain a good amount of specialized terms.

The ESP teachers may naturally feel insecure due to their lack of specialized knowledge as an English teacher cannot be proficient in biology or ecology or agriculture, but they can learn and build in time experience of these fields as they compile teaching materials for their students, which was also my case. The teacher must have knowledge of the field, otherwise the equivalence they give in class will be erroneous. Using ready-made materials is an easy and time-saving solution, but providing extra materials is a must. The ready-made materials may have a lexical content that is not complex enough, or specialized enough for a particular category of learners (Harwood, 2005:150). Additional materials provided by the teacher will only improve the learners' proficiency in ESP (Cotter, 2006: 500).

Equally important is to teach them certain "tricks" that can help them understand and use new terms that have not been taught in class, namely how to correctly combine words and form collocations or how to recognize differences in spelling between terminology in L1 and L2. In fact, this means teaching them the skills and revealing the strategies that will help them cope with new linguistic situations in the scientific domain. Juan C. Sager explains this as follows:

> The taxonomic sciences have evolved artificial languages witch exploit the systematic features of natural language and its potential for use as a classification system. These artificial languages of nomenclature are usually related to one or several natural languages. English medical terminology, for example, is based on Latin but is heavily Anglicized. […] Terminological systems are constructed on the basis of narrowing the functions of natural language, and language users are

> provided with rules for the correct implementation of such systems. […] The names or terms which result from the application of these rules constitute an international instrument of written communication. The productivity of the rules of nomenclature resides in the regularity of the processes which govern the combination of elements with each other and with affixes, so that fixed meanings can be attached to affixes and to patterns of combination (2001:252).

With Natural Sciences, highly specialized vocabulary in fields related to biology or ecology, is rather easy to translate into Romanian or from Romanian into English as most of them have a common Latin or Greek origin, therefore they are very similar, with some small spelling differences that are easily spotted. Knowing such spelling "tricks" can lead to an easy and quick finding of equivalence of scientific terminology. Common examples are: *f* changes to *ph* (*fosforic* ➝ *phosphoric*), *i* changes to *y* (*citotoxic* ➝ *cytotoxic*), *z* changes to *s* (*izomorfism* ➝ *isomorphism*), *c* changes to *k* or *ch* (*eucariotă* ➝ *eukaryote*, *corion* ➝ *chorion*), *h* changes to *ch* (*monozaharidă* ➝ *monosaccharide*), and often, but not always, there is an addition of a final *e* (*spor* ➝ *spore*, *gonadă* ➝ *gonad*). There are also common suffixes for adjectives (*os-ous*, *calcaros* ➝ *calcareous*; *fil-philous/philic*, *xerofil* ➝ *xerophilous*, *mezofil* ➝ *mesophilic*) and many other such common changes.

**Practical approach to teaching terminology**

My usual method starts with course design which is carefully organized around several central topics relevant to the field. Such topics are bound to contain most of the relevant vocabulary the learners will need, a balance between highly specialized and sub-technical terms. There is a matter of space and time that the ESP teachers needs to take into account and a two-hour course per week in Romanian academic year norms usually leaves room for 12-14 topics, on average per semester, to approach during the ESP class. For each topic, the class involves giving the students an authentic text taken from encyclopedias or other specialized sources with a broader view of the topic.

A first task would be to identify the specialized terms and underline them. They will work in pairs for this activity and they will use their own knowledge. At first, they will underline those words that appear scientific, as well as those terms that they do not understand. A common issue at this point is the discrimination between highly technical vocabulary and sub-technical vocabulary, namely "those words which are not specific to a subject speciality but which occur regularly in scientific and technical texts – eg *reflection, intense, accumulate, tendency, isolate* and *dense*." (Kennedy and Bolitho, 1991: 57-58) Students will underline anything that appears technical to them and, since, some of the words will occur frequently in every text, in every class, at some point they will begin to recognize them as such, sub-technical vocabulary, and stop underline them, as their meaning will be known. This activity will be discussed and some of the words explained, while others eliminated as not part of the scientific register, merely unknown.

