

## **Difficulties resulting from language diversity in teaching medical translation and methods to overcome them when teaching medical English to future translators**

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### **ABSTRACT**

Active cooperation and international exchange of experience in the field of medicine and health care are being employed in the contemporary world. In this regard, the application of quality translation of medical records is of great significance. This paper discusses problems related to the translation of medical terms from English into Polish, taking language diversity into account. It applies an evaluation approach to investigate and discuss the issues and complexities of translating medical terms from English into Polish. The purpose of the study is to present the various linguistic difficulties related to the translation of medical terms and the way in which students in a medical translation course deal with them. The study used qualitative and quantitative approach to evaluate the significance of the potential problem. It concentrates on various types of medical terms. The findings of the analysis of the data revealed that the translation of medical terms posed real challenges and difficulties to students who face difficulties while rendering medical terms from English into Polish that seems to be the main problem in translating medical texts.

**Keywords:** *Medicine, medical discourse, teaching medical translation, language diversity*

### **I. INTRODUCTION**

Nowadays, medical translation is a highly specialized industry that plays a key role in the distribution of medical knowledge and results of medical research, in the cooperation of the international scientific community and in introducing new medical products, services and technologies to the market. For these reasons, those individuals who choose this type of activity are required to meet numerous, very diverse quality standards.

The terms “medicine” and “translation” are too broad and multi-faceted for any of their definitions to qualify for a comprehensive and consistent interpretation of each of them. Yet, “medical translation” refers to the process and outcome of the complete, detailed transmission of health information expressed in one language through equivalent text or speech in another language (Smith 2011: 135). Currently, medical translation is frequently referred to as special types of scientific, technical or technological translation

(Eck et al. 2004, Byrne 2006: 18). In this respect, it is commonly believed that a medical translator should be a medical specialist (Olle ten Cate et al. 2010: 669). At the same time, from a different point of view, the main activity of a medical translator is to translate from one language to another, and such activity requires special knowledge in the field of translation studies and linguistics as a whole (Montalt and González-Davies 2014: 20, Shyiab et al. 2010: 100).

Translation activities entail the application of knowledge and skills that are not intended to be specifically targeted in the course of study of medical specialties. Equally, the knowledge gained in translation and translation studies does not involve understanding of even the basics of medical science. Systematic development of the combination of skills involves special training so it is crucial to offer the possibility to non-medical professionals to gain that opportunity. It is important to equip future translators with those skills as they are to offer the translation services in the future to a wide audience. Moreover, literature resources have not shown any verified data on the number of philologists and doctors among those employed in the field of medical translation, but it can be assumed that, despite the relatively large number of philologists and linguists, physicians prevail among medical translators. However, when talking about medical translation as an industry, it should be kept in mind that this is mainly translation in medical discourse, i.e. the possession of specific translation skills is not only desirable, but also necessary for the qualitative performance of functional duties. Insufficient proficiency in one's native language, which is most frequently the language of translation, is often a problem (Pöchhacker and Shlesinger 2007). Surprisingly, but often seeing the way to success in foreign languages, young professionals spend a significant amount of time and effort studying the grammar and vocabulary of a foreign language (Wakabayashi 1996: 358-359), and as a result, write, for example, in English even more competently than in Polish. In the process of translation, a medical translator does not always pay adequate attention to the accuracy of translation, often hyperbolizing it as a literal translation of absolutely all terms (Newmark 1976: 12) and expressions found in the source text, which is detrimental to the natural use of the translation language and complicates the perception of the text by the customer (Kuhn et al. 2007: 820, Crezee and Ng 2016: 13). The opposite situation is also possible: due to their high professional level in the field of original text, a medical translator allows

