LSP International Journal, Vol. 3, Issue 1, 2016, 43–50

E-ISSN 2289–3199 / ISSN 0128–732X

Strategies for Designing and Optimising an English for Medical Purposes for French Medical Students

Dr. Pascaline Faure
Maître de Conférences -Université Pierre et Marie Curie – Paris VI

ABSTRACT

Due to the considerable volume of medical content knowledge that medical students have to acquire and memorise, very little time can be devoted to medical English learning. Therefore, an English language teacher has to find strategies to both motivate the learners and facilitate language acquisition inside and outside the classroom. Yet, very few teachers can claim to be experts in medical English. Most teachers are sent to university hospitals without prior training and are trained on the job, which is far from being satisfactory. Therefore, after illustrating the specificity of medical English as opposed to general English, this paper discusses the strategies that have been implemented in a medical faculty so as to optimize medical English classes. Finally, this paper will raise the issue of teacher training specifically in English for medical purposes and suggest some solutions to help teachers acquire the medical knowledge sufficient to design relevant and efficient course contents.

Keywords: Medical English, language teaching, task-based learning, motivation, teacher training

1.0 INTRODUCTION

The English language has become more and more prominent in the field of medicine, being now the new "lingua franca". It is the only language in the international medical abstracting indexes and is now being widely used in international conferences and journals. Therefore, the need for medical English courses has seen a remarkable increase over the last ten years in France and in other European countries, and is now part of the national curriculum of medical studies. Although there is an overlap with general English, medical English is a fairly specific language: neologisms, acronyms, collocations, Greco-Latin terms, Latin word order, and ancient plurals.

**Correspondence to:* Dr. Pascaline Faure (email: Faure.Pascaline@wanadoo.fr)

2.0 MEDICAL ENGLISH: A LANGUAGE OF ITS OWN

Medical English is a specialized language in many respects. Not only is its terminology very specific, but its grammar also varies from that of general English. What first surprises this researcher when studying medical English is the number of abbreviations and acronyms used in medical area. Whether in Latin as on prescriptions – if the doctor writes "b.i.d.(bis in die), p.c.(post cibum)", this means the patient needs to take his/her medication twice a day after meal – or in English, they abound in this field marked by a need for concision and precision.

Hence, when in a hospital, a patient will be sent to the ENT (Ear Nose Throat) Department if he/she presents with acute otitis, the ICU (Intensive Care Unit) if he/she is in a critical state, or the OB-GYN (Obstetrics and Gynecology) if she is about to deliver. A patient's date of birth will be written down under "DOB" and anything to do with his/her clinical examination will be specified under "O/E (On Examination)". The Intern will check the patient's RS (respiratory system), CVS (cardiovascular system), BP (blood pressure), P (pulse), GUS (genito-urinary system), GIS (gastro-intestinal system) and CNS (central nervous system), and will pose his/her diagnosis in the square noted "Dx" just before that of "Rx" in which he/she will specify his/her treatment and will note down under "Ix" any further investigations the patient may need.

Some abbreviations have become so common that they have turned into acronyms. Thus, patients suffering from a blocked artery will undergo CABG (coronary artery bypass grafting) and men with age-related prostate problems may need TURP (transurethral resection of the prostate). These acronyms can even be conjugated like any other verb: e.g. the patient has just ODed (overdose of a drug).

These abbreviations often descend from compound words. Compound words in English can comprise up to 36 words. Medical English teems with them: e.g. the US 1993 Jack-in-the-box fast-food-chain E. Coli outbreak. Those words sometimes fuse, e.g. urinalysis (urine + analysis) or fecalysis (fecal + analysis). Likewise, in the ER (Emergency Room), we often hear: "the patient Vfibs" (from "ventricular fibrillation") or, in OB-GYN: "pass me the amnihook" (from "amnion" and "hook").

