

LEASECON 2021
Conference on Land Economy and Rural Studies Essentials**BUILDING VETERINARIAN'S PROFESSIONAL WORLDVIEW:
TERMINOGRAPHY-BASED APPROACH**

Irina V. Kulamikhina (a), Ekaterina A. Abrosimova (b), Zhanbota B. Esmurzaeva (c)*,
Oksana A. Zhbikovskaya (d), Natalya V. Staurskaya (e)

*Corresponding author

- (a) Omsk State Agrarian University named after P.A. Stolypin, 1, Institutskaya ploschad str., Omsk, Russia, irakula@yandex.ru,
(b) Omsk State Agrarian University named after P.A. Stolypin, 1, Institutskaya ploschad str., Omsk, Russia, abrosimova@inbox.ru,
(c) Omsk State Agrarian University named after P.A. Stolypin, 1, Institutskaya ploschad str., Omsk, Russia, yesmurzaeva@mail.ru
(d) Omsk State Transport University, 35, Prospect Marksa str., Omsk, Russia, zhbikovskaya25@mail.ru
(e) Omsk State University named after F.M. Dostoyevsky, 55, Prospect Mira str., Omsk, Russia, nat_staur@mail.ru

Abstract

The study is devoted to the practical aspect of the problem of building the professional worldview in veterinary students. The terminography-based approach has been used to introduce the creation of the student's glossary as a key factor in the development of the in-depth professional knowledge and terminology skill that are an integral part of the veterinarian's professional worldview. The purpose of the study is to conceptualize a model of the student's glossary as an essential element of terminological training in veterinary education. The study focuses on the distinctive features (selectivity, systematization, multilingualism and multifunctionality) and functional characteristics (a combination of systematizing, informational, educational and motivational functions) of the student's glossary. The specifics of the student's glossary have been described at different stages of professional training. The importance of using Latin and Greek term elements, terms and terminological phrases in the glossary entry has been justified by the specifics of veterinary terminology and learning objectives of terminological training. The formulated requirements for the creation of the student's glossary in the learning process contribute to the practical significance of the study. The authors have developed a model of the student's glossary which is defined as a systematizing multilingual and multifunctional open-type dictionary made up from Latin or Greek term elements, terms or terminological phrases related to a narrow professional area, the selection of which is determined by the stage of professional training. The creation of the student's glossary in veterinary education leads to the building of the holistic veterinarian's professional worldview.

2357-1330 © 2022 Published by EuropeanPublisher.

Keywords: International term element, professional worldview, student's glossary, terminological training, veterinary education



This is an Open Access article distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

1. Introduction

In veterinary education, of particular concern is the problem of building a professional worldview in students which encompasses scientific knowledge about the processes and phenomena, as well as concepts, norms, rules, postulates and values related to professional area. There is a growing number of researchers who recognize the importance of learning terminology for building a professional worldview in students in university training (Kiseleva, 2018; Lukoyanova & Madzhaeva, 2016; Madzhaeva et al., 2019). Teaching terminology provides continuity and stability of scientific knowledge (Koshkina, 2012); terminological competence enables professional cooperation and development (Kulamikhina et al., 2020). According to Marchuk (1992), the key factor that influences scientific and technological progress is terminography. Terminological dictionaries represent scientific knowledge without which research and development in any scientific or technical area would be impossible (Marchuk, 1992). Terminological dictionaries are the form and the instrument of modeling scientific knowledge (Alejnikova, 2015).

For educational purposes, there is a need to address one of the most important problems of terminography, which is the creation of students' glossaries in the learning process. The student's glossary is a list of specialized words or phrases with meanings made by students in the learning process. Creation of the student's glossary is an activity aimed to assist students in the study of terminology and in mastering the professional language and knowledge (Dubichinsky, 1998). According to Kantysheva (2010), when students are engaged into creation of glossaries as part of their terminological training, they acquire specialized vocabulary of the discipline, which promotes better understanding of the studied concepts. These activities contribute to the development of more in-depth professional knowledge and its theoretical stability; they ensure the processes of comprehension and systematization of scientific concepts, the establishment of logical-semantic connections and relations between the terms (Koshkina, 2012).