Then, the students will make a list with all the specialized terms they isolated and attempt a translation, equivalence with Romanian terms. Their normal tendency, especially when the level of English proficiency is low, is to translate verbatim or use loan translation, and not bother to adapt to the rigors of Romanian, even obvious ones like placing the adjective after the noun and not before. They intuitively understand many of the specialized terms, but it is not that easy to find the exact and correct equivalence for them. This activity will also be discussed and the teacher will remind them that they actually know many of the concepts to which the English terms point. The discussion is a means to jog their memory and make connections with their specialized knowledge. It is an activity that wakes up dormant information and many of my students appreciate that the English class revises basic concepts of science that they failed to notice before because these simpler tasks force them to synthesize the vast amount of information they possess, as well as make logical,

often interdisciplinary, connections. There are always, of course, terms or phrases that they do not know in either language or it is the teacher's task to inform.

There are various types of authentic texts and the teacher can make a selection according to their purpose. Some texts are highly specialized and better for students with a higher level, both of English and of their proficiency in the scientific field. Other texts are more general and, even though they deal with a topic specific to a particular science, have lexical content of a different nature, namely less highly specialized terms and more emphasis on collocations, for example. The following activity will exemplify the two types of text mentioned above. Text A is adapted from *Encyclopedia Britannica* and explains the morphology of the leaf. Text B is adapted from *Wikipedia* and discusses the advantages and disadvantages of drip irrigation. Activity 1 is the underlining of the terms which is already accomplished in the texts below.

## Text A

**THE LEAF**

Leaves manufacture food for plants, which in turn ultimately nourish and sustain all land animals. Botanically, leaves are an integral part of the stem system, and they are initiated in the apical bud along with the tissues of the stem itself.

Typically, a leaf consists of a broad, expanded blade (the lamina), attached to the plant stem by a stalklike petiole. Leaves are, however, quite diverse in size, shape, and various other characteristics, including the nature of the blade margin and the type of venation (arrangement of veins). Veins, which support the lamina and transport materials to and from the leaf tissues, radiate through the lamina from the petiole. The types of venation are characteristic of different kinds of plants: for example, dicotyledons have netlike venation; monocotyledons have parallel venation. The leaf may be simple – with a single blade – or compound – with separate leaflets; it may also be reduced to a spine or scale.

The main function of a leaf is to produce food for the plant by photosynthesis. Chlorophyll, the substance that gives plants their characteristic green color, absorbs light energy. The internal structure of the leaf is protected by the leaf epidermis, which is continuous with the stem epidermis. The central leaf, or mesophyll, consists of soft-walled, unspecialized cells of the type known as parenchyma. As much as one-fifth of the mesophyll is composed of chlorophyll-containing chloroplasts, which absorb sunlight and, in conjunction with certain enzymes, use the radiant energy in decomposing water into its elements, hydrogen and oxygen. The oxygen liberated from green leaves replaces the oxygen removed from the atmosphere by plant and animal respiration and by combustion. The hydrogen obtained from water is combined with carbon dioxide in the enzymatic processes of photosynthesis to form the sugars that are the basis of both plant and animal life. Oxygen is passed into the atmosphere through stomates – pores in the leaf surface.

Leaves are essentially short-lived structures. Even when they persist for two or three years, as in coniferous and broad-leaved evergreens, they make little contribution to the plant after the first year. The fall of leaves, whether in the first autumn in deciduous trees or after several years in evergreens, results from the formation of a weak zone, the abscission layer, at the base of the petiole. Abscission layers may form when leaves are seriously damaged by insects, disease, or drought. Their normal formation in autumn appears to be, in part at least, due to the shortening of the day.