himself to ‘creatively rethink’ some of its ‘insignificant’ moments, which can lead to distortion of the translation result (Ji et al. 2019: 103-104). The abovementioned disadvantages are deprived of linguistic specialists who studied translation studies, understood the goals and objectives, and possessed skills and knowledge of the means of translation. At the same time, they still face the problem of redundancy and synonymy of medical terminology (Cimino 1998: 42), as well as the mismatch between the medical descriptive systems adopted in the original language and culture and those employed by the target translation (Sousa and Rojjanasrirat 2011: 267). Translation of eponyms and medical abbreviations is particularly problematic (it should be noted, for the sake of fairness, that translators with basic medical education also face a comparable problem) (Sloane 1985). Linguists’ difficulties are also related to the peculiarities of the use of medical vocabulary in the occasional use of medical vocabulary, as well as to the insufficiency of their existing base of medical phraseology (Fischbach 1998: 87, Shiyab et al. 2010: 106). Of course, there are also ways to overcome this problem. For this purpose, a linguist has to master medical terminology (Dubrovskaya and Lobina 2015: 123), structure and peculiarities in the formation of medical terms, peculiarities of their pronunciation and use, to study the ‘false friends of the translator’ in the medical text (Kuzmina et al. 2015: 549), the main peculiarities of the structure and functioning of the human body, and the peculiarities of formation of the names of medicines, procedures etc. (Wright and Budin 2001: 697). In general, the acquisition of such a significant amount of information requires a considerable amount of time and effort, as well as systematic training, which is not possible to discuss due to the limited availability of specialized educational programs in this paper.

The availability of complete professional education in both medicine and in linguistics, taking into account of the aspect of high standard in this domain, at first glance appears to be an ideal combination for the formation of professional competence of a medical translator. The most effective option is to train a specialist in the field of ‘translation in the field of professional communication’ with professional orientation in the field of medical knowledge. It is crucial to identify the linguistic elements that will constitute the part of that training. The aim of this paper is to show how linguistic diversity can contribute to potential difficulties and how they can be overcome while teaching

medical English to future translators. Moreover, it is important to show which areas can pose potential problems to translators when it comes to their linguistic aspects.

## II. THEORETICAL BACKGROUND

Translation is a complex and multifaceted activity that requires a great deal of human effort (González Davies 2004: 11). The main requirement for translation is accuracy (Darwish 2010: 42) and completeness (Hung 2002: 182). None of the author's ideas should be omitted or misrepresented (Castro et al. 2017: 131). The consequences of a change in the meaning of the original source may vary depending on the type of translation and may be up to the point of causing harm to a person, for example, when it comes to translation in medicine. Modern translation theory has not yet developed a single definition of translation as a language activity (Gentzler 2001: 1). One of the definitions of translation is the following: "Translation is a complete transfer by means of one language of communication, formulated in another (Millán and Bartrina 2013: 261). The aspect of "completeness" of information transmission in the process of translation also appears to be crucial from the point of view concerning rendering meaning (Gambier and van Doorslaer 2010: 97). By expert opinion, full translation of the medical text has completely different characteristics than a full translation of the journalistic text (Trosborg 1997: xii). The "fullness" is not so much a linguistic, as an extra-linguistic, pragmatic property of translation, as it is provided only when taking into account such factors as the real situation of communication, the relative socio-cultural communities of the communicating individuals (Malmkjær 2008: 51).

The global processes of the 21st century pose new challenges for medicine, which require the development of professional skills and abilities. This is impossible without close cooperation and exchange of experience at an international level. The main goals of teaching foreign language in a medical university are teaching professionally oriented reading, formation of the ability to extract necessary information from the scientific text depending on the communicative task of the specialist, and also conducting conversation on specialized topics (Strop and Carlson 2011: 87, Antic 2007: 142). Development of the ability to read and understand the original literature in the specialty is determined by the need to obtain information from foreign sources and is reflected in

foreign language programs (Antic 2007: 142-143). Knowledge of foreign languages, including medical English, helps doctors to be constantly aware of events in the field of medicine, to get acquainted with modern literature in English.

The basis of the medical language is the terminology describing the state of the organism, medicines and their impact on people, technologies used in treatment, and much more, which is found in special publications, the content of which is related to human health. Such texts, which need to be translated, can be of any level of complexity and can involve various types of texts: an abstract from a medical history, protocols of diagnostic examinations and operations performed, results of laboratory tests, information for patients and/or doctors, instructions on the use of medicines, treatment recommendations, etc. Taking these aspects into account, it is important to pay attention to translation competence. Translation competence is often perceived in translation literature as an additional skill (Pellatt et al. 2010: 177). Kielar (2007:19) states that it is “the ability to form in target linguistic texts that are equivalent to the original texts” or as Grucza (2004: 250) mentions it is “the ability to move from L1 to L2, to pass the same content in the original translation and text.” Pamela Faber (2012: 3) believes that the comprehension of the source text terminology is very crucial factor in the process of translating, the creating of the terms’ target language counterparts is of equivalent, if not, greater significance.

