Survey Research into Terminology Used by Pharmacists at Faculties of Pharmacy in Serbia

Leontina A. Kerničan

Faculty of Pharmacy, University of Belgrade

Marija Đorđević

Faculty of Pharmacy, University Business Academy in Novi Sad

Zorica Antić

Faculty of Medicine, University of Nis

Abstract

The key goal of the survey research conducted in 2015 was to evaluate the acquisition and usage of English technical terminology by testing 49 pharmacists involved in teaching and research at the faculties of pharmacy in Belgrade, Novi Sad and Niš. The survey results were taken from each faculty separately but only the cumulative results were considered in order to obtain a valuable corpus of technical terms. The questionnaire in the first part included five general questions on the acquisition and application of English technical terms. In the second part, the teachers had to add the English technical terms that they used that had either no existing, or no appropriate Serbian equivalent. The aims of the survey were to discover the level of acquisition of English technical terms in the lectures' proceedings, i.e. research, and to analyse the collected technical terms in order to identify the degree of equivalence with characteristics and possible mistranslations of the terms into the Serbian language. The survey corpus included monomorphemic and polymorphemic lexemes which are used as monosemantic or polysemantic notions. Given that many terms have polysemantic notions, many mistranslations of a technical lexeme, which should assign the appropriate technical context to a monosemantic lexeme are expected. The survey results showed that appropriate usage of English technical terms in the Serbian language required an excellent understanding of the field in which they are involved. In conclusion, pharmacists should keep a continuous review of their technical terminology, bearing in mind the importance of the English technical terms, which are dominant and commonly used in modern pharmacy.

Key words: pharmaceutical terminology, transferred sense, interdisciplinary context.

1   Introduction

The theoretical framework of this survey research was based on the following theoretical facts, which guided the analysis. In Simeon, a term is defined as "a notion or technical term, terminological item; word or group of words of specific (scientific, technical or similar) language, built (accepted or adopted, etc.) with the aim of precise interpretation of specific technical notions which nominate special objects." (as cited in Marković, 2011). In addition, Cabrè added that its "specificity is not in its formal or semantic, but in its pragmatic and communicative markers" (as cited in Marković, 2011). Bearing in mind that these characteristics are specific to technical pharmaceutical terms, this survey research was further addressed to the problem of term ambiguity or non-ambiguity, i.e. if a term has one or more notions, which depend on the technical context it is related to.

In pharmaceutical technical terminology there is also the problem of monosemy or polysemy, i.e. one term names only one notion or more notions depending on the context in which it is built and in which it is further developed.

According to Đorđević, there are six theoretical possibilities between terms and notions in science in general, but also in linguistics (as cited in Marković, 2011):

- When a term is the name for one notion it is defined as a monosemantic term.
- When a term is the name for two or more notions it is defined as a polysemantic term.
- When two or more terms are names for one scientific notion they are defined as synonymous terms.
- When two or more terms represent two or more notions they are defined as two or more disorganized systems.
- When there is a term, but there is no notion.
- When there is a notion, but there is no term.

The situation is significantly more complex when discussing two referent terminologies in two languages, where one language influences the other. At this point, the core problem is often the degree of equivalency of the technical meaning between the two languages. Accordingly, there are three possible relations between two referent notions:

- There is no equivalency in two languages when there is no referent notion in two referent terminologies.
- There is an equivalency in two languages when there are referent notions in both terminologies, i.e. their technical meanings correspond to a high extent.
- There is a partial equivalency in two languages when there are referent terms, i.e. systems of terms in both languages, but the system of full equivalency cannot be established between particular terms. This relation is extremely common and it happens when, in one language, a familiar term already exists and, in another language, the notion or the object are not familiar enough so the appropriate term does not exist. Often, in this case, either the original term is taken from the receiving language or an unterminologized word is taken. This approach is extremely important because, as will be discussed later, it will be perceived in relation to the problem of equivalency and borrowing of terms within pharmaceutical terminology.

