

Greek Morphemes in Medical Latin Teaching¹

Alexander Gadomski², Nataliya G. Nikolaeva³, Anastasiya V. Yaparova⁴, & Anton V. Yermoshin⁵

Abstract

The teaching of the Latin language and medical terminology in universities of medical profile presupposes the formation students' main cultural competencies that help them navigate in the increasingly complex world, reveals their creative abilities and readiness to self-development, and contributes to formation of their clear worldview coordinates. The paper deals with the problem of rather poor language skills of students, and proposes some ways of its solution. The article also provides a historical digression to compare this situation in relation to the pre-revolutionary time and today. The authors have developed and presented methods and techniques of learning of the Greek terminological elements in the Latin medical terminology in the situation when students have not got any knowledge of classical languages. The developed method can be used also in the implementation of educational programmes in other Humanities because of similarities of the situation with linguistic knowledge and because of the main tasks of training not only highly qualified specialists, but also well-rounded individuals.

Keywords: Medical Latin; Greek; Etymology; Common Cultural Competence; Pedagogical Techniques.

1. Introduction

The teaching of the Latin language and medical terminology in universities of medical profile presupposes the formation students' main cultural competencies that help them navigate in the increasingly complex world, reveals their creative abilities and readiness to self-development, and contributes to formation of their clear worldview coordinates. This task should be carried out on the linguistic material, in its bigger part unknown to modern students in advance. In this regard, there is a methodical problem of educational standard tasks realization. The solution of it presupposes achievement of the purposes to which the present study is directed. The first aim is to

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² University of Opole; nastyyp@mail.ru

³ Kazan Federal University, Kazan State Medical University

⁴ Kazan Federal University, Kazan State Medical University

⁵ Kazan State Medical University

outline the common linguistic training level of students. The second is to suggest pedagogical techniques aimed at the solution of the problem of formation of main cultural competencies based on the linguistic material. The third aim is to assess the possibility of using these techniques in other disciplines in the Humanities (Tejeda & Dominguez, 2019).

2. Materials and Methods

As material for our research on one side appear questionnaire data of students, which provide the information of their language competence and the previously accomplished researches on the corresponding situation in pre-revolutionary Russia. On the other side as the material we can consider the original possibility of language to serve as a guide to the world of culture and to form paradigms of human mind.

Thus, we use two main methods for our research. The first one is the historical-comparative approach to pedagogical reality. This method allows considering the problem in diachronic aspect. The second one is the proper linguistic methodology, which helps to analyse the language possibilities and their potential usage in the learning process. Finally, as the result of appliance of the mentioned methods on the base of known pedagogical mechanisms we make an attempt to create some learning techniques and present it in our paper.

3. Results

Before we consider the possible methods for students to learn the Latin medical terminology with Greek terminological morphemes, it should be noted that the study of the latter serves not only an utilitarian purpose – that is of anchoring of the terminological set, necessary in professional practice, but also aimed at expanding the cultural horizons using the language as an important mean of reflection of objective reality in the individual consciousness of the subject (Whorf, 1956; Humboldt, 2013). And the main difficulty concerning the perception of knowledge is that the majority of students of modern Russian medical universities does not possess of wide language culture, unlike their predecessors a century ago.

The analysis of questionnaire data of students allows us to come to conclusion that most of them have learnt at best one foreign language, mainly English; sometimes in conditions of the multinational character of the Russian society also the native (non-Russian) language. Knowledge of ancient classical languages died almost completely down. Thus, a language lector in medical higher school has as a rule the challenge to give not only technical information about these languages (alphabet, reading rules, the basic elements of grammar), but also to help students to go beyond the language stereotypes of modern languages known to them (native and foreign). The latter is necessary if the task is not a mechanical learning of terms, but the formation of

competencies of the physician as an intellectual prepared for intercultural communication in the modern multipolar world.

The historical-comparative approach allows us to identify that the students of medical universities and faculties of pre-revolutionary Russia used to come to the mastering of professional terminology with a completely different level of their linguistic personality. Preparation for higher education in that period was accomplished predominantly in the classical gymnasium, which was the main type of secondary schools of the Russian Empire (Saifullova et al., 2018). The base of education here were classical languages, learnt thoroughly, not only in vocabulary, but also in terms of grammar and rhetoric up to the skill to write poetry in Greek and Latin (Enseignement Secondaire De Jeunes Filles En Russie, 1900; Piatnitsky, 1900).

There is no secret that this fact was often criticized by the education community and public (Elenev, 1889; Kolokolnikov, 1916), it is believed that the study of “dead languages” (along with the basics of religious knowledge) is useless, hindering the development of necessary scientific knowledge in students (Yermoshin & Nikolaeva, 2016), however, due to the “linguistic turn” of the 20th century and the insights of philosophers, linguists of modern times, this approach can be disputed. Of course, the excessive prevalence of any discipline in the school curriculum at the expense of others can be harmful, but one must admit that the study of classical languages enriches greatly the image of the world in human consciousness, not only through direct acquisition of knowledge of another language, but also through the expansion of mental horizons (bearing in mind that language as a system of symbols reflects the surrounding reality and even goes beyond it, systematizing it in the minds of specific individuals) (Mamardashvili & Pyatigorskiy, 2001; Wittgenstein, 1963).

