MEDICAL VOCABULARY AND THE ESP TEACHER

Adina MATROZI MARIN
University of Piteşti

Abstract*: The article focuses on the structure of the medical terminology, one of the most complex and important terminologies in the structure of the scientific vocabulary. It has evolved following the same principles as the biological and botanical terminology, the terms being created either at a national level or at an international level, the latter based on some Latin or Greek elements.*

Key words*: affixes, genres, medical terminology, medical journals*

Researchers have divided ESP into two major branches: EAP (English for Academic Purposes) and EOP (English for Occupational Purposes). Furthermore, EAP itself is divided into different specialisms, the most important of which have been: English for Science and technology (EST), English for Medical Purposes (EMP), English for Legal Purposes (ELP) AND English for Economics.

The major issue regarding these fields was that "they seem to fall between two points: on the one hand, the focus on "common-core EAP and, on the other, the concentration on the particular features of a specific discipline (...)."(Dudley-Evans, St. John, 2007: 48). Moreover, are there any common features belonging to the disparate disciplines in Science and Technology, such as Geology, Biology, Mechanical Engineering that distinguish them as a set of disciplines from courses in the Social Sciences and Humanities? And how much do Civil, Chemical, Mechanical and Electrical Engineering have in common with each other?

When discussing a more specialist branch of ESP, such as EMP, one should distinguish clearly whether we address the needs of medical students (EAP), or practising doctors, or consultants in hospitals (EOP), because each of them has different needs and abilities to use different genres.

Teachers are aware of the fact that medical students have EAP needs such as to read textbooks and articles and write essays on short clinical reports. The needs of the practising doctors include not only reading specialist articles, but also EOP needs such as preparing papers and slide presentations for conferences and if working in an English-speaking country, interacting with patients in English. The same happens in the case of the nurses, who have EAP needs as part of their academic courses and EOP needs when on the ward. That is why many specialists consider that the terms (among which English for Medical Purposes) "may be little

more than useful umbrella terms derived from teaching situations and the writing of teaching materials" (Idem, p. 49).

A valuable example used to illustrate the situation described above is that Medical English for academic purposes is often conflated with English for Science and Technology. Dudley-Evans & St. John chose the example of Pettinari (1982) who "refers to Medical English as one type of EST, but suggests that the influence on the discourse of social structure and cultural tradition is greater than in other types of EST" (*Ibidem*). The same opinion is shared by Malcolm (1987, apud Dudley-Evans), who discusses tense usage in EST taking into account 20 experimental reports from the Journal of Paediatrics and he makes the assumption that results of his study can be applied to the whole of EST.

Mention should be made of the fact that in medical English for occupational purposes, there are three main areas of research: the use of English in written medical communication, the delivery of papers and slide presentations in English at international medical conferences, and the role of English in doctor/patient interactions.

There are also four main genres in academic medical journals: the research paper, the review article, the clinical case notes and editorials. Specialists also differentiated another genre, the surgical report and observed the differences between those written by native speakers and those written by non-native speakers (Pettinari, 1982, 1985, apud Dudle-Evans, St. John, p. 49)

Genre is defined by the above mentioned writers as a text-type that has developed in response to a social or professional need. It generally has a predictable structure. Examples of genres include the academic article, the newspaper editorial, the business presentation, the sermon, the academic lecture." (p. xv)

Although teaching vocabulary was not regarded as a major part of ESP, now its importance is widely accepted. Researchers make a clear distinction between semi-technical vocabulary (EAP) (or core business vocabulary – EBP). Many have claimed that the teaching of technical vocabulary is not the duty of the teacher. This point of view has changed radically: "While in general we agree that it should not be the responsibility of the ESP teacher to teach technical vocabulary, in certain specific contexts it may be the duty of the ESP teacher to check that learners have understood technical vocabulary appearing as carrier content for an exercise. It may also be necessary to ensure that learners have understood technical language presented by a subject specialist." (Dudley-Evans, St. John, 2007, p. 81). The carrier content is used to teach the specific language that the unit in the book wishes to introduce at a certain stage; on the other hand, an authentic topic can be used as a vehicle for the real content of the unit, for example the language of

process, a topic understood by students of any discipline, without any interference with the technical content.