The main place in modern translation studies is occupied by the linguistics studies in the field of translation. As any scientific discipline, modern translation studies were developed by scientists from many countries. Much of the merit in this field is attributed to the national science in this field (Kerner and Hall 2009, Gea Valor et al. 2010).

Medical translation and the translation of pharmaceutical texts are highly specialized types of translation, which requires a translator who not only speaks the relevant foreign language, but also possesses knowledge of the special terminology of the text to be translated (Trosborg 1997: 159). Characteristic features of contemporary medicine are the increasing number of narrow specialties, the emergence of new treatment options and the development of specialized equipment and materials. Correspondingly, the requirements for the qualification of an interpreter are constantly growing (Ozolins 2010: 198). It is significant for the translator to be conscious of, and to be trained in

coping with, the technical terms that he/she encounters in translating technical texts. In this regard, García-Sánchez (2010: 186) proposes that training in technical translation is a crucial criterion to help technical translators so the aspect of training students concerning medical translation should be treated as an obvious.

Over the last several decades, the translation of medical texts in combinations of two languages in which one of the languages is English has been studied in detail. Translations highlight several major problems in translating medical texts. For example, the Quebec linguist Rouleau (203:143-152) has identified six main problems in English and French: 1) peculiarities of use, including the metonymic use of terms and the preferred use of certain parts of speech; 2) variability of terminology; 3) terminological synonyms; 4) problems of translating eponyms; 5) discrepancy of affixes in general words; 6) insufficiently high quality of specialized bilingual and multilingual dictionaries. Rask (2004: 16-17) points out the following problems on the basis of Swedish-English translations: 1) insufficient standardization of terminology, 2) the acceptability of the use of Anglicisms in the translated text, 3) difficulties in translating eponyms, and 4) differences in the organization of the health care system in different countries. Lee-Jahnke (2001: 145-153) suggests a classification of medical translation difficulties applicable to any pairs of languages: 1) terminological problems; 2) translation difficulties; 3) difficulties in translating eponyms; 4) acceptability of the use of Anglicisms; 5) peculiarities of the compatibility of language units and text structure

The classification of medical translation distinguishes between written and spoken translation, as well as any other translation (Montalt 2014: 333). Translation is provided by professional, semi-professional and native speakers of languages for which the nature of the situation, the specific education of the communication and mastery of terminology are crucial taking into account the specific education of the translator as well as the specific knowledge of the communication (Montalt 2014: 333). Professional level is characterized by the use of certain lexical units and syntactic constructions, which are also characteristic for written medical translation. This is the language of conferences, symposiums, presentations, reports, etc. At the semi-professional level (doctor-patient communication), the efficiency of communication is reduced by the fact that one of its participants is not a member of the medical profession, and, accordingly, barriers to communication are established, among which are: semantic, communicative,

psychological, cultural, stylistic. These differences may result in creating language diversity that can contribute to the development of the coherent and cohesive translation.

Taking the abovementioned issues into account, one should be aware that language diversity greatly contributes to the whole translation process. Precision in scientific and technical translations (STTs) is both essential and important, particularly in this 'technological era', but they are not easy to obtain. The transfer of information and technology from one language to another is restricted by many limitations, since each language has its own characteristics, such as grammatical and lexical properties and cultural aspects. These are barriers for translators and readers of such texts (Cronin 2003: 47). Furthermore, each language has a tendency to change over time. Changes here indicates that some words can be substituted by other similar or different words, new words are implemented to the language, and some words have established, or denote, different meanings. This kind of modification occurs because of changes in human culture and communities and it also affects the process of translation and medical discourse (Trask 1994:1). The aspect of equivalence can also result in some problems that a translator has to face. Moreover, this aspect seems to be an integral part of language diversity that can affect the final shape of the translated text. A translator's failure to accomplish a suitable equivalent translation can give rise to a mistranslation which may be misleading in most fields but which can be 'dangerous' in the field of medicine (Baker and Saldanha 2009). Problems of equivalence occur at various levels, ranging from word to the textual level. Neologisms are very common in medical terminology mainly for the names of diseases as they spread very fast throughout the world and each language needs to have counterparts for them very quickly (Montalt and Gonzalez 2007: 230), e.g. in some situations functional-descriptive terms are employed to name new diseases as it was with the term 'swine flu' that was introduced in 2009. Correspondingly, some acronyms and abbreviations can result in a problem of polysemy, as they are not exclusive and some abbreviations or acronyms can have diverse meanings. Montalt (2011) claims that abbreviations and acronyms are causes of polysemy, e.g. the medical abbreviation CF can have about 15 possible meanings.

Taking into account the concept of language diversity and the pace of changes in medical discourse, one should realize that language diversity is an integral part of teaching medical translation. Translations of scientific and technical terms ought to be updated as many terms come in languages over time and some become no longer in usage or are substituted by other terms. Language diversity includes meaning and language change which pose some of the problems to medical translators.

### **III. METHODOLOGY**

#### **III.1. Statement of the problem**

Medical translation requires a high degree of consistency and accuracy in the transfer of the source text to the target language (TL). The translation of medical terms generally poses many challenges. While some medical terms can be translated without any difficulties, others are very difficult to translate. One of the things that can make the translation of some medical terms into English more difficult is their complex structure, e.g. hypergammaglobulinemia. Furthermore, there are medical complex terms and abbreviations (which may be vague) that make it hard for an unexperienced translator to grasp, such as the central nervous system (CNS).

It can sometimes be problematic for translators to cope with these structures in English, which can lead to incorrect translations (Montalt and González-Davies 2014: 168). Moreover, there are problems of ambiguity because many English terms are either new or so technical that inexperienced translators cannot comprehend their meaning in source language (SL) (ibid.).

The problems of various types of equivalence and differences in Polish medical terms for the same English medical term may appear to be unavoidable because of different factors. There are different translation phrases that operate independently, as unitary expressions in the Polish world (Baker and Saldanha 2009). The use of competing resources is regarded as one of the main causes for the multiplicity of concepts, which is mirrored by the terminological inconsistency resulting from the lack of standardization. All this highlights the significance of translator education that leads to the development of their capacity to work in the field of medicine.

To summarize, the study will demonstrate that the translation of medical terms is difficult because some medical terms have complex structures and may give rise to different semantic, lexical and grammatical interpretations that make translating very difficult. A second reason is that there is a lack of clarity or because of ambiguity which may be due to certain medical terms or expressions in SL, which in turn has a great influence on the translation process.

### **III.2. Aim of the study**

The current paper aims to analyse a specific translation problem, i.e., medical terms. The study examines the problems that Polish students of translation majors may face while translating English medical terms into their mother tongue. The following are the research aims:

1. Rendering medical terms from English into Polish seems to be the main problem in translating medical texts.

Hervey et al. (1995: 155) mention that people have many problems with terms that are not used in ordinary language, which are, thus, unfamiliar to the translator. As a result, translators cannot guess the precise meaning of the term or make a reliable guess at its correct TL rendering and this is typical for medical terminology which often pose problems to translators who are not trained in this specific field.

2. It is essential to train future translators in the medical field before they start working in their profession.

Sofer (2011: 90) believes that all prospective translators should acquire some knowledge of the medical field in advance.

3. Since neologism, lack of equality, polysemy and terminological incoherence present significant translation problems, the aim of the study is to work out strategies to help the future translators to deal with these difficulties.

Montalt and González Davies (2007: 248) also mention that the challenges faced by medical translators can be found in the following fields, namely terminology, neologisms and polysemy.

### **III.3. Population and the sample of the study**

The starting point for the analysis in this paper is the course entitled 'The English language in medicine', which is taught to students of English philology at the Bachelor's level. The course is not required but selective. Students decide on their own whether to participate in the course, which is partially expected to be consistent with their interests, and thus it can be assumed that students will have some kind of background in medical knowledge.

About 20% of the university students decide to enrol in this course, which consists of 15 classes (30 contact hours) per semester. Students usually do not have formal education in medicine and generally do not know much about it, although they are expected to show an interest in the subject when choosing this course.

The course is aimed primarily at students of the translation major in order to gain theoretical insights into how teaching medical translation differs from teaching foreign languages and teaching English to medical students.

The texts examined include material from students who participated in the survey from 2017 to 2019. The number of students who attended the classes in those years amounted to 61 (18 men and 43 women). The age of the course participants, who are 1st and 2nd year students of M.A. level, was between 21-25, indicating C1 level of proficiency; those students were involved in the translation major at the B.A. level

The analysis was based on the written pieces of work delivered by students, which included translating medical documents and medical texts from English into Polish as well as standard translating tasks asking students to provide the equivalent in the given language. Only translations prepared by individuals were used for the study, though sometimes students worked in teams but these team projects were not included in the analysis. Problems that appeared in translations prepared by individuals were also

repeated in translations prepared by the groups. This shows that problems arising from linguistic diversity are a challenging issue at every stage of the translation process.

Validity and reliability have been assured. All examples of medical texts were taken from officially valid and reliable sources, which were easily accessible to the researcher from websites.

### **III.4. Data Analysis and Discussion**

The following table summarizes the findings of the student translators' responses. It indicates that 51.7% of them were acceptable translations, namely translations that were believed to be coherent and cohesive in terms of style and lexical choice made by the translators. Unacceptable translations accounted for 43.7% and 8.8% were blank, which indicates that participants did not give any response. Unacceptable translations (43.7%) reflected the difficulty experienced in this field. This result is significant as it predicts difficulties in translating into English, as well as problems in translating into Polish. The fifteen examples will be analysed in turn exemplifying the different kinds of problems linked to the translation of each of them. These examples show the general tendencies observed in rendering translation of medical terms.

Table 1. Percentage Results of the Translations of Medical Term

No.	Term	Acceptable		Unacceptable		Blank	
		Raw score	%	Raw score	%	Raw score	%
1	Outpatient appointment	42	69	9	15	10	16
2	Orthotic appointment	7	12	47	77	7	12
3	Meningococcal diseases	15	25	42	69	4	6
4	Thalassaemia	38	62	20	33	3	5
5	Aspiration	8	13	47	77	6	10
6	Demyelinating neuropathy	12	20	41	67	8	13
7	SARS	60	98	-	-	1	2
8	Paediatrician	59	96	1	2	1	2
9	Haemophilia B	53	87	5	8	3	5
10	African trypanosomiasis	12	20	44	72	5	8
11	Haemoglobinopathies	16	26	39	64	6	10

12	Ophthalmologist	38	62	13	21	10	17
13	Fundoplication	13	21	43	71	5	8
14	Immunology assessment	52	85	6	10	3	5
15	Flu jab	11	18	42	69	8	13
Total		23	776		655	132	
%		19,4	51.7		43.7	8.8	

The first term is made up of two elements, the second one is *appointment*, which is a common word and for most of the participants it was very simple to grasp the correct meaning of the term. The term *outpatient* was sometimes translated literally. The respondents recognized that an *outpatient clinic* is something located outside the hospital, but were not able to state the correct equivalent in Polish. Element no.2 (*orthotic appointment*) is similar to example no. 1 (*outpatient appointment*) as this term is a compound involving more than one element, *orthotic* and *appointment*. Most of the subjects failed to get the right meaning of the term in Polish. It seems that the first element of the *orthotic* term is responsible for the error as it was associated with the term *orthodontist* and related to teeth. As a result, it was rendered as an activity dealing in the dentistry field. The subjects failed to observe that *orthotic* is a synonym for *bone*. It indicates that students faced some difficulties deriving the meaning of the expression. On the other hand, term no.14 (*immunology assessment*) was one of the easiest elements to translate in the group, only three people offered the wrong translation. It showed that students did not have a problem deriving the meaning of the expression from the context offered.

Terms like *thalassemia*, *SARS*, *paediatrician* and *haemophilia* were rendered correctly. These terms can be translated using direct translation in Polish. Most participants decided to rely on offering the closest and safest equivalent for these terms. In the case of the abbreviation *SARS*, the transliteration of this abbreviation is commonly used in Polish. *Paediatrician* was one of the least difficult terms. It accounted for one of the highest percentages of adequate translations. Similarly, the term *haemophilia* did not pose many translation problems. More problematic was the term *thalassemia*, but most of the participants succeeded in giving acceptable translations which are often calques of the terms and are commonly used in Polish.

*Meningococcal diseases* appeared to be a difficult term to translate as the participants delivered unacceptable translations. *Meningococcal* is an adjective that is used to describe the diseases. Students experienced difficulties in comprehending the exact meaning of the concept. They typically offered an unacceptable translation of the term that could be back-translated as *meningitis*. Even though the participants who gave the unacceptable translations grasped the meaning of the prefix, they failed to observe the right semantic relationship linking the two elements of the term. The term *aspiration* also caused translation problems. The cause for this could be that the term can be translated into Polish using the direct translation method but the result does not reflect the medical term. Some of the translations provided were recognized as unacceptable because, from the sequence of the text, it was clear that aspiration is the concern and not the treatment. Yet while providing the equivalent in Polish, students offered translations that indicated the treatment and not the concern.

*Demyelinating neuropathy* is one of the conditions with a small number of accurate renderings. The explanation for this small number may be because in medical dictionaries the compound could not be found. Most of the students offered a back-translation of the term *neuropathy*. This could have been due to their failure to find a Polish counterpart for the first element, *demyelinating*, so they tried to resolve the problem using the omission strategy. This led to a loss of meaning of the one part of the concept. Term no. 10 (*African trypanosomiasis*) also caused some problems for the future translators. The students had difficulties with the second part of the concept as it is related to the Latin word denoting *sleeping sickness*. Lack of knowledge concerning the Latin stock of vocabulary in medical translation can result in more problems like this. Term no.11 (*haemoglobinopathies*) appeared to be too complex to students to grasp the meaning of the term. Students probably had problems with identifying the semantic components that were embedded in the term. This could be ascribed to the fact that the participants did not know the meaning of the condition in English and had problems with understanding what the components meant in English. ‘Fundoplication’ has shown a low rate of appropriate translation. The answers offered by the participants indicated that the respondents were unable to comprehend the meaning of the word in English (SL) and were not able to find any easily available counterpart in their mother tongue that resulted in offering a direct calque into Polish. The term *flu jab* was not easy

to translate. Moreover, this is an example of medical jargon. There may be many variants (e.g. injection, shot) of each word that can also cause some difficulties. The group of students had some difficulties in comprehending the accurate meaning of this concept. It appeared that the polysemous element *jab* was the problematic part of the compound. This caused the participants confused as to what to select as the suitable equivalent for *jab*, which goes with the element flu. Besides this was a problematic word, the compound itself is not present in medical dictionaries, so the participants may resort to employing literal translation.

One can notice that some technical terms pose a lot of problems for the participants. Moreover, some of the participants find it more difficult to render the proper meaning while some of these terms are embedded in the context, as the context frequently creates another challenge. Therefore, So, it is vital to examine how the same subjects decode the meaning of some technical terms. In my opinion, it is not possible to measure how many ideas and how much information a medical translator must try to understand in practice in order to translate efficiently. Alternatively, I will offer some qualitative recommendations based on the medical translation course I had a chance to create.

I consider that students who are involved in translating must be exposed, either by taking part in a special courses or self-paced learning, to the entire subsystem of medical concepts. This will allow them to have a holistic view of the area of concepts. In clinical medicine, the conceptual fields are clearly represented by organ systems. A systematic presentation of the basis of medical knowledge about a particular organ system may encompass the following aspects: anatomy and physiology, disease symptoms, diagnostic work, and treatment. The medical translation course therefore should comprise quite extensive English texts on various organ systems. Some terms should be emphasized during class discussion, e.g. due to the specific nature of their Polish equivalents or in order to establish a link between the concept and other concepts from the text. There is sometimes additional terminology presented which is not linked to a specific organ system. For example, the difference between *hypertrophy* and *hyperplasia* in the context of *mild prostate hypertrophy* / *prostate hyperplasia* in the presentation of the urinary system has been a point of reference for the implementation of related terms such as dysplasia, cancer or anaplasia and proliferation.

The translation course would therefore have to contain solutions to enhance the maintenance of thematic knowledge. This is best achieved, in my opinion, by enabling students to understand the links between concepts. Learning associative relations is quite obviously the simplest way to gain a broader comprehension of the conceptual system of a field.

Moreover, a course in terminology and phraseology must apply to both English and the students' own mother tongue. Since medicine is a domain of life to which virtually all of us have been exposed and medical issues are passed on in everyday situations by means of words, which may vary from official terminology, it is vital that students should study those texts for patients that may not include adequate terminology in Polish. This concerns mainly - and paradoxically - words of Latin and Greek origin, which seem very medical, but in reality are not used by physicians e.g. *chronic* or *epilepsy*.

Cases of terminological distortions can also create some problems in translation from a foreign language to one's mother tongue. For example, the *gallbladder* (Polish literal translation 'gall sac'), may have its unprofessional sound of gallbladder when the translator decides to use the common term instead of sticking to the literal translation (*gall sac*), resulting in an error.

The terminology should also be taught with an example-based linguistic approach and not with the purpose of giving students the knowledge that is specific to a particular concept. Students may be concerned with understanding the causes of *hypocalcemia*, but their translation skills will be better understood if they know that the name of such laboratory abnormalities is developed in accordance with the pattern *hypo/hyper + name of substance*, as it will allow them to use similar patterns to understand more terms that cause potential translation challenges.

Obviously not all information concerning medical terminology can be modelled, particularly since the terminology is to be provided in two languages. As mentioned earlier, English Latinate terms have Polish equivalents that represent native Slavic words. Some of them are structurally identical to the English terms while some are not. Multi-word terms may likewise be classified in one of three categories: similar in form (e.g. *invasive cardiology*), similar in structure (e.g. *malignant anaemia*) or differently structured (e.g. *cerebral hematoma*).

Self-study skills should not be overlooked because most translation assignments require students to understand unfamiliar concepts, but this is no different from what can happen with other translation courses with specific orientation. Students should also receive a list of general medical reference works and should be encouraged to read professional medical texts regularly.

#### **IV. IMPLICATIONS AND RECOMMENDATIONS**

Medical translators should have a good knowledge of both SL and TL, a good knowledge of the subject, an up-to-date knowledge of their field of specialization and a broad comprehension of medical terms and abbreviations.

After the analysis of the errors, it can be stated that the students do not have adequate knowledge of medicine, which results in incorrect translations. It is evident that there is a problem regarding imbalances, relationships, abbreviations and new terms, as translators appear to be trying to find them in English-Polish medical dictionaries that they believed to be the only source of information that could be seen as a reliable source of information. At the same time, they disregarded various databases, multilingual corpora and other resources that could offer them more reliable information. This would indicate that regularly updated English-Polish medical dictionaries would be very useful and the quality of translation would be much better. It would be advisable to suggest that the Polish academics should undertake some efforts to create a dictionary that would be very helpful and of better quality for translation. It is important to point out that specialized medical dictionaries on the Polish market are becoming more and more popular, but there are still only a few of them, which does not provide full access to medical knowledge.

Furthermore, teaching medical translation with respect to linguistic diversity should be compulsory for translation majors as students do not always are aware that linguistic diversity is a key element. It would be worth engaging translators who are interested in working in the field of medicine, in order to be able to participate in the training of students to work in the field of medical translation. It is also advisable to involve medical students in the translation process in order to show students that the aspect of collaboration with a professional is essential at a certain stage. This training would

enable students to become well acquainted with medical terminology and the manner in which they work. From an academic point of view, deeper research on terminological inconsistency and standardization would be useful.

This study was only aimed at addressing the problems that students and subsequently future translators may encounter, it should be noticed that the greatest problem arose in the use of medical terms in English and Polish. In general, further in-depth research is required to address the problem of medical translation, and in particular the problems of semantic and associative relationships and abbreviations.

## **V. CONCLUSIONS**

The results of this research reveal that the translation of medical terms is a matter of concern for unprofessional translators and university students. Moreover, the research results reveal that inexperienced students have a clear weakness in identifying precise translations and appropriate explanations of terms which are not found in English-Polish medical dictionaries and CAT tools or have no counterparts in Polish. The study also found that most of the unacceptable translations come from students who have less than five years of medical experience. This could be negatively reflected in their work as translators in a field such as medicine. Furthermore, the results of the study highlight the fact that hiring inexperienced translators and interpreters in bilingual settings (English and other languages) without offering them training may create risks for communication between patients and healthcare professionals. That is, interpreters interested in working in the medical field must be better trained before they start their careers.

The findings of this research confirm previous hypotheses that translators would encounter some obstacles in translating some medical terms. As mentioned above, the findings demonstrate that certain difficulties were triggered by certain medical terms, that usually that terms which were represented by compounds, collocations and abbreviations, which cannot be found either in English-Polish dictionaries or in monolingual dictionaries. They also indicate that the students use different approaches to translating medical terms with varying degrees of success.

For this reason, hopefully the results of this study will be considered as a way of enhancing the level and competence of translators by offering them special training in medical translation and expanding the translation programme for translators in Poland to include some medical translation courses.

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Received: 17 July 2019

Accepted: 13 December 2019

Cite this article as:

**Kuzio, Anna.** 2019. “Difficulties resulting from language diversity in teaching medical translation and methods to overcome them when teaching medical English to future translators”. *Language Value* 11 (1), 23-44. Jaume I University ePress: Castelló, Spain. <http://www.languagevalue.uji.es>

DOI: <http://dx.doi.org/10.6035/LanguageV.2019.11.3>

**ISSN 1989-7103**

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