The order in which one is supposed to place the various words is remarkably interesting. Thus, the Germanic order is respected when the adjective is English, that is to say before the noun, and the Latin order when it is Latin ("labia majora") that is to say after the noun. Yet, there is often a combination of Latin and English adjectives such as in "disseminated lupus erythematosus", in which case the English adjective will follow the English order and the Latin adjective the Latin order, resulting in quite complex constructions.

Likewise, from a grammar point of view, medical English is extremely interesting. For instance, the way determiners are being used is of interest: "fever", when a symptom, takes the indefinite article: e.g. Does he have a fever? Yet, when a disease, it takes no article like any other diseases: Japanese fever. Even more interesting is the disappearance of the definite article in front of "plague" when used in combination with "bubonic" or "pneumonic" or in front of "flu" when preceded with "avian" or "swine". Not to mention the fact that metaphorical diseases such as "mad cow" or "foot-and-mouth" were first used with a definite article which later on disappeared as the

terms were becoming more widely used as though they had been awarded the status of "listed diseases".

The way nouns that come with either a letter or a number are being determined is very interesting too. Why should one say "the X chromosome" but "vitamin B" or "blood group 0"? Why should one say "chromosome 21" but "the 5th disease"? Again, the answer, if not obvious, is very logical: for sexual chromosome, so far, there have been only two possibilities: X or Y, whereas for blood types or vitamins, the choice is wider. As for numbers, when they are cardinal, they are placed after the noun which they suffice to determine, but when ordinal, they should come first and be used with the definite article as they result from a choice.

The marking of a link between a disease or syndrome and the name of its discoverer will also attract the linguist's interest. Hence, when there is only one discoverer, the rule is to use an apostrophe ['s] (e.g. Silverman's syndrome), and a hyphen (Silver-Russel syndrome) when there are two or more discoverers. Yet, one often reads "Kaposi sarcoma", "Grawitz tumor" or "Down syndrome". The first two may be explained by the fact that when they are verbalized, the [s/z] sounds merge together. As for "Down syndrome", the disappearance of the apostrophe ['s] is probably due to fact that "down" is also a common noun. When the second word is a toponym, apostrophe ['s] is not used: e.g. Lyme disease (from Lyme, a town in Connecticut).

When the second word is a method or an operation, one usually uses apostrophe ['s] (e.g. Gilliam's operation) but when it is a test or a body part, one should not use apostrophe ['s] (e.g. Kahn test and Leydig cells).

The conventions and symbols are also quite remarkable. For instance, 1/52 is related to time and means "one week". The meaning of "c." is "about", whereas "c" specifies a causality link. Thus, "depressed c pain" means "depressed because of pain". And, "*" means "at birth".

Besides, its jargon is often based on Latin and Greek roots. Therefore, it is usually quite easily understandable for Latin languages speaking learners such a French, Spanish and Italian medical students. Medical English, however, poses an additional problem of double discourse.

English is a Germanic language, therefore its speakers, may use and understand words of Germanic origin. Any learner of medical English must become familiar with both the professional and the lay term. The same phenomenon is to be found in every Germanic language, e.g. Zucker Krankheit versus Diabetes in German, and, to a lesser extent, and bel agrisi (« douleur de dos ») versus lumbago in Turkish.

When speaking to his/her English-speaking patient, a doctor will opt for "breastbone" instead of "sternum", "knee-cap" for "patella", "collarbone" for "clavicle" and "shoulder-blade" for "scapula". Likewise, if the patient presents with varicella, the doctor will talk about "chickenpox". Moreover, if the symptoms are those of variola, he/she will talk about "smallpox". Rubella will be better understood under the term "German measles" and should not be confused with rubeola that is also known as "measles".

In medical English, we often find two versions of a same disease: an English version that is more easily understandable because it is more concrete, and a Latin/Greek version, e.g. tinea pedis/athlete's foot, uterus didelphys/double uterus, amyotonia congenita/floppy baby syndrome, cutis anserina/goose bumps, asthenopia/eyestrain, nocturnal enuresis / bedwetting, decubitus ulcer/bedsore, and alexia/word blindness.