Any ESP exercise is created to exploit a particular context, specific to a certain field of ESP and therefore that context uses technical vocabulary that should be recognized by both teachers and learners as carrier content. But in order to do the exercise, the students need to understand the technical language. The importance of teaching technical vocabulary is crucial for the EFL learner, though of less importance for a native speaker.

However, specialists suggested various ways to deal with the technical vocabulary. Sometimes a term will be cognate with the equivalent term in the student's first language; if it is not cognate and is unfamiliar, it may need to be introduced and explained; in many cases there is a one-to-one relationship between the terms in English and the learner's L1and it will be enough to translate the term into the L1 after a brief explanation (*Ibidem*).When the subject specialist is absent, the teachers supposed to adopt a questioning role about technical vocabulary; this situation involves the use of technical dictionaries or computers, where students can find technical dictionaries online. Dudley-Evans & St. John (p. 82) suggest the following example: the use in medical writing of the expression "the patient presented with the symptoms of…", which may seem unnatural and ungrammatical to the non-expert, but is normal in Medical English.

According to Baker (1988: 92, apud Dudley-Evans, 2007: 82), semi-technical vocabulary includes six categories of vocabulary:

- items which express notions general to all specialised disciplines;
- general language items that have a specialised meaning in one or more disciplines;
- specialised items that have different meanings in different disciplines
- general language items that have restricted meanings in different disciplines;
- general language items that are used to describe or to comment on technical processes or functions in preference to other items with the same meaning (to occur – to happen);
- items used to signal the writer's intentions or evaluation of material presented.

Dudley-Evans &St. John (*Ibidem*) demonstrate that the six categories proposed by Baker intermingle and claim that there are two broad areas: vocabulary used in general language but with a higher frequency of occurrence in a specific field (academic: factor, method, occur); tourism (verbs: advise, confirm; collocations : to make a booking) and vocabulary that has specialised and restricted meaning in certain disciplines and which may vary in meaning across disciplines (computer science: *bug*; physics: *force, energy*).

The teaching of vocabulary in ESP follows the same principles as in EGP (English for General Purposes). The same distinction between the vocabulary needed for comprehension and the vocabulary needed for production applies in ESP. The best demonstrated method for comprehension is deducing the meaning of vocabulary from context and from the structure of the actual word. For production, storage and retrieval are key issues. Storage is best achieved through the use of word association, mnemonic devices and loci (the use of visual images to help remember a word) (Nattinger, 1988, apud Dudley-Evans &St. John, p. 83).

In selecting the texts for analysis, the institutions and teachers have played an important role, either through the textbooks available on the market and those in the resource centre or through the supplementary material teachers provide. It is important that learners and subject specialists should select texts for reading. This scenario is most likely to appear in EAP and English or Vocational Purposes (EVP).

Medical terminology is made up of various terms, most of them extremely stable and with a precise meaning as required by a scientific terminology. Yet, some of them have the tendency to be used not only in the medical field but also as part of the common vocabulary, appearing in common dictionaries, such as DEX. But the transition is not always beneficial because the terminology is one of the most difficult of the scientific terminologies, representing a closed code.

The terms are created either at the national level (the terminology of a language or culture) or at the international level (borrowed words based on Greek or Latin elements, easily accepted in the European languages with the status of internationalisms).

Greek and Latin have the role to unify the national scientific terminologies, reducing the informational confusion, designating a clearly delimitated concept, the proper semantics of the term and the structural aspect, being adapted at the same time to the grammatical norms of that particular language. The terms are adopted because there is a need to name a new concept; it is easy to remember and to memorize and assures the linguistic uniformity.