In agrarian universities, students' glossaries can be learning materials to be used in the classroom or in the self-study. Also, students' glossaries can serve as objects of research or discussion. Besides, they can be included into the assessment case as well as into the electronic student's portfolio. For graduate and undergraduate students, a glossary is an integral part of the degree research project or dissertation; for a veterinary specialist, a glossary becomes a tool for improving or updating professional knowledge or skills and mastering terminology of a new professional area. Since most of the terms associated with veterinary medicine consist of international term elements (Latin or Greek prefixes, suffixes or roots), glossaries contribute to the establishment of interdisciplinary links broadening the professional knowledge and developing a linguistic feeling in students, which is in demand at all levels of veterinarian education. Overall, these considerations highlight the importance of the students' work on the creation of glossaries while studying humanities or sciences during their training as veterinarians.

2. Problem Statement

The problem of building the professional worldview in veterinary students by means of creation of students' glossaries has received little attention in the literature. Nevertheless, there is the need in developing a conceptual model of the student's glossary which fulfils learning objectives at different

stages of professional training. Students' engagement in the creation of glossaries will ensure gradual development of professional knowledge and skills that are essential components of the professional worldview.

3. Research Questions

Our research questions are: 1) What are the distinctive features of the student's glossary at different stages of professional training? 2) What functions should the student's glossary perform in the terminology study? 3) What are the principles of selection and systematization of terminology in the student's glossary?

4. Purpose of the Study

The purpose of the study is to develop a model of the student's glossary as a key element of terminological training aimed at building a holistic veterinarian's professional worldview.

The research is based on the hypothesis that creation of the student's glossary will become a key factor in building a holistic veterinarian's professional worldview in the process of professional training if the student's glossary meets the following requirements:

- fulfils specific learning objectives at different stages of professional training;
- combines dictionary-related and education-related functions in the learning process;
- contains references in different languages (Latin, native and foreign languages)
- lists terms, terminological phrases and international term elements related to a specific subject area.

Our research tasks are as follows:

1. to classify specific functions of the student's glossary in the process of professional training;
2. to describe distinctive features of the student's glossary at different stages of professional training;
3. to determine principles of selection and systematization of terms included in the student's glossary;
4. to develop requirements for the creation of the student's glossary.

5. Research Methods

The following research methods are used in the study: theoretical literature analysis; analysis of domestic and foreign experience in the creation of educational dictionary products and their use in the educational process; a modeling method for conceptualization of the student's glossary.

6. Findings

Since the concept of professional worldview is closely connected with the related concepts of terminology, terminological training and glossary, we have analyzed modern studies devoted to the issues of terminological lexicography. The theoretical foundations and practical aspects of the ideographic description of terminology have been worked out by Kochneva and Morkovkin (2003), Tabanakova

(2007), Tabanakova and Kovyazina (2012), Myakisheva and Tabanakova (2012). Theoretical substantiation of categorical modeling of terminological systems for the purpose of creation of dictionaries has been provided by Kantysheva (2010). A typological analysis of domestic and foreign classifications of dictionaries has been presented by Tabanakova and Sivakova (2003); the issues of modeling the definition of the term were developed by Myakisheva and Tabanakova (2012). The didactic and methodological aspects of the problem of creating and using glossaries in the process of teaching terminology have been considered in the works by Arkhipova (2007), Denisov and Skopina (1978), Dubichinsky (1998), Ibatova and Mukhametgaliyev (2018), Shishkina (1992), Yataeva (2016), Tono (2001); the description of the step-by-step development of an educational terminological dictionary has been given by Serova and Chainikova (2015).