In addition, the structure of pharmaceutical technical language and the main characteristics of it have to be taken into account in the light of this survey research. According to Cabrè, the study of technical terminology began in the first part of the XX century, i.e. 1930s (as cited in Marković, 2011). Based on a diachronic and a synchronic analysis of the development of pharmaceutical terminology (Kerničan, 2016) it is worth mentioning that the early technical language, which was used until 1945, involved the technical terms from classic medical and chemical sciences, which were mainly of Latin origin. On the other hand, the modern technical language, which was used after 1945, already felt the

growing presence of English technical language in more professional fields. According to this analysis, modern pharmaceutical technical terminology can be divided into the following categories:

1. Basic pharmaceutical terminology derived from classic medical sciences,
2. Clinical terminology that combines medical terminology and the social aspects   of   its application.

The terminology of social pharmacy is the most complex segment, because it combines basic, clinical and social ramifications for pharmaceutical care. The basic terminology today is still based on technical terms which are used in the field of classic medicine, where most of the terms have been taken from the Latin language, with slight phonemic and morphemic modifications. Clinical terminology is partly based on the medical terminology of Latin origin and there is a growing presence of the technical terms adopted from the English language that are related to the social implications of clinical pharmacy (Kerničan, 2016). Their structure shows that these terms are monomorphemic or polymorphemic lexemes which are mainly polysemantic notions. The technical meaning of these guidelines is determined by the field in which they are used and the professionals using them. The terminology used in social pharmacy has a greater number of polymorphemic terms which are polysemantic notions, whose technical meaning can be also determined based on the knowledge of the field in which they are used (ex. *management > disease management, risk management, bulk > bulk drug; drug, channel > drug channelling*).

The problem of adoption and understanding of pharmaceutical technical language is accompanied by the development of pharmaceutical sciences in the modern period. The growing presence of English technical terms used in social pharmacy may be reasonable bearing in mind that social pharmacy as an interdisciplinary science has been continuously developed since the 1980s with the tendency to involve more social sciences. On the other hand, English technical terms used in chemical sciences have been increasingly prevalent in pharmaceutical sciences in Serbia since the early 1960s. This arises from two historical arguments (Blanc, 1956), the nomenclature of drugs, which was standardised in 1949 by the WHO Experts Committee on Drugs and the usage of the English language, which was introduced into National Pharmacopoeia in 1950. Until the 1960s, Serbian technical terms used in pharmacy mainly included the names of plants, substances and natural remedies, which were used in treating disorders and mild symptoms of diseases. Taking into account all these arguments, the dominance of the English technical terms in Serbian pharmaceutical terminology is to be expected.

On the basis of these facts, pharmaceutical technical language and its specifics can be further investigated.

2   Methods and Objectives

The survey carried out in the period March-May 2015 was addressed at pharmacists involved in teaching and research at the faculties of pharmacy in Belgrade, Novi Sad and Niš. Forty-nine examinees took part in the survey, i.e. 31 examinees from the Faculty of Pharmacy – University of Belgrade, 13 examinees from the Faculty of Medicine (Department of Pharmacy) at the University of Niš and 5 examinees from the Faculty of Pharmacy - University Business Academy in Novi Sad. The methodological approach included separate comparative analyses of the results given by each faculty and a comparative analysis of the cumulative results given by all the faculties. In this paper, only the cumulative results were considered. The separate analyses were not taken into account because only the cumulative results are valuable for a broad insight into the critical corpus which cumulatively represents most of the disciplines at the faculties of pharmacy in Serbia.

The multiple-choice questionnaire used in the survey included seven questions. In the first part, it included five general questions regarding the acquisition and application of the technical terminology in their teaching and research, and in the second part, it included two questions intended to have an insight into the terms without appropriate Serbian equivalents or with no Serbian equivalents. The general questions 1–5 were as follows:

1. Are English technical terms involved in your lecturing proceedings?
2. Do you have the impression that your students understand the English technical terms that you introduced in the lecturing proceedings?
3. Do you recommend the study of literature in the English language as well as the obligatory literature in the Serbian language for examinations in pharmacy studies?
4. Is the technical literature and the technical dictionaries available to you to improve your understanding of English technical terms?
5. Do you use English technical terms with an incomplete translation into the Serbian language or the original English terms with no Serbian equivalent in use?