For example, according to Farlex dictionary, *diabetes* "is named for one of its distressing symptoms. The disease was known to the Greeks as *diab*$\bar{e}$*t*$\bar{e}$*s*, a word derived from the verb *diabainein*, made up of the prefix *dia-*, "across, apart," and the word *bainein*, "to walk, stand." The verb *diabeinein* meant "to stride, walk, or stand with legs asunder"; hence, its derivative *diab*$\bar{e}$*t*$\bar{e}$*s* meant "one that straddles," or specifically "a compass, siphon." The sense "siphon" gave rise to the use of *diab*$\bar{e}$*t*$\bar{e}$*s* as the name for a disease involving the discharge of excessive amounts of urine. *Diabetes* is first recorded in English, in the form *diabete*, in a medical text written around 1425".

The term is *diabet* in Romanian, but also exists in Spanish (*diabetes*), French (*diabète*) and Italian (*diabete*). The word *diabet* has evolved afterwards in the affix *diabet(o)*, such as in *diabetogen* – "producing diabetes" or *diabetolog* – "specialist in diabetology".

In English, it seems that the term *diabetologist* is slightly different in meaning. In North America it is used for an internist who develops expertise in diabetes care without having formal training or board certification in endocrinology. *Diabetology* is not a recognized medical specialty and has no formal training programs leading to board certification. On the other hand, the term *diabetologist* may refer to any physician, including endocrinologists, whose practice and/or research efforts are concentrated mainly in diabetes care. (cf. Wikipedia)

There is a long series of examples of this type: *hepatită* corresponds to the English *hepatitis*, the Spanish *hepatitis*, the French *hépatite,* the German *hepatitis* and the Italian *epatite;* Rom. *laringită* - En. *laryngitis* - Sp. *laryngitis* - Fr. *laryngite* - It. *laringite*; Rom. *nefrită* – En. *nephritis;* Rom. *amigdalită*/*tonsilită* – Fr. *tonsilite/amygdalite* – Germ. *Tonsillitis*; En. *tonsilitis;* Rom. *gingivită* – En. *gingivitis* („inflammation of the gums, characterized by redness and swelling").

Many new words (neologisms) put together in an original manner already existent morphemes. The term *miocardiodistrofie*was introduced by the Russian therapeutist Lang G., joining the Greek *myos* meaning muscle + *kardia* (heart) + *dys* (dysfunction) + *trophe* (food), non autonomous lexical units found in the general lexicon; the new term has the advantage of being easily decoded. The general lexicon has acquired the term, (designating a dysfunction of the cardiac muscle) and from here, it was borrowed by other languages: English - *myocardiodystrophy*, French - *myocardiodystrophie*, German - *Myocardiodystrophie* (cf. Mincu, 2007: 8).

Other examples of very productive lexical elements coming from Greek via French are:

- *cardio-* (< Fr. cardio-; cf. Gr. kardia), En. *cardio-* = "referitor la inimă", "cardie"/ "heart":
  Rom. *cardioaccelerator* – En. *cardioaccelerator*
  cardiocel – cardiocele
  cardiograf – cardiograph
  cardiogramă – cardiogram
  cardioinhibitor - cardioinhibitor
  cardiologie – cardiology
  cardiolog – cardiologist

It seems that the Greek word *kardia* is the common origin of the homonymous meanings "inimă" /"heart" on the one hand and "orificiul superior al

stomacului, situat la locul de unire între esofag şi stomac"/ "the upper orifice situated at the place where the esophagus and the stomach are joined". It is not certain whether the meaning *kardia* – "stomac"/ "stomach" derives from *kardia* – "inimă"/ "heart" or from *kardia* – "cerc, sac"/"circle, bag", the latter being the primary meaning of the Greek lexeme. (cf. Mincu, 2007: 14)