From a pedagogical point of view, the system of education in the gymnasium of the Russian Empire contributed to the development of a language personality also by the fact that the study of classical languages went parallel with the process of deepening language knowledge in their native language, because the school years are the main period of the formation of vocabulary during which skills of its application are developed in all spheres of life and activities. Comparing this situation with the modern one, we can conclude that a current first year student of a medical University (average age: 18-21 years) has the primary stage of the formation of language personality as already ended. Then you can act only by methods aimed at regulation, development and quality improvement, but a paradigm of awareness of reality in his mind has been already formed. Therefore, the learning of the Latin language and medical terminology in general, and Greek elements in this area in particular, must inevitably take into account the actual situation and be based on empirical facts.

Words of Greek origin appear to students in the unit on anatomical terminology (*brachium, colon, encephalon, ganglion, hemispherium, hepar, oesophagus, oedema*, etc.), which is traditionally studied first. Some Greek bases can be found in the terminology of pharmacy (*-andr-, -emes-, -gnost-, -hypn-, -morph-, -*

myc-, *-no-*, *-oestr-*, *-phlog-*, *-rhythm -*, *sept-* and others, as well as many botanical names used in pharmaceutical terminology). However, the closer work with Greek morphemes begins in the course of studying clinical terminology (Chernyavskiy, 2016; Filipczak-Nowicka & Grech-Żmijewska, 2010; Plašilová & Kozlíková, 2011; Irani & Rezaei, 2018).

The clinical term is, in most cases, of the Greek origin, due to a long and successful tradition of healing in Ancient Greece. The Romans borrowed Greek terminology, compiled according to the rules of word formation of the Greek language (in fact, very close to Latin) and using Greek word building morphemes. These morphemes in the Russian tradition of teaching are called terminological elements, as they are constituent parts of the term. The use of these elements in terms is to be found in the latest articles on medical topics (e.g. Shaykhutdinova et al., 2018). And not only in medical, but also in other natural-scientific terminology similar morphemes are used, so that, admittedly, «the use of such terms is not a problem when a person knows the Latin and Greek languages, and nowadays even the knowledge of English is enough» (Ivanova et al., 2018).

For graduates of the classical pre-revolutionary gymnasiums many of those terms were already familiar, thanks to thorough study of ancient culture. There were also Russian and Church Slavonic languages in the curriculum of secondary classic education of the Russian gymnasiums, as well as two ancient languages (in rare cases only Latin) and one or two new foreign languages (Alyoshintsev, 1912), what gave students a good linguistic training. But modern students are inevitably faced with two problems: first, they have no basic information about the Greek language and culture; second, they are not trained in the area of theoretical linguistics, in particular – of derivation. But if the second problem they handle better, the first is rather complicated, although it is the Greek language that serves as a guide to the world of European culture, and its capabilities in this aspect should be possibly used in classes in Latin language (in the unit on clinical terminology).

4. Discussion

To reinforce the knowledge of terms of the Greek origin and expansion of the cultural horizons of students we would propose following types of tasks. First, students have the opportunity to see terminological morphemes as components of non-terminological words. This task will fix in students' memory auxiliary and basic terminological elements. E.g., while learning prefixes it is possible to offer the task to highlight them in the following words and give an explanation of the meaning of the word on the basis of prefix: *asymmetry*, *exoplanet*, *epigraph*, *parapsychology*, *metamorphosis*, *sympathy*, *hypermarket*, *euthanasia*. It is assumed that the student will match common words with terminology, which contains the same prefix: *asymmetry* – *apnoe*, *exoplanet* – *exostosis*, *epigraph* – *epithelium*, *parapsychology* – *parotitis*,

metamorphosis – metastasis, sympathy – synergia, hypermarket – hypertensio, euthanasia – eurythmia, etc. The same principle can be offered while examining base elements.

The task can be formulated differently. E.g., what is common in the following words: *chiropractic* and *chiromancy*, *demiurge* and *allergy*, etc. These sorts of activities contribute to the acknowledgment of the understanding that terminological elements can be fixed in words in their different versions (due to historical changes in the word structure).

These activities help to learn new words and to use different kinds of dictionaries, not only Latin, but also of the native language. According to our observations, the first year students do not understand in some cases the meaning of loan-words offered to them in the exercises of this type, therefore, the role of these exercises in expanding their cultural horizons cannot be overemphasized.

To understanding how the close relationship between terminology and non-terminological sphere in connection with civilizational powerful factor of influence of Greek contributes the following tasks: to explain the meaning of common words based on terminological elements and their parts. E.g.: *epilogue* (the students know the meaning of the prefix *epi-* and the basic element *-log-*; cf.: *epithelium*, *logopaedist*), *parapsychology* (from the known *para-*, *psych(o)-*, *-logia*; cf.: *parotitis*, *psychosis*, *osteologia*), *tachometer* (known *tachy-* and *-metr-*; cf.: *tachycardia*, *blood glucose meter*), etc.

Or another type of exercises in which students should exclude from the number of words the one that does not contain terminological element represented in other words. E.g., eliminate an unnecessary word from the range: *sympathy*, *synostosis*, *sinus*, *asymmetry*, *synchondrosis*. This exercise develops the ability to see the structure of the word, its internal division into its morphemes, which will not only improve terminological literacy of the student, but also his common communicative possibilities.

5. Conclusion

The analysis of the linguistic training of students of modern Russian medical universities in general (based on questionnaire data and common pedagogical observations) allows us to come to conclusion that the vast majority of them are not familiar with classical languages, in contrast to the students a century ago. The pre-revolutionary Russian classical school contributed to the formation of versatile linguistic personality, ready to accept the special scientific terminology and its reception as in professional activities and in the sphere of interpersonal communication. