TRANSLATION OF SPECIALIZED VOCABULARY IN READING COMPREHENSION TASKS (ESP)

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Abstract: The university lecturers nowadays perform multiple roles in language education. Besides the standard materials development for paper-based or electronic learning and testing platforms, language learning support, and language specific advice for students, those lecturers need to provide the vocabulary and lexico-grammatical structures in a specialized field of knowledge as part of the language program, and to assess its acquisition and the students' progress.

The lexical and grammatical aspects of medical language at sentence level are in the focus of the present study. The quantitative and qualitative parameters of the specialized vocabulary in Bulgarian for foreign third year students at the Medical University of Varna are analysed in terms of text and test coverage, new words density, frequency of use and translation equivalence. Comprehension time and repetition that allow for the improved recall of the language items is observed in the course of one full academic year.

The purpose of the study is to facilitate the process of specialized language acquisition by providing the educators and the students with the necessary bi-lingual lexical units and phraseology, typical for the structure and the contents of the scientific text. Research in the theory and practice of learning vocabulary through context demonstrates that this is a major approach in language acquisition which should be combined with additional learning strategies such as reading, guessing from context and repetition. Thus, the present investigation could be viewed as a further step in the process of creating a language specific vocabulary and term bank for efficient teaching materials development in the medical domain. The adherence to a limited set of linguistic units in the medical texts smooths the path to successful memorization and use in professional communicative situations that these students face in their practical training. Considering the variety of tasks the university lecturers in any language for specific purposes are facing, their role is transformed and expanded from providers of knowledge to facilitators, communicative skills developers and translators in the foreign language learning s today.

Keywords: languages for specific purposes, vocabulary development, translation, medical communication

1. INTODUCTION

Medical language nowadays functions in an international and multilingual environment where translation is inevitably included in the process of effective professional communication. The acquisition of specialized medical terminology and phraseology and its practical application is the essence of the Bulgarian language training for third year foreign students at Medical University – Varna who are expected to use this specialized knowledge in the hospital and actively interact with the patients. Their limited time to build productive skills in Bulgarian as a foreign language often imposes the pressure on the lecturers and the hospital staff to act as translators and interpreters on behalf of their students. Therefore, the aim of the present paper is to review the available resources in specialized medical communication and to search for further ways of providing quick access to the necessary phraseology, its correct interpretation, memorization and use in professional settings thus saving the translation effort of both educators and medical doctors. This survey is based on the contents of a third-year textbook on clinical communication [1]. The bilingual vocabulary sections, included in every unit and the source texts are analysed and reviewed, the English translation is verified with the existing electronic corpora [2, 3], expanded or edited where appropriate to compile the topical vocabulary for the respective discipline. The key lexical and phraseological units are transformed into interactive bilingual glossary cards.

The analysis focuses on the transfer of lexical meaning and meaning, conveyed by constructions that comprise terminological and phraseological units in clinical communication. In the process of translation, transfer competence as the ability to convey information from the source text to the target text is required as well as equivalence and relevance [4]. Topical relevance or the semantic matching of lexical items is the most important factor (vs. term matching as the main mechanism of modern search engines) together with semantic matching that represents better matching of lexical items [5] and linguistic equivalence [6].

2. METHODOLOGY

Studies in machine translation discover serious errors and only 57.7% correct translation when Google is used as a translation tool for medical phraseology [7]. 'Googling' is not recommended in clinical/medical translation and the bilingual glossary may provide a solution against the automatic translation practices so popular nowadays. Extracting the most frequent nouns and verb collocations and creating a glossary of medical collocations for educational purposes is the aim of this paper. The glossary sections may assist educators and students in their academic pursuits to overcome language barriers when available on Blackboard or on a mobile phone.

Initially the textbook units were transformed into a text file and stored as an electronic corpus (clinical communication corpus or CCC hereafter), containing 165,181 words. As a second step a corpus of open access resources, compiled from English medical journals was prepared as a reference corpus for the verification of the types of lexical units included in the glossary and consulted for the use of specialized medical collocations (COBUL). The key words used in the CCC source texts are sorted alphabetically with the WordSmith Tool [8]. Repetitions in phraseology were manually deleted and the wordlist, containing monolexical items of high frequency was generated. The combinatorial aspect of the two- or three-word groups was identified with the concord function to extract the typical collocations (in the range of 2 to 3 words). The glossary entries were based on the polylexical units, extracted from the concordance lines.

3. COLLOCATIONS

Lexical items are characterized as complex dynamic microsystems and can be conceived as 'pointers to conceptual structure, out of which meanings are dynamically constructed in context-sensitive modalities, following a non-linear process, but emerging in recurrent configurations with some degree of statistically relevant stability' [9].

Collocations represent the natural co-occurrence of words or words that are closely associated with one another [10]. In sciences, the core vocabulary in a certain field may be identified through lexical repetition [11]. Thus, the collocations in the clinical context are considered significant because of their frequent and extensive use in the CCC corpus. Mastering these collocations is crucial for the accuracy of the medical communication and the increased range of professional vocabulary at the work place.