It is noted that modern lexicographic products include terms that have been purposefully selected and presented in the structured way to perform different functions in the teaching-learning process (Kantysheva, 2010). Thus, the essential properties of students' glossaries are selectivity, systematization and multifunctionality. In the learning process, students' glossaries should perform several functions: systematizing (Tabanakova & Kovyazina, 2012), informational, educational and motivational.

The systematizing function of the student's glossary is implemented by classifying terms related to specific scientific subject area. The glossary represents the hierarchical relations between the terms (part-whole) (Kantysheva, 2010; Myakisheva & Tabanakova, 2012) as well as syntagmatic relations. For example, veterinary students create glossaries according to the branches of veterinary science: anatomical, clinical or pharmaceutical terminology. Then each of these branches includes subsections. For example, anatomy includes osteology, syndesmology and mycology; clinical terminology contains names of infectious and non-infectious diseases, diagnostic methods and tools, etc. A glossary entry can be made with any starting lexical unit: a word, a phrase or a term element.

The informational function of the student's glossary is performed through the definition of the term, its equivalents in foreign languages and the description of the term etymology. So, when translating terms from one language to another, learning about term etymology, finding word-formation elements, students understand principles and tendencies of scientific nomination, patterns of ancient and medieval thinking, and see the difference between a metaphorical term and an eponymous term.

According to Yataeva (2016), a distinctive feature of the student's glossary is that apart from traditional functions (informational and reference), it also performs specific educational functions associated with the use of the glossary as an outcome and an instrument of teaching terminology. The student's glossary represents the content of textbooks, research works, scientific articles and various teaching materials through concepts presented in a lexicographical form (Zherebilo, 2005).

The motivational function of the student's glossary is associated with specialists' needs for continuous improvement of their professional language and competence through updating terminological knowledge and replenishing glossaries with new terminology or adding new meanings to the terms in the glossary entries (Mozgovoi et al., 2019).

The specifics of the student's glossary are determined by the learning objectives at different stages of professional training. At the early stage of training, students deal with terminology related to a general professional knowledge. The most important units of the students' glossaries should be term elements (international word-formation elements) which are standardized short component elements with a certain

semantic specialization (Greek or Latin prefixes, suffixes or roots) actively used for forming terms (Snetova & Vlasova, 2019). Greek or Latin term elements are the basis of veterinary terminology. Due to their unambiguity, high productivity and frequency, they become the most important linguistic foundation necessary for the formation of veterinarian's professional worldview. Like words, term elements can be combined to make terminological words or phrases. Conventional patterns of combination, spelling rules should be observed. At the same time, term elements of the same category with synonymic or opposite meanings can be substituted for each other. There are syntagmatic and paradigmatic relations between term elements.

Here is a fragment of the glossary work done by a veterinarian first-year student in the Latin classroom. The objective of the work was to write a glossary entry for a term element: the prefixes A, AN / A, АН.

A, AN / A, АН (from the Greek prefix *a, an* with the negative meaning) - the initial part of the word creates negative meaning.

Agnathia / *агнатия* (a- + Greek *gnathos* lower jaw) - congenital absence of the lower jaw, compare: *прогнатия*.

Acheilia / *ахейлия* (a- + Greek *cheilos* lip) - congenital absence of one or both lips, compare: *хейлит*.

Achylia gastrica / *ахилия желудка* (a- + *chylos* juice) - the absence of hydrochloric acid or enzymes in the gastric juice.

Agalactia / *агалактия* (a- + Greek *gala, galaktos* milk) - complete absence of milk in the postpartum period), compare: *галактика, галактический*.

Anesthesia / *анастезия* (an- + Greek *aisthesis* sensation, feeling, literally insensibility) - the process of reducing or completely eliminating the sensitivity of the body, compare: *эстет, эстетика*.

Anuria / *анурия* (an- + Greek *uron*) - lack of urine flow in the bladder, compare: *уролог*

Ref.: ANTI-/ АНТИ-, HYPER-/ ГИПЕР-, HYPO-/ ГИПО-

Writing this glossary entry, students learn the rules of the usage of this term element. Firstly, the form of the prefix *A-* or *AN-* depends on the initial sound of the following term element. Secondly, the Latin prefixes have Greek synonyms and opposites (Ref.: **ANTI-/ АНТИ-, HYPER-/ ГИПЕР-, HYPO-/ ГИПО-**). Thirdly, a repeated element of the word *-ia-* means a pathology or disorder of a congenital nature. Fourthly, Greek term elements are mostly used to form terms associated with pathology. Finally, there are term-phrases such as a noun plus an adjective (*Achylia gastrica* / *ахилия желудка*).

Besides, students learn to recognize term elements both as part of the term and in common words (galaxy, esthete). Also, working with just one prefix *A-/AN-*, students learn other term elements which are used in the formation of other terms. Making a glossary of terms, undergraduate students begin to understand not only the peculiarities of their functioning, but also the basic knowledge of the science they are studying. For example, in veterinary medicine Greek term elements are used in the formation of the terms related to pathology while synonymic Latin term elements form terms related to anatomy (*ADEN – /АДЕН* and *GLAND-/ ГЛАНД*). The term elements *-itis* or *-oma* combined with Greek roots with the meanings of an organ and tissue form terms associated with inflammation and tumor.

The fourth- and fifth-year students study profession-related disciplines in which they master specialized vocabulary related to narrow professional fields. The sources of terminology are normative documents, textbooks, monographs and publications written by recognized experts. At this stage of

training, glossaries become a kind of reference books providing information on a particular subject matter. At the same time, they serve as a tool for systemizing information obtained from different sources for better comprehension. With the teacher's support, students make glossaries of most frequently used basic terms, giving their definitions, establishing their etymology using a glossary of term elements, and recognizing these term elements in other words. For example, students make a glossary of terms associated with tumor diseases in the Russian classroom.

Аденома / adenoma (from the Greek aden - gland + -oma) – a benign tumor arising from the glandular epithelium. Compare: adenoids

Липома / lipoma (from the Greek lipos fat + -oma; synonym: fatty tissue, lipoblastoma) – a benign tumor that develops from adipose tissue. Compare: lipids

Фиброма / fibroma (from Latin fibra fiber + -oma) – a benign tumor formed by mature elements of connective tissue. Compare: fibrosis, microfiber

Одонтома / odontoma (from the Greek odus, odontos tooth + oma) – a rare benign odontogenic tumor, consisting of various dental tissues. Compare: orthodontist, megalodon

Миома / myoma (from the Greek mys, my[os] muscle + -oma) – a benign tumor that develops from muscle tissue. Compare: myometrium.

In this glossary, the first word is in Russian, but students must also give a Latin analogue and an English equivalent (in many cases an English term corresponds to the Latin one). In this way, the interdisciplinary approach promotes the establishment of links between several disciplines: Russian, Latin, English and clinical disciplines.

In postgraduate studies, students improve their terminological competence through reading monographs, dissertations, scientific articles related to their research area. Students create glossaries of scientific and profession-related terms as part of their portfolio and while doing their research work. For example, postgraduate students majoring Veterinary and Sanitary Control do category analysis of terminology related to the topic “Physical and chemical analysis of animal products” as an initial stage of making a glossary in the ESP classroom. The sources of terminology are scientific articles published in English. The category analysis of terminology makes it possible to identify the basic terms representing research methods in analytical chemistry, such as *chromatography (liquid chromatography, gas chromatography); spectroscopy (electronic spin resonance spectroscopy, nuclear magnetic resonance spectroscopy, near-infrared (NIR) and midinfrared (MIR) spectroscopy, vibrational spectroscopy, Raman spectroscopy), spectrometry (mass spectrometry,)* *DNA-based methods (polymerase chain reaction, DNA hybridization method, Randomly Amplified Polymorphic DNA)*. In the above example, basic categories include subcategories following a principle of systematization (whole-part).

At the next stage, the selected terminology is included in the glossary entry of the student's glossary. The glossary entry is organized in the alphabetical order in the structured way: 1. A heading word with an indication of a part of speech or a phrase and a translation into Russian; 2. Attributive phrases; 3. Phrases of various structures.

Here is an example of a glossary entry:

chromatography (from Greek *chroma*, which means “color”), *n* – хроматография (method of separation and analysis of mixtures of substances)

gas chromatography – газовая хроматография

liquid chromatography– жидкостная хроматография

Creating glossaries of specialized words based on a categorical analysis of terms selected from scientific articles, postgraduates have an opportunity to deepen and systematize knowledge of a very narrow professional area. For example, the fragment of the glossary entry given above illustrates how postgraduates can systemize information regarding the use of modern methods of analytical chemistry in order to study the physical and chemical properties of food of animal origin. In addition, students' glossaries allow establishing the relationship between natural sciences and humanities, which is a key factor in the formation of a holistic professional worldview of a veterinarian.

Taking into account the multifunctionality of students' glossaries and their distinctive features at different stages of professional training, we will try to formulate the basic principles underlying the creation of the student's glossaries.

Firstly, glossaries can be made up from interconnected term elements, terms or terminological phrases. International term elements play the crucial role in building a veterinarian's professional worldview. In agrarian education, they must be learned by students in all areas of training. It is important to include information about the etymology of the term in students' glossaries. In this way, students' glossaries promote the continuity and stability of scientific knowledge; enhance the role of the Latin and Ancient Greek languages in the formation of terminology.

Secondly, the student's glossary should be formed from elements of different languages: Latin and Ancient Greek, which give information about etymology of the term; a native language and foreign languages. Multilingualism contributes to recognition of terms and terminology in almost any professional text.

Thirdly, the student's glossary demonstrates both paradigmatic and syntagmatic relations between the elements. Making glossaries, students learn the rules of the combination of term elements, understand the compatibility of words in a terminological phrase, and build a hierarchy of terms.

Fourthly, the selection of units to be included in the glossary is carried out following the principle from the most general term to the most specialized one. In the beginning of terminological training, it is important to learn Latin and Greek term elements, then basic concepts of a discipline represented in textbooks, and finally, it is necessary to learn specialized terminology and the newest terms of a narrow professional area, dealing with current research works.

Finally, the glossary entry can be modified depending on the discipline and its goals. So, in the Latin language course, it is more useful to start a glossary entry with a Latin or Greek term element or term; in the Russian and Professional Communication class, it is better to form a glossary entry in Russian, in the FL class – in English or German, etc. The contents of the glossary entry will expand depending on the stage of professional training. Thus, the work on creation a student's glossary becomes a way of mastering the professional language step by step resulted in the formation of the professional worldview.

7. Conclusion

The present study is devoted to theoretical and practical aspects of the problem of building a professional worldview of veterinarian students through the creation of students' glossaries in the context of professional training.

The analysis of distinctive features, functional characteristics and principles of structuring terminology in the student's glossary allows us to formulate requirements for the creation of student's glossary:

- Interconnected Latin and Greek term elements, terms and terminological phrases should be represented in the glossary entry.
- The selection of units in the student's glossary complies with the objectives of professional training.
- Multilingualism and multifunctionality are necessary characteristics of the student's glossary.
- Paradigmatic and syntagmatic relations between the terms and term elements should be taken into consideration in the student's glossary.

Thus, the outcome of our study is the conceptualization of the student's glossary model. The student's glossary is a systematizing multilingual and multifunctional open-type dictionary made up from Latin or Greek term elements, terms or terminological phrases related to a narrow professional area, the selection of which is determined by the stage of professional training. The creation of the student's glossary in veterinary education leads to the building of the veterinarian's professional worldview.

References

- Alejnikova, T. V. (2015). *Linguistic modeling of a bilingual dictionary of ethics (based on the material of English and Russian languages)*. Publishing House of OmSTU.
- Arkhipova, E. I. (2007). *Formation of a foreign language lexicon of a specialist in integrative teaching of a foreign language and general professional disciplines* [Doctoral dissertation]. Yekaterinburg.
- Denisov, P. N., & Skopina, M. A. (1978). Educational lexicography and methodology. *Russian language abroad*, 2, 65-70.
- Dubichinsky, B. B. (1998). *Theoretical and practical lexicography*. Vienna - Kharkov.
- Ibatova, A. Z., & Mukhametgaliyev, I. G. (2018). New ways of professional language thesaurus formation among students of engineering specialties. *XLinguae*, 11(4), 22-31.
- Kantysheva, N. G. (2010). Categorical modeling of the 'environmental audit' term system in a systematizing glossary. *Philology. Art Criticism*, 49, 51-54.
- Kiseleva, L. A. (2018). Professional and linguistic picture of the world of a medical specialist. *Bulletin of the Moscow State Regional University, Series: Linguistics*, 4, 13-18.
- Kochneva, E. M., & Morkovkin, V. V. (2003). Educational lexicography and methods: the nature of interaction. *Russian language abroad*, 2, 64-69.
- Koshkina, E. A. (2012). Conceptual and terminological apparatus of pedagogy as a subject of historical and pedagogical research. *Education and Science*, 5, 83-95. <https://doi.org/10.17853/1994-5639-2012-5-83-95>
- Kulamikhina, I. V., Abrosimova, E. A., Esmurzaeva, Zh. B., & Kamysheva, E. Yu. (2020). The content of terminological training of specialists and its implementation based on the pedagogical technology of scaffolding. *Modern Problems of Science and Education*, 4.
- Lukyanova, T. V., & Madzhaeva, S. I. (2016). Special dictionary - a source of terminology study. *Bulletin of the Chelyabinsk State University*, 1(383), 117-121.

- Madzhaeva, S. I., Lukoyanova, T. V., & Sinitsina, A. O. (2019). The role of the dictionary in the formation of a professional-linguistic picture of the world. *Bulletin of the Moscow State Regional University (Linguistics series)*, 5, 64-71.
- Marchuk, Yu. N. (1992). *Fundamentals of terminography*. Moscow State University.
- Mozgovoi, S., Abrosimova, E., & Kononov, A. (2019). Is fluid biopsy a biopsy: vocabulary and usage. *Virchows Archiv*, 475, 361-361.
- Myakisheva, I. A., & Tabanakova, V. D. (2012). Generic definitional model of a linguistic term in scientific educational discourse. *Bulletin of the Tyumen State University*, 1, 143-149.
- Serova, T. S., & Chainikova, G. R. (2015). Contents of the stage-by-stage development of the educational terminological dictionary of thesaurus type. *Pedagogical Education in Russia*, 2, 143-150.
- Shishkina, L. P. (1992). *Formation of a lexicon-thesaurus in teaching professionally oriented reading in a foreign language: (German language, initial stage)* [Doctoral dissertation]. Perm.
- Snetova, G. P., & Vlasova, O. B. (2019). *Dictionary-reference book of international terms of the Russian language*. World and Education.
- Tabanakova, V. D., & Kovyazina, M. A. (2012). Functional model of a translation special dictionary. *Vesnik of the Tyumen State University*, 1, 158-165.
- Tabanakova, V. D., & Sivakova, N. A. (2003). Typology of dictionaries today. *Vesnik of the Tyumen State University*, 4, 114-120.
- Tabanakova, V. D. (2007). Categorical modeling of scientific terminology and for applied purposes. *Structural and Applied Linguistics: Interuniversity Collection*, 7, 233-238.
- Tono, Y. (2001). *Research on dictionary use in the context of foreign language learning: focus on reading comprehension*. Niemeyer. <https://doi.org/10.1515/9783110915013>
- Yataeva, E. V. (2016). Electronic educational dictionary as a means of developing educational foreign language-lexical competence. *Bulletin of the Chelyabinsk State Pedagogical University*, 10, 135-140.
- Zherebilo, T. V. (2005). *Functional-stylistic invariant in educational lexicography*. Pilgrim.