If a patient complains about "heartburns", he/she is talking about his/her stomach and not his/her heart. If he/she says he/she has the "runs", he/she means "diarrhea". If a middle-age woman talks about her "changes", she is talking about the effects of menopause. The term "afterbirth" relates to the placenta and the umbilical cord during delivery. If a doctor needs to
know more about the patient's urinary system, he/she is going to enquire after his/her "waterworks". Finally, if a patient says he/she has "opened his/her bowels", he/she means that he/she has had some stools.

Medical English is also remarkable for its use of Latin and Greek plurals. Thus, "bacterium" is the singular for "bacteria" , "fungus" gives "fungi" in the plural, "data" is the plural of "datum", "vertebra" gives "vertebrae" although "vertebras" also exists, "testis" gives "testes" with, when verbalized, a modification of the final [s] into a [z], et "isthmus" can be pluralized either in "isthmi" or "isthmuses". More surprising, when in the plural, "porta hepatis" gives "portae hepatitis", "pons" gives "pontes", "crus cerebri" turns into "crura cerebri" and "comedo" into "comedones".

3.0 ENGLISH AS PART OF THE MEDICAL CURRICULUM

In France, medical studies last over 10 years. At the end of their 1st year, French students sit for a highly competitive exam. They start their clinical rotations in their 3rd year and sit for another competitive exam at the end of their 6th year after which they start their Internship which lasts between 3 and 6 years depending on their specialty.

Since 1992, English has become part of the medical Faculties' curriculum in France. A law even states that it should amount to 120 hours over the first 3 years of medical school. Unfortunately, due to the overload of work in medical subjects and therefore the lack of time medical students can devote to English, medical English is not taught in all Faculties, is sometimes optional and, when compulsory, rarely amounts to more than 30 hours a year.
Whatever the choice of each medical Faculty, English classes start in the students' 2nd year.
To make matters worse, most French medical students usually have a bad –if not distasteful – memory of the general English classes they attended in high school, and their standard of English tends to be low.

Teaching medical English in a French medical Faculty is a challenge. With very few hours, very little respect and motivation from both the Faculty and the students, no national course content, and no specific training, the medical English teacher needs a lot of imagination and courage to become familiar with the language and implement strategies to render his/her course both motivating and efficient.

In most European Universities, second language classes are based on the model of "languages for specific purposes". The reasons for this choice are multiple. First, a university student is very likely to use his/her second language later on in a his/her professional occupation, if not already in his/her studies as medical students do when they have to read and present an English research article during their clinical rotations.

Secondly, to offer discipline-related language courses seems to be quite a good solution to make up for the gaps in knowledge derived from high school shortcomings as it is more adapted to the university students' needs and demands.

Thirdly, there is a strong need to optimize the little time students can devote to a second language acquisition by "killing two birds with one stone" and teach both the language and the discipline.

4.0 A LOT OF IMAGINATION AND SOME COMMON SENSE

Pierre and Marie Curie is one of the most prominent medical Faculties in France. With more than 3000 1st year students and a 1st rank at the ECN (Examen National Classant, an exam prior to internship) almost every year, it is a Mecca for medicine. Most students opt for high-ranking specialties and many choose positions in university teaching hospitals, which means they need to master the English language to be able to write research articles and give talks at international conferences.

The first strategy we implemented when we started teaching medical English ten years ago was to use medical themes, in the design of our course content, chosen among those on the yearly syllabus so as to build up a bridge between language and medical classes. The idea was to design a course content that would help the students both learn medical English and revise the medical knowledge they had just acquired in their medicine classes. This way, they would have the feeling that they were gaining a lot from attending language classes. For instance, last year, we chose to work on ENT, ophthalmology and cardiology with the 2nd year students as these topics were part of their medical syllabus. The aim is not to give a lecture on cardiology but rather to use cardiology as a basis to favour the acquisition of the English language.