The textbook units cover medical topics, related to the human body, health, pain, diseases, instruments, hospital procedures, types of medication, history taking, clinical communication in cardiology, pulmonology, gastroenterology, nephrology, urology, orthopedics, pediatrics, dermatology, neurology, infectious diseases, obstetrics and gynaecology, ophthalmology, otolaryngology, operative and emergency treatment. The relevant terminology and phraseology for each topic is chosen by the lecturers (the authors of the textbook). A sample vocabulary section from the clinical communication unit in gastroenterology is presented below:

1.	Киселини	Heartburn
2.	Разстройство	Diarrhea
3.	Запек	Constipation
4.	Подуване	Bloating
5.	Подут корем	Swollen abdomen
6.	Оригвам се/оригна се	To belch
7.	Оригване	Burping, belching
8.	Повръщам/повърна	To vomit
9.	Повръщане	Vomiting
10.	Гадене	Nausea
11.	Гади ми се	To feel sick
12.	Изпражнения	Motions, stools
13.	Воднисти изпражнения	Watery stools
14.	Редки изпражнения	Loose stools
15.	Пъп	Umbilicus
16.	Слуз	Mucus
17.	Тежест	Heaviness
18.	Тежко ми е	I don't feel well

19.	Избягвам/избегна	To avoid
20.	Язва	Ulcer

Table 1. Terminology and phraseology selection by the instructor

The bilingual section (Bulgarian - English) contains the key vocabulary, extracted from authentic texts. The main characteristics of the texts are their length (approx. 300 words) and specifics (*усещам тежест / подуване / парене / дискомфорт*). At present the course, published on Blackboard contains only the collection of tests, corresponding to the textbook units which are the only interactive element with multiple choice tasks. Further on, the Blackboard platform allows the instructor to introduce the entries, making use of the bi-lingual glossary with standardized phraseology, to distinguish key structures, to drill collocations and better understand their function. Therefore, four new steps are suggested for inclusion (in bold):

a) headword in the source language (Bg.)
b) translation (Eng.)
c) grammatical category of the headword ([V], [NP], [VP], [Adj], [Adv], [PP], etc.)
d) headword in context (Bg.)
e) pronunciation (Bg.)
f) images are attached to clarify concepts (if necessary).

Thus, the frequency-based language units and their combinatory behavior is illustrated through the lexical approach. Foreign language training is nowadays technology- and corpus-based with a focus on lexical phrases [12, 13]. Technology can focus or distract the learner attention, depending on its application. To maximize its effectiveness in clinical communication, audio-files are incorporated into each glossary card to illustrate pronunciation and collocational use. The educator's voice helps in the recognition of the language chunks in "staccato" style by inserting short pauses that break the sentence into component words or phrases (in interrupted sequences):

Fig. 1 Verb entry [имам] and its collocations (gastroenterology)

Collocations require less cognitive effort and their use is dependent on their valency properties. The valency theory highlights the potential of word-specific knowledge that is part of the native speaker's competence and its relation to the combinatory behavior of words and their realization in speech [14]. Valency is attributed to nouns, verbs and adjectives and any use outside a certain syntactic construction is either wrong or improper. Thus, valency deals with lexical restrictions where the semantic nature of the head word selects the arguments that follow.

The CCC concordance shows a key word in surrounding context for selected head words:

Fig.2 Concordance lines with key word болка

Another example is *feel* (v.) with multiple senses in WordNet [15]: experience an emotional sensation; find on the basis of emotion, intuitions, or indefinite grounds; sense or perceive by a physical sensation; be conscious of a physical, mental, or emotional state; examine by touch or by palpation; find by testing or cautious exploration; produce a certain impression; etc. Three Bulgarian verbs (*усещам/чувствам/изпитвам болка*) and one impersonal construction (*боли ме*) function as equivalents in translation but all exhibit different valency patterns [16, 17]:

чувствам (feel/be hungry/thirsty)	*усещам* (feel, become aware/conscious (of), realize, notice)	*изпитвам* (experience, feel, examine)
1. [V] + [NP] *Чувствам болка / тежест / дискомфорт в стомаха.* 2. [V] + [wh-CL]; [that-CL] *Чувствам колко ме боли рамото.* *Чувствам, че се изморявам.*	1. [V] + [NP] *Усещам болки / парене / тежест / гадене.* 2. [V] + [wh-CL]; [that-CL] *Усетих, че ми става студено.* *Усетих как ръката ми започна да трепери.*	1. [V] + [NP] *Не изпитвам никаква болка.*
3. [V_{refl}] *Чувствам се добре / зле / отпаднал.*		

Table 2. Medical collocations in the corpus

The verb valency is described in terms of syntactic (the number of dependent arguments) and semantic criteria (the thematic relations associated with a verb). Verbs show considerable variety in their valency patterns and three types are represented above: monovalent (*усещам*), divalent (*усещам болка*) and impersonal (*боли ме*). The type of connections of the syntactic elements in the sentence are also illustrated. The same meaning may also be expressed in resultative patterns (*зле съм, не съм добре, болен съм*). Thus, specialized medical texts are rich in terminology, phraseology and collocations, distinctive of a particular register. These facts highlight the importance of collocation competence to avoid communication breakdowns and misunderstandings first in the classroom and next in the hospital. The reading comprehension, term recognition and role playing exercises subject to such corpus-based analysis may be extended with a collection of representative terminology and medical collocations.

4. CONCLUSIONS

English is the language of instruction at the university and for the instructor, teaching Bulgarian as a foreign language this fact entails a special form of bilingualism in the medical domain which has to be optimal at all times. In the Bulgarian language classroom students remain heavily dependent on their mobile devices or their lecturers as translators. The bilingual glossary should function as a tool to improve memorization and long-term use of specialized phraseology thus providing support in Bulgarian as a foreign language and fostering learner autonomy. The collection of combinatorial patterns further contributes to the development of communicative skills in Bulgarian as a foreign language with the native speaker's voice, pronunciation and intonation. The repetitive listening to collocations and the flexibility of learning ensure consistency in communication practices.

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