Source: https://www.britannica.com/science/leaf-plant-anatomy (September 10th, 2016)

## Text B

**THE ADVANTAGES AND DISADVANTAGES OF DRIP IRRIGATION**

Among the advantages of drip irrigation, some of the most important are: fertilizer and nutrient loss is minimized due to localized application and reduced leaching, water application efficiency is high if managed correctly, fields with irregular shapes are easily accommodated, recycled non-potable water can be safely used, moisture within the root zone can be maintained at field capacity, soil type plays less important role in frequency of irrigation, soil erosion is lessened, weed growth is lessened, water distribution is highly uniform, controlled by output of each nozzle, labour cost is less than other

irrigation methods, fertigation can easily be included with minimal waste of fertilizers, foliage remains dry, reducing the risk of disease, and it is usually operated at lower pressure than other types of pressurized irrigation, reducing energy costs.

Some of the disadvantages of drip irrigation include: initial cost can be more than overhead systems, and the sun can affect the tubes used for drip irrigation, shortening their usable life. Also if the water is not properly filtered and the equipment not properly maintained, it can result in clogging. For subsurface drip the irrigator cannot see the water that is applied which may lead to the farmer either applying too much water (low efficiency) or an insufficient amount of water (this is particularly common for those with less experience with drip irrigation). Drip irrigation might be unsatisfactory if herbicides or fertilizers need sprinkler irrigation for activation. A major disadvantage is waste of water, time and harvest, if not installed properly. These systems require careful study of all the relevant factors like land topography, soil, water, crop and agro-climatic conditions, and suitability of drip irrigation system and its components. Most drip systems are designed for high efficiency, meaning little or no leaching fraction. Without sufficient leaching, salts applied with the irrigation water may build up in the root zone, usually at the edge of the wetting pattern. Last but not least, the PVC pipes often suffer from rodent damage, requiring replacement of the entire tube and increasing expenses.

Source: https://en.wikipedia.org/wiki/Drip_irrigation (September 10th, 2016)

The discussion for Activity 1 includes pointing out the combinations of words that the students might miss if they are not trained to see. For example, in Text A, students may underline just *apical* and *bud* separately and not realize they should be taken as a pair (similarly for *blade margin, leaf tissue, leaf epidermis, carbon dioxide, enzymatic process, deciduous trees, abscission layer*). The teacher will point that while those words can stand on their own, they can also be combined in phrases that are commonly used in botany. In the same vein, words that are given separately should be understood in pairs. For example, in the sentence "The leaf may be simple – with a single blade – or compound – with separate leaflets", the reference to the collocations *simple leaf* and *compound leaf* should be emphasized, even though the word order in this particular sentence may not leave this reference so obvious to a lower level student.

There are other elements that can be pointed for more advanced levels, such as the compound adjectives in the text: *stalklike, chlorophyll-containing, soft-walled, short-lived, broad-leaved*. This could be the basis or starting point for a short grammar segment dealing with compound adjectives. Or, another grammar point can be made regarding the irregular plural or scientific terms with Latin or Greek origin (*leaf, lamina, photosynthesis, epidermis, parenchyma, basis*). More examples could be given in this regard, separately from the ones in the text.

Text B is richer in collocations and not so much in highly specialized scientific terms. This helps the students get used to correct combinations of words in general and to more field-specific combinations. Their tendency to underline only one word of a collocation (the one presumably unknown) or neither (if both are known or not perceived as specialized terms) will be corrected in time by the teacher and they will learn to identify these combinations and use them adequately.

Activity 2 involves accurate equivalence and the training of students with the rigors of professionalism in this regard. If they are required to translate scientific texts, for their future professional needs, they should be used to employing the correct words or phrases in both Romanian and English. Rigor and accuracy are paramount in science. Their lack is regarded as unprofessionalism and low quality knowledge. There are many categories of terms that require precise equivalence when it comes to science. The following classification is my own and based on my experience teaching ESP classes to Biology, Ecology and Agriculture students. Thus, there are:

**A.** Romanian words with several options in English. The context and scientific reference are the determining factors in terms of which word is used correctly. For example, the words "sâmbure" and "coajă" have several options in English which distinguish between different types of plants and even other objects. In these cases, Romanian does not have equivalence for each synonym:

| Romanian | English | Meaning |
|---|---|---|
| sâmbure | *stone* | used for drupes (cherry, plum, peach, apricot etc) |
| | *pit* | used for drupes (cherry, plum, peach, apricot etc);<br>also used as verb: *to pit* = "a scoate sâmburii" |
| | *pip* | used for smaller fruit seeds (citrus, apples) |
| | *seed* | used with the meaning "sămânţă", but also "sâmbure" |
| | *kernel* | the edible seed inside a pit (apricot, almond), inside a husk (cereals) or inside an achene (sunflower) |
| | *core* | more general, for the center or middle of something: e.g. *The core of the Earth* ("centrul Pământului"); *apple core* ("cotor de măr") |

| Romanian | English | Meaning |
|---|---|---|
| coajă | *skin* | "pieliţă" – the thin membrane of some fruits (grapes, peach etc) |
| | *rind* | the thicker covering of fruits (watermelon, citrus) or other objects (tree rind = "scoarţă de copac", pork rind = "şorici") |
| | *husk* | the membranous covering of cereals ("pleavă") or other fruits (walnut, coconut) |
| | *shell* | "găoace", "coajă de ou"; it also means "cochilie" |
| | *bark* | "scoarţă" – used mainly for trees and other woody plants |
| | *cover* | general term for any type of covering |
| | *crust* | "crustă" (for cakes), "coajă de pâine", "scoarţă terestră" |
| | *peel* | "pieliţă" – very thin skin (garlic, onion, potatoes etc);<br>also used as verb: *to peel* = "a coji", "a exfolia" |

The same is true in the opposite direction, English words with several synonymous meanings in Romanian. It is very important for the quality of the communication, be it written or oral, to use the proper word from a list of synonyms, especially in professional contexts. For example, in the field of viticulture and winemaking, *blending* should correctly be translated as "cupaj" and not "amestec", as it is a term specific to the domain and denotes professionalism. Similarly, *fining* may mean "rafinare" or "limpezire", but regarding winemaking, it is specifically "cleire", a type of refining using particular substances. In anatomy, the word *vein* should be translated as "venă" in the case of humans and "nervură" in the case of plants (leaf vessel).

Similar, but with fewer synonyms, are the following terms referring to animals or animal parts:

| Romanian | English | Meaning |
|---|---|---|
| gândac | *cockroach* | any insect of the family *Blattellidae*: "gândac de bucătărie" |
| | *beetle* | any insect of the order *Coleoptera*: e.g. *stag beetle* = "rădaşcă", *cockchafer* = "cărăbuş", *ladybug* = "buburuză", *weevil* = "gărgăriţă" etc. As a whole, they are all beetles. |
| | *bug* | general term for any insect; also used for microbes and viruses |
| coarne | *horns* | used for cows, sheep, rhinoceros |
| | *antlers* | used for the deer family (including reindeer and moose) |
| colţ | *fang* | used for the canine teeth of some carnivores like dog, cat (including wolves, foxes, wild cats, lions, tigers etc) and for the teeth of venomous snakes which inject the venom |
| | *tusk* | used for the elongated teeth of elephants, wild boars and walruses |

**B.** Homonyms. This is a particularly significant category, since it is important to know which is the correct meaning in the given context. For example, the word *stain* means "pată" and it is its most common use, but as a laboratory substance, it means "colorant" and it is used to highlight organic material observed under the microscope. Below are a few such examples:

| **Romanian** | **Meaning and Usage** |
|---|---|
| *crop* | "guşă" – an enlarged part of a bird's esophagus (part of the digestive system) |
| | "cultură de plante" – plants cultivated on large surfaces or the production obtained (*harvest*) |
| *berry* | "bacă" – a type of fruit in botany |
| | "fruct de pădure" – general term for blackberries, blueberries, raspberries etc, which are not botanically a berry ("bacă") |
| *spur* | "pinten" – in animals, but also objects |
| | "cep" – part of the grapevine cordon which bears the buds for the following year's growth |
| | "cornul secarei" – a fungal diseases affecting cereals |
| *nursery* | "creşă" – for children |
| | "pepinieră" – for growing plants |
| *prune* | "prună uscată", as a noun |
| | "a tăia crengi", "a toaleta copaci", as a verb |
| *kid* | "copil", "puşti" – the offspring of humans |
| | "ied" – the offspring of goats |