Every year, we design a course that comprises a key-word and expression section (basic anatomy, main diseases, phrases that are useful in a doctor-patient consultation), short case-reports with a differential diagnosis, vocabulary exercises, an interaction activity section ("Who wants to be a millionaire?", "consultation role-play") and a grammar section in which all the sentences contain medical terms. The course is based on tasks that are meaningful and derive from realistic professional-related situations so as to motivate the students in using an as-genuine-as-possible language (Nunan, 1989).

The second strategy consists in appealing to doctors who teach in the same hospital to give short lectures in English to medical students during language classes. The content of their lectures is usually part of their French medical syllabus and is followed by a question-and-answer session. This way, students revise their medical course and practice their English at the same time. This strategy also leads them to feel more confident as the doctors are mostly French-speaking enunciators. Students become aware that giving a talk in English is feasible. This "in tandem" approach which associates both a doctor specialized in medicine and a teacher specialized in second language acquisition and whose mission is to design tasks based on medical content is called adjunct CLIL (Narcy-Combes, 2005).

The third strategy consists in helping medical students acquire a second language using their own tools and mode of reasoning. Hence, we use a "problem-based learning" approach which they are already familiar with. They are encouraged to organize and direct the learning process with support from the teacher who becomes a language facilitator. Learning is driven by challenging problems, mostly medical case-reports and imaging. (Hmelo-Silver & Barrows, 2006).

This approach is based on an initial analysis of the problem and activation of prior knowledge through small-group discussions, together with active processing of new information. Students learn in context with tasks that stimulate their curiosity and favour a deeper understanding and a long-term memorisation. Students carry out a differential diagnosis, justify their choices and confront their hypotheses with those of other students.

We also use this approach when dealing with grammar. The students are given sentences that contain a specific grammatical point and are asked to infer the rule. Grammar is always explained by way of biomedical metaphors. Hence, "do" is compared with DNA. Like DNA, "do" is at the heart of the predication. When one needs to modify the deeper structure of a given sentence as in the case with negation or interrogation, one applies the modification to "do", and thereby modifies the whole predication. Likewise, modals are seen as functioning like hormones (we call them "hormodals"). Each possesses a fundamental constant but can take on various meanings depending on the context just as a hormone will have various effects depending on the targeted organ. Auxiliary verbs "have" and "be" are said to be respectively "exogenous" and "endogenous". In terms of compound words and sentences, they are explained in the light of a well-known chemical phenomenon called "polymerization" (Faure, 1999). Using meaningful metaphors in place of the linguistic jargon that medical students are not familiar with seems to prove very useful and relevant.

The linguistic theory that underlies this metaphorical approach is that of a French linguist named Henri Adamczewski. Descending from the enunciative theory by Culioli, this Metaoperational Grammar is based on the belief that grammatical morphemes or «operators» are the visible traces of the inner operations that underlie any production of written and oral utterances. Hence, morphemes such as DO, BE + ING, THE, A, ANY, SOME, are the surface materializations of formal unconscious operations to which they permit access. The theory is based on the Principle of Cyclicity shared by all human grammars. Accordingly to this principle, a whole series of grammatical key morphemes appear in pairs thus revealing a binary scheme that we can represent in the form of a double keyboard based on the "rhematic/thematic" opposition. (Adamczewski, 1999). Therefore, elements that are said to be "rhematic" still offer an open choice (I stopped to smoke = I may have changed my mind), whereas with "thematic" elements, the choice has already been made (I stopped smoking).

Traditional grammars, on the other hand, used to offer opaque lists of markers, rules and exceptions to be memorised thus making languages appear illogical, and therefore rendering them almost impossible to learn, this theory offers a coherent vision of the English grammar. Its scientificity is very much appreciated by medical students and its elasticity makes its metaphorisation possible.

One last strategy is to use popular recent medical television series such as *House MD, Grey's anatomy or Nurse Jackie* from which we design gap-filling exercises (using the English subtitles from which we erase key words and sentences related to the medical theme we study) and "differential

diagnosis" activities. The motivating aspect and the efficacy of such teaching aids are obvious. To supplement face-to-face teaching, we also offer e. learning and online individual course.

5.0 WHAT ABOUT TEACHER TRAINING?

Language teachers are not doctors, and, in France, their training program remains very general and does not comprise any course in medical English or in any other specialised languages. Yet, they will gain a lot from acquiring basic medical knowledge. In a study on the importance of language classes that was conducted in French medical schools last year, we observed that the more knowledgeable in medicine the English teacher was, the more trustworthy he/she sounded to his/her students when he/she taught medical English.

The idea is not to send language teachers to medical schools although this is what is being done in some German universities where teachers go and study medicine in a UK medical school for a year as part of their training program, but he/she must become familiar with the language: its terminology but also its genres and discourses. It also sounds necessary for him/her to acquire basic medical knowledge such as anatomy, basic physiology and semiology, and to get familiar with its culture (healthcare systems, hospital organisation, doctor-patient communication, etc.) so as to be able to design reliable and relevant course contents. He/she will also benefit from knowing the learning profile and strategies of his/her students. Indeed, medical students all share a hypothetico-deductive approach to their subjects and mostly rely on their excellent but selective memory. These parameters should be taken into account when preparing a course. Last but not least, it is essential that he/she keeps well-informed about recent therapeutic breakthroughs and scientific news in general, so as to choose up-to-date teaching aids, which will also help him/her establish his/her legitimacy. We have observed that medical students do not have the time to read about recent medical breakthroughs. Therefore, to turn the language class into a place where students can keep abreast of recent events and research is extremely positive and motivating.

Even though it is obvious that the teacher will become specialised through all his/her extensive readings when preparing his/her course content, bringing in "English for medical purposes" proper training sessions within teaching English as a second or foreign language coursework would definitely be a tremendous benefit, as teachers would save time and be immediately operational (Faure, 2003). Too many language teachers are being sent to medical schools without proper training and feel out of their depth.

6.0 A NEW BATTLE

For a few decades, the Americans – and to a lesser extent the English – have had supreme control over the world of science and that of medicine in particular. Therefore, the access to medical knowledge

necessarily requires a fairly good mastery of the English language, and beyond the language itself, of the discourses, genres and culture.

The financial power of American pharmaceutical companies and research laboratories is so considerable that they rule the world of medicine and hence impose their language and requirements to all the researchers that strive to have their work recognised outside the borders of their own countries. Because they have resigned to acknowledging the need for their students to speak, read and write in English to become competent doctors and/or researchers, over the last few years, European medical faculties have introduced English in their national curricula.

Yet, nothing has been provided to offer the would-be medical English teachers a proper training so as to render them knowledgeable and competent. It is about time to change the training of LSP teachers in Europe and start relying on experts amongst experienced medical English teachers and doctors to design a specialised course. But, prior to introducing medical English as part of the coursework, its specificity must first be acknowledged (Faure, 2010).

REFERENCES

Adamczewski, H. 1999. Clefs pour Babel ou la passion des langues. Saint-leu d'Esserent: EMA.

Faure, P. 1999. Pour une grammaire métaphorique de l'anglais de spécialité ». ASp n°19/22.

Faure, P. 2003. Formation des enseignants en langues de spécialité: exemple pour l'anglais médical, Les Cahiers de l'APLIUT. Volume XXII, N°2.

Faure, P. 2010. and al. Langues et contenus, Paris: PSN.

Hmelo-Silver, C. E. & Barrows, H. S. 2006. Goals and Strategies Of A Problem-Based Learning Facilitator. *Interdisciplinary Journal of Problem-based Learning*. 1: P21-39.

Narcy-Combes, J. P. 2005. Didactique des langues et TIV, vers unerecherche-action responsable. Paris: Ophrys

Nunan, D. 1989. *Designing Tasks for the Communicative Classroom*. Cambridge: Cambridge University Press.