- *hepato- (*< Fr. hépato-; cf. Gr. hepar, hepatos), En. *hepato-* = „ficat"/ „liver":
  hepatocel – hepatocele
  hepatocit – hepatocyte
  hepatografie – hepatography
  hepatologie – hepatology
  hepatom – hepatoma
- *mio-* (< Fr. myo-; cf. Gr. mys, myos), En. *myo-* = "muscular/referitor la muşchi"/"muscular, involving muscles":
  (biol.) Rom. *mioblast* – En. *myoblast*;
  (med.) *miocard – myocardium*;
  miofibrom – myofibroma;
  mioglobină – myoglobin;
  miograf- myograph;
  miologie – myology
- *neuro-* (< Fr. neuro-; cf. Gr. neuron), En. *neur(o)-* = „nerv"/ „nerve", „neural":
  neuroblast – neuroblast
  neurobiologie – neurobiology
  neurocit – neurocyte
  neurochirurgie – neurosurgery
  neurolog – neurologist
  neurologie – neurology
  neuroplegic – neuroplegic.

The prefix *zoo-* (< Fr., It. zoo, cf. Gr. zoon) = „animal" is used mainly in biology, both in Romanian and English:

- (bot.) *zoocor – zoochore*
  zoobiologie – zoobiology
  zoocenoză – zoocenosis
  zoofag – zoophagous
  zoofit - zoophyte
  zoografie – zoography.

Different prefixes, such as *cito-/ cyto-* are used in the related fields of biology, medicine and biochemistry:

- *cito-* (< Fr. cyto-; cf. Gr. kytos), *En. cyto-* = (referitor la) „celulă”/ „cell”:
  (biochem.) *citobiologie – cytobiology*
  (biol.) *citocinoză – cytokinesis*
  (med.) *citodiagnostic – cytodiagnosis*
  (biol.) *citofagie - cytophagy*
  (biol.) *citogamie - cytogamy*
  (biol.) *citoliză – cytolysis*
  (med.) *citoscop - cytoscope*

There are also synonyms involving a different first element: *adipozurie* (lat. *adipis*, „grăsime” + < gr. *ouron*, „urină”) = *lipurie* (<gr. *lipos*, „grăsime” + < gr. *ouron*, „urină”) or synonyms where the final element is different: *glosalgie* (< gr. *glossa*, „limbă”/”tongue” + < gr. *algos*, „durere”/”pain”) = *glosadenie* (< gr. *glossa,* „limbă” /”tongue” + < gr. *dynia*, „ durere” /”pain”), the equivalent of the English *glossodynia* (Mincu, 2007: 12).

Some affixes are used both in medicine and in biology. It is the case of *angio- (vas, canal, receptacul* - cf. DEI*),* used mainly as a prefix (or *–ange* as suffix*),* coming from the Greek *aggeion,* the diminutive of *aggos* (first meaning a shelter, then a barrel and finally, blood vessels) → *aggein* „albie a râului” → *angeia* „adăpost, butoi, rezervor” → *angeion* „vas anatomic”: *angiocolită, angiografie, angiologie, angiom, angiopatie, angiospasm, angioragie* (med.) or *angiosperm* (bot.)

References

Baker, M., Sub-technical vocabulary and the ESP teacher: an analysis of some rhetorical items in medical journal articles, *Reading in a Foreign Language*, 4:91-105, 1988.

Bidu-Vrânceanu, Angela, *Lexic comun, lexic specializat,* Universitatea din Bucureşti, 2002, http://ebooks.unibuc.ro/filologie/vranceanu/part347bibl.htm.

Dudley-Evans, Tony and Maggie ST. JOHN, Developments in English for Specific Purposes, Cambridge University Press, 2007 .

Mincu, Eugenia, *Afixoidele în limba română,* Chişinău, 2007, www.cnaa.acad.md/files/theses/2007/6444/eugenia_mincu_abstract.pdf.

Malcolm, L, What rules govern tense usage in scientific articles? *English for Specific Purposes*, 6: 31-44, 1987.

Pettinari, C., The function of a governmental alternative in fourteen surgical reports, *Applied Linguistics*, 4: 55-76, 1982.

Pettinari, C., A comparison of the production of surgical reports by native and non-native speaking surgeons, in J. D. Benson and W. S. Greaves (Eds.), *Systemic Perspectives on Discourse*, vol. 2, Norwood, NJ:Ablex, , 1985.