In addition to general questions, there were two questions (6–7) addressed to the teachers in order to add the English technical terms they used with no Serbian equivalent and the English technical terms they used without an appropriate or incomplete Serbian equivalent. The technical terms suggested by the lecturers had to be in line with their specialities.

The objectives of the survey may be classified as being of general matters, referring to the preceding lectures, and specific, which are strictly related to the English technical terms adopted into Serbian technical terminology.

The objectives referring to the general matters were:

- To evaluate the level of application of English technical terms in lecturing proceedings.
- To check the availability of technical instruments, i.e. specialised literature aimed at improving the appropriate acquisition of English technical terms into the Serbian language.
- To see if the majority of English technical terms were adopted into the Serbian language by calquing without a Serbian equivalent in order to evaluate the degree of teachers' understanding of English technical terms used in their technical language.

The objectives referring to the critical corpus given by the pharmacists from the faculties of pharmacy in Serbia:

- To identify phonemic, morphemic and lexical changes in the collected corpus of the English technical terms adopted into the Serbian language in order to see the level of acquisition and possible mistranslations of these terms.
- To see if the English technical terms with minimum adaptations and without Serbian equivalents prevail, when in use against Serbian pharmaceutical terms with appropriate Serbian equivalents.
- To appreciate the level of acquisition of English technical terms in basic pharmaceutical sciences compared to the level of acquisition of them in pharmaceutical sciences with a multilateral approach.
- To evaluate the level of correlation between state-of-the-art technical terms in English and domestic terms in order to improve the acquisition of English technical terms by Serbian pharmacists.

3   Results

The cumulative results of the survey on the questions regarding general matters were as follows:

1. Are the English technical terms involved in your lecturing proceedings?

Survey answers	Number of the examinees	Percentage value	Total number of the examinees per answer
Yes	14	28.57%	49
Partly	32	65.30%	49
No	3	6.12%	49

2. Do you have the impression that your students understand the English technical terms that you introduced in the lecturing proceedings?

Survey answers	Number of the examinees	Percentage value	Total number of the examinees per answer
Yes	24	48.98%	49
Partly	24	48.98%	49
No	1	2.04%	49

3. Do you recommend that students study literature in the English language as well as the obligatory literature in the Serbian language for examinations in pharmacy studies?

Survey answers	Number of the examinees	Percentage value	Total number of the examinees per answer
Yes	15	30.61%	49
Partly	13	26.53%	49
No	21	42.85%	49

4. Are the technical literature and the technical dictionaries available to you to improve your understanding of the English technical terminology?

Survey answers	Number of the examinees	Percentage value	Total number of the examinees per answer
Yes	17	34.69%	49
Partly	17	34.69%	49
No	15	30.61%	49

5. Do you use the English technical terms with an incomplete translation into the Serbian language or the original English technical terms with no Serbian equivalent in use?

Survey answers	Number of the examinees	Percentage value	Total number of the examinees per answer
Yes	23	46.93%	49
Partly	19	38.77%	49
No	7	14.28%	49

The survey results based on the critical corpus of seventy (70) given technical terms adopted from the English into the Serbian language were as follows[2]:

1. Terms adopted without phonemic modifications and without a Serbian equivalent in use (6 out of 70 technical terms, i.e. 8.57%): *inlet/inlet (Medical Biochemistry), outlet/outlet (Medical Biochemistry), split/split (Medical Biochemistry), bias/bias (Analytical Chemistry), output/output (Pharmaceutical Marketing, Medical Biochemistry), SRE – Sterol Regulatory Elements / SRE (Medical Biochemistry).*

2. Terms adopted with phonemic modifications into the Serbian language and without a Serbian equivalent in use (26 out of 70 technical terms, i.e. 37.14%): *chromatographic run/hromatografik ran (Pharmacognosy), pro-drug/prodrag (Pharmacognosy), mode/mod (Pharmacognosy), vial/fijola (Medical Biochemistry), swing-out rotor/sving-aut rotor (Physical Chemistry), end-capped/end-kapt (Pharmacognosy), blank plasma/blenk plazma (Medical Biochemistry), over-winding of DNA strand/ overvajding DNK strend (Medical Biochemistry), real-time PCR (Medical Biochemistry) Ependorfica/Ependorfika (Medical Biochemistry), vortex/vorteks (Medical Biochemistry), score/skor (Pharmacognosy), descriptor/descriptor (Pharmacognosy), performance/performansa (Pharmacognosy), outsourcing/ autsorsing (Pharmaceutical Technology), fitting/fiting (Pharmacognosy), downfield/daunfild (Organic Chemistry), upfield/apfild (Organic Chemistry), medication review/medikejšn rivju (Social Pharmacy), biofeedback/biofidbek (Social Pharmacy), outcome/autkam (Social Pharmacy), responsive elements/ responsiv elemenc (Medical Biochemistry), bone turnover/boun turnover (Statistics in Pharmacy),* etc.

3. Terms adopted with phonemic and morphemic modifications into the Serbian language, and without Serbian equivalents in use (7 out of 70 technical terms, i.e. 10.00%): *compliance/komplijansa (Social Pharmacy), diet/dijeta (Bromatology), dietetic/dijetetični (Bromatology), nociceptive/ nociceptivni (Pharmacognosy, Pathology), pull/pulovanje (Medical Biochemistry), docking/dokiranje (Pharmacognosy), fitting/fiting (Pharmacognosy).*

4. Terms adopted with phonemic and morphemic modifications, and with a full or an incomplete translation into the Serbian language (15 out of 70 technical terms i.e. 21.42%): *up-regulation of genes/up-regulacija gena* or *ushodna regulacija gena, down-regulation of genes/daun-regulacija gena* or *nishodna regulacija gena (Medical Biochemistry), ion-selective electrode/jon selektivna elektroda (Physical Chemistry), ATP binding proteins/ATP vezujući proteini (Medical Biochemistry), stripping voltammetry/striping voltametrija* or *voltametrija s obogaćivanjem (Physical Chemistry), headspace technique/hedspejs tehnika (Pharmacognosy), bone remodeling/remodelovanje kosti (Physiology), jumping genes/džamping geni (Microbiology, Immunology, Immunochemistry), depot effect/depo efekat (Pharmacognosy), scavenger receptors/skavendžer receptori (Medical Biochemistry), recovery value/rikaveri vrednost (Medical Biochemistry), sink conditions/sink uslovi (Medical Biochemistry, Pharmaceutical Technology), blot analysis/blot analiza (Immunochemistry), orphan drug/orfan lek (Pharmacotherapy),* etc.

5. Terms adopted by an incomplete translation or a mistranslation into the Serbian language (7 out of 70 technical terms, i.e. 10.00%): *medication safety/sigurnost leka, medication error/medicinska greška, concordance/saglasnost (Social Pharmacy), blotting paper/upijajući papir (Microbiology, Immunology), disease management/upravljanje bolešću, menadžment bolesti (Social Pharmacy, Pharmaceutical Management), pain management/upravljanje bolom, menadžment bola (Social Pharmacy, Pharmaceutical Management), risk management/menadžment rizikom, upravljanje rizikom u politici primene zdravstvene zaštite (Social Pharmacy, Pharmaceutical Management).*

6. Terms adopted by paraphrasing into the Serbian language and without a Serbian equivalent in use (9 out of 70 technical terms, i.e. 12.85%): *by-product/nus-produkt (Pharmaceutical Technology), in-patient/hospitalizovani pacijent (Social Pharmacy), out-patient/pacijent u primarnoj zdravstvenoj zaštiti odnosno van bolnice (Pharmacotherapy), first-line drug/ lek koji je prioritetan u određenoj terapiji (Pharmacotherapy), second-line drug/ lek koji se koristi kao zamena za lek koji je prioritetan u određenoj terapiji (Pharmacotherapy), break-down area/posude ili kontejneri radiološkog, citostatičnog ili drugog leka ili produkta sa zaostalim ili nezaostalim proizvodom sa kojim se mora posebno postupati (Toxicology, Social Pharmacy, Pharmacovigilance),* etc.

3.1   Interpretation of the results

Based on the survey results for the first question, it is shown that there is an increasing practice of applying English technical terms in the lecturing proceedings in Serbia. This fact is in logical correlation with the fact that pharmacy students at an equal level understand (48.9%) or partly understand (48.9%) English technical terms (the second question). Furthermore, this is supported by the fact that 42.85% of the teachers do not recommend technical literature in English as obligatory, as well as by the statements that 30.61% of teachers recommend it and that 26.53% of them partly recommend it. In addition, this means that, according to the cumulative results, English technical literature is partly recommended (the third question). The partial availability of necessary English technical dictionaries and specialized literature, due to the responses to the fourth question, also indicates the need for technical instruments for acquiring English technical terminology both by the teachers and by the students (with reference to the third question). This also explains the results of the last general question, i.e. that the calquing of English technical terms by the majority of teachers is shown in the survey as an increasing practice.

In the second part of the survey which includes the critical corpus, there are six groups of terms. The terms in the first group adopted into the Serbian language without phonemic, morphemic or lexical changes are structurally defined as monomorphemic lexemes *(inlet/inlet, outlet/outlet, output/output, split/split, bias/bias)*. Almost all the lexemes are used in Medical Biochemistry, except for the lexeme *output* which is used in Pharmaceutical Marketing. Only a few of them such as *bias* and *output* are used as polysemantic notions in the appropriate context of Medical Biochemistry and Pharmaceutical Marketing. The others such *as inlet, outlet* and *split* are used with their original signification as monosemantic notions, but because they are used as specific segments or parts of the technical procedures or devices they are considered technical terms. The abbreviation *SRE – Sterol Regulatory Elements/ SRE* was also adopted into the Serbian language without appropriate translation and modifications. It is always used in the Serbian technical language as an abbreviation with its original signification as a monosemantic notion.

The second group of terms, including those adopted with phonemic changes into the Serbian language, are structurally defined as monomorphemic and polymorphemic lexemes (*upfield/apfild, downfield/daunfild, outsourcing/autsorsing, run/ran, descriptor/deskriptor, performance/performans, score/skor, vortex/vorteks, biofeedback/biofidbek, chromatographic run/hromatografik ran,* etc.). The monomorphemic and polymorphemic lexemes such as *upfield, downfield, outsourcing, run, descriptor, performance, score, vortex, biofeedback* are used in the pharmaceutical technical language as polysemantic notions, which are interpreted in a technical context based on the professional knowledge of the users. The polymorphemic lexemes such as *chromatographic run, swing-out rotor, real-time PCR, end-capped, blank plasma, over-winding of DNA strand* are also used as polysemantic notions but it is worth mentioning that they include one lexeme which is, technically a monosemantic notion, and the other one or two lexemes which are polysemantic notions in a general sense. The technical interpretation of these polymorphemic lexemes will be determined by the technical lexeme, which will add the technical meaning to the lexeme in a general sense. The term *Ependorfica*, denoting a specific, curved laboratory container, is the only term which originates from the name of a company Eppendorf. When the technical meaning of these terms was analysed, it was seen that the technical context in some of the monomorphemic and polymorphemic terms implied a broad, transferred sense when used in the disciplines with the multilateral approach such as social pharmacy (ex. *medication review, biofeedback*). Thus, many misinterpretations are expected in the technical language of these branches, especially when the users are non-native English speakers. The same is also true when modern pharmaceutical strategies, i.e. state-of-the-art technical terms were not implemented in the Serbian pharmacy according to the modern development of pharmacy.

The terms from the third group adopted from the English into the Serbian language with phonemic and morphemic modifications and with no appropriate Serbian technical equivalents are monomorphemic lexemes: *compliance/komplijansa, diet/dijeta, dietetic/dijetetski, nociceptive/nociceptivni, fitting/fitovanje, docking/dokiranje*. The terms *nociceptive* and *dietetic* are monosemantic notions, while the terms *pull/pullovanje, docking/dokiranje, fitting/fiting, compliance/komplijansa* are polysemantic notions with a technical meaning, which is determined by the professional knowledge of the users and the scientific discipline they belong to. The terms in this group are mainly used in basic pharmaceutical sciences. In spite of this, the terms such as *pull/pullovanje, docking/dokiranje, fitting/fiting, compliance/komplijansa* as polymorphemic notions have a broader, transferred sense, especially the term *compliance* with a multilateral context when used in social pharmacy.

The fourth group of given pharmaceutical terms includes polymorphemic lexemes with morphemic or phonemic modifications, which have an incomplete translation into the Serbian language (*jumping genes/džamping geni, recovery value /rikaveri vrednost, sink conditions/sink uslovi, depot effect/depo efekat, scavenger receptor/skavendžer receptor*). These polymorphemic lexemes include one or two lexemes which are polysemantic notions adopted into the Serbian language with phonemic changes and one lexeme which is used in pharmacy as a monosemantic notion. The same principle of adoption was applied in the polymorphemic lexemes that have equivalents in the Serbian language (*up-regulation of genes/up-regulacija gena* or *ushodna regulacija gena, down-regulation of genes/daun-regulacija gena* or *nishodna regulacija gena,* etc). In the terms including both lexemes which are monosemantic notions, the technical meaning will be assigned to by the users who are familiar with the technical meaning (*recovery value/rikaveri vrednost, sink conditions/sink uslovi, depot effect/depo efekat*).

Both the fifth and the sixth groups of terms require very good technical knowledge due to the fact that these terms are mostly used in the pharmaceutical sciences with a multilateral approach. The fifth group of pharmaceutical terms (*medication safety/sigurnost leka, medication error/medicinska greška, concordance/saglasnost, blotting paper/upijajući papir*) are polymorphemic lexemes in which one or both of the lexemes are polysemantic notions that are used in a broader sense across many disciplines. We have identified that the most common term in pharmacy with not only medical, but also social implications is *management*. It has a very broad application in social pharmacy according to the discipline in which it is commonly used *(pain management, disease management and risk management)*.

The sixth group of terms adopted into Serbian by paraphrasing are polymorphemic lexemes comprising two or three lexemes. There are polymorphemic technical terms in which only one lexeme (out of two or three lexemes) is used in pharmacy as a monosemantic notion *(second-line* <u>*drug*</u>*)* and the polymorphemic technical terms in which all the lexemes are used in pharmacy as polysemantic notions *(break-down area)*. The analysis showed that the majority of the terms identified as polymorphemic lexemes are not always technically determined by the monosemantic lexeme included, whereas the polymorphemic lexemes including all the lexemes used as polysemantic notions with transferred sense, will be technically determined only by the professionals using them. In addition, a person who is not familiar with the appropriate context would not understand the technical meaning of these terms because many of the included lexemes are prepositions, phrasal verbs, numerals or nouns which may be easily misinterpreted *(out-patient/pacijent u primarnoj zdravstvenoj zaštiti, second-line drug/zamena za lek, by-product/nus produkt, in-patient/hospitalizovani pacijent, break-down area/posude ili kontejneri radiološkog, citostatičnog ili drugog leka (produkta) sa zaostalim ili nezaostalim proizvodom sa kojim se mora posebno postupati, etc.)*. Most of these terms are used in the pharmaceutical industry, pharmaceutical technology, pharmaceutical management and other sciences where the social and medical aspects of modern pharmacy and good pharmacy practice are interrelated in primary, secondary and tertiary pharmaceutical health care. Accordingly, to paraphrase them is, for the majority of the terms, expected and indispensable in their determination.

4   Discussion

The survey analysis of given technical terms leads to several conclusions:

Although pharmacists from the faculties of pharmacy in Serbia apply and recommend the study of literature in English as obligatory, both students and teachers are aware of the necessity for knowledge of English technical language for further professional growth. Accordingly, pharmacists need to keep up with the latest improvements in their field. They also have to keep a continuous review of the domestic technical terminology that must be in correlation with modern working strategies in pharmacy. This will certainly lead to better understanding of the adopted English technical terms and a growing presence of domestic technical terms.

Referring to the specifics of the given terminological corpus used by the pharmacists in Serbia and the aims of the survey, there are certain additional conclusions:

English technical terms with minimum phonemic and morphemic adaptations and without Serbian equivalents prevail in the Serbian technical language of pharmacists (39 – 55.71%). Fewer given terms are adopted by a full or partial translation or by paraphrasing (31 – 44.28%).

The technical language of Serbian pharmacists is rich in English technical terms in medical and chemical sciences, especially in pharmaceutical chemistry, medical biochemistry, as well as in few terms in pharmacognosy (51 terms – 72.85%). Even fewer, though still a significant number of given terms, are used in pharmaceutical sciences with a broad multilateral approach (19 terms – 27.14%).

The English monomorphemic and polymorphemic lexemes are used in pharmacy in general as polysemantic notions, which often result in mistranslations into the Serbian language if the users are not familiar with them. Thus, for pharmacists it is often more convenient to use the original English terms. It is also easier to communicate to foreigners in English, because they are mostly in the position of supervisors in the Serbian pharmaceutical companies, and English technical language is used in all strategic aspects of the professional practice.

This survey is of importance for the further research yet to be done in this field. The given results emphasize the necessity of being familiar with the technical terminology that must be harmonized with the latest strategic developments in pharmacy. This is crucial for both Serbian scientists and for all the scientists working in developing countries.

This study of critical corpus certainly gives contributions to the LSP study mainly in the specifics of polymorphemic lexemes used in the pharmacists' technical language as well as in the misinterpretations of the polysemantic notions. This topic is very challenging for those doing further analyses of the technical critical corpuses in some neighboring countries with Slavic origin. The given corpuses should be characterized in their specifics and identified in their similarities in mistranslations. The benefits of this kind of research would, undoubtedly, be of enormous importance for both the scientists and the linguists from the region.

There are certainly some limitations identified in the survey. First of all, these are shown in a lesser number of examinees from some of the faculties involved in the survey, whose issues were not possible to fully grasp due to technical limitations.

Accordingly, it would be significant for future research to involve more professionals from the pharmaceutical industry and pharmaceutical technology industry, which are closely connected with foreign collaborators dealing with pharmaceutical management and marketing. The insight into the specifics of the pharmacists' technical terminology would thereby be enhanced with new state-of-the-art technical terms used by professionals involved in all aspects of the multilateral pharmaceutical approach.

Taking into account the fact that all the participants in the survey were from educational institutions, this critical corpus certainly has limitations in the lack of some technical terms which are commonly used in multilateral pharmaceutical branches in every day practice.

References

Blanc P. (1956). Zajednički međunarodni nazivi lekova: The Archive for Pharmacy. *Faculty of Pharmacy Journal*, 7–10. Belgrade: Faculty of Pharmacy, University of Belgrade.

Cabrè T. (1999). *Terminology: theory, methods, and applications.* John Benjamins Publishing Company, Amsterdam.

Đorđević R. (1983). Lingvistička terminologija. *Prevodilac, 1/83*, 48, Beograd: 47Ŕ52.

Kerničan L. (2016) *Razvoj terminološkog korpusa farmaceutske struke i njene specifičnosti*, doctoral dissertation (pp. 8, 9, 94). Belgrade: Faculty of Philology – University of Belgrade.

Marković M. J. (2011). O odabranim terminima primenjene lingvistike na srpskom i engleskom jeziku: *Radovi Filozofskog fakulteta* (pp. 48, 81, 409, 605). Sarajevo: Faculty of Phylosophy – University of East Sarajevo.

Simeon R. (1969). *Enciklopedijski rječnik lingvistîčkih naziva* (p. 605). Zagreb: Matica Hrvatska.