**C.** English words, phrases or collocations whose meaning the students understand, but for which they need a proper Romanian equivalent for their own production, written or spoken, again for the purpose of accuracy and professionalism. Sometimes, they get the meaning wrong. There are numerous examples in this category but I will restrict the list to the most common I encountered in class:

| **English** | **students' tendency to translate** | **correct equivalent** |
|---|---|---|
| *freshwater* | *apă proaspătă | "apă dulce" |
| *wind energy* | *energia vântului | "energie eoliană" |
| *loose soil* | *sol liber | "sol afânat" |
| *overhead irrigation* | *irigaţie peste cap | "irigaţie prin aspersiune" |
| *companion planting* | *plantare în companie | "culturi intercalate" |
| *bee veil* | *văl de albină | "mască apicolă" (worn by the beekeeper, not the bee) |
| *queen* | *regină | "matcă" (female bee) |
| *drone* | *dronă | "trântor" (male bee) |
| *fortified wine* | *vin fortificat | "vin alcoolizat" |
| *bearing* | suportare, purtare (which is not wrong if the context is not related to agriculture or botany) | "rodire" (about trees making fruit, for example) |
| *grafting* | grefare (may be correct in medicine) | "altoire" (in agriculture) |
| *farmland* | *terenul fermei | "teren agricol" |
| *thin air* | *aer subţire | "aer rarefiat" |
| *to chisel* | a cizela (correct in other contexts) | "a scarifica", "a lucra cu scarificatorul" (in agriculture), from *chisel plow* = "scarificator" |
| *seed drill* | *burghiu cu seminţe | "semănătoare" |
| *balance of nature* | *balanţa naturii | "echilibru ecologic" |
| *renewable energy* | *energie reînoibilă | "energie regenerabilă" |
| *land management* | *managementul pământului | "gestionarea terenului" |

**D.** Romanian words and phrases that are apparently easy to translate and lead to some risible results on the part of the students who rush to give a made-up equivalent:

| **Romanian** | **students' tendency to translate** | **correct equivalent** |
|---|---|---|
| grâu integral | *integral wheat | *whole wheat* |
| lapte praf | *dust milk | *powder milk* |
| vacă de lapte | *milk cow | *dairy cow* |
| vacă de carne | *meat cow | *beef cow* |
| acid clorhidric | *chlorhydric acid | *hydrochloric acid* |
| apă freatică | *underground water | *groundwater* |
| ţesut liberian | *liberian tissue | *phloem tissue* |
| ţesut lemnos | *woody tissue | *xylem tissue* |
| lăptişor de matcă | *bee milk or *queen milk | *royal jelly* |

**E.** There are also happy cases when equivalence is obvious and correct as some terms and phrases can be translated rather verbatim. First-year students of biology, however, may not be very proficient in their knowledge and usually they learn English and biology in parallel over the first two years of academic study. The same is true about any other specialization. Thus, there is doubt in their mind whether the translation is actually correct, as it seems "too good to be true" in some cases, given the experience they had with those terms listed in **C** and **D** above. Adult learners can relate to their experience to the field they study. Thus, if they are aware of the specific terminology in their field, biology, ecology or agriculture, they will have confidence the Romanian equivalent is correct. And that will be true in the case of any professional. A very good knowledge of their domain helps many specialists figure out the meaning of English specialized terms with considerable ease. Adult learners and specialists in a field of study have more contact with scientific texts written in English, therefore, the terminology equivalence is more familiar to them and rather intuitive.

Here are a few examples of such phrases that are similar in English and Romanian:

| **English** | **Romanian** | **English** | **Romanian** |
|---|---|---|---|
| *crop rotation* | "rotaţia culturilor" | *growing season* | "sezon de creştere" |
| *greenhouse gases* | "gaze de seră" | *global warming* | "încălzire globală" |
| *table wine* | "vin de masă" | *integrated farming* | "agricultură integrată" |

Also, some names of plants and animals are similar in both languages, although most common names are problematic and easily confused even in L1. There are some cases in which the common names of species use the same descriptive words in both languages, or even exactly the same word. A serious linguistic study is required in order to explain such situations.

**F.** Collocations. This is again a very large area of discussion, with many variables. The safest option is to always check a dictionary of collocations. However, reference to such specialized dictionaries is something philology specialists are trained to do. For ESP learners, providing them with a common set of collocations used in their field of study is very helpful:

> By identifying and studying collocations learners will form their mental lexicon not only from isolated independent units, but also from pre-combined units, thus consolidating a conceptual system that will allow them to become more proficient at an initial stage of learning. (Cotter, 2006:501)

Thus, starting from the juxtaposition of simple and more general terms, to those more specialized, they will learn from various activities how to combine the words correctly.

A variety of exercises will help the students slowly understand and refer to memory that "ploaie puternică" is *heavy rain* and not **strong rain*, but that "vânt puternic" is indeed *strong wind*, that "munte înalt" is *high mountain* but "bărbat înalt" is *tall man*, that "meserie grea" is *hard job* and not **heavy job*, that there is *low quality, low impact, low temperature* and the opposites are *high quality, high impact, high temperature*. And on to the more field-specific collocations: *to monitor pollution, endangered species, solar energy, renewable resources, sustainable agriculture, drip irrigation, cover crops, buffer strip, small intestine, heart beat, stomach lining, cell organelles* and many others.

Giving the opposite combination is always useful when it comes to collocations as pairs of antonyms are effective in learning the differences in usage between L1 and L2, as well as a means to enrich vocabulary. Synonyms have a similar effect, though imperfect synonymy may be clarified with appropriate contexts and this again is a way to enrich vocabulary as well as make sure the differences are understood. Collocations should be reinforced as often as possible through any types of activities, whether they involve grammar, reading, writing, translating or simply vocabulary.

**G.** False friends are especially dangerous in the scientific field, where the importance of accuracy and clarity cannot be stressed enough. There are several recurrent examples in my classes of instances when students use certain terms erroneously:

| **English term** | **wrong translation** | **correct translation** |
|---|---|---|
| arm | *armă | braţ (there is, however, the verb *to arm* = "a înarma") |
| benzene | *benzină | benzen ("benzină" = *gas, gasoline, petrol*) |
| carton | *carton | cutie, ambalaj ("carton" = *cardboard*) |
| container | *container | recipient, container |
| gust | *gust | pală (de vânt), rafală |
| mare | *mare | iapă |
| petrol | *petrol | benzină (in British English) ("petrol" = *oil, petroleum*) |
| physician | *fizician | medic ("fizician" = *physicist*) |
| preservative | *prezervativ | conservant ("prezervativ" = *condom*) |
| recipient | *recipient | destinatar (from the verb to *receive* = "a primi") |
| stamina | *stamină | rezistenţă, putere ("stamină" = *stamen*) |
| talon | *talon | gheară |

There are also Romanian words that are loaned by learners and translated wrongly such as *combustible* for "combustibil" or *affluent* for "afluent". Whereas *combustible* is normally used as adjective and means *flammable* but can also mean *fuel*, which is the most common word used for the Romanian "combustibil", *affluent* is definitely used wrongly (it means *rich, prosperous*) and the correct term for a river that flows into another river is *tributary*.

**Conclusions**

Teaching terminology and the appropriate equivalence for scientific vocabulary is a difficult task, though it may prove enjoyable and satisfying with the right materials and methods. Even though the English teacher is not a biologist, for example, terminology is a shared task between the knowledge of the students and the research done by the teacher. Some points are important to keep in mind when it comes to terminology and accurate equivalence. Thus, context, as well as a thorough understanding of usage, are very important, as a term may have different meaning in different scientific contexts. The way in which words combine, how English and Romanian spelling differs in words with shared origin (Latin or Greek), loan and word-for-word translations, these must all be considered carefully and checked against Romanian/English sources (specialized dictionaries and authentic texts or scientific textbooks) to confirm the terms are used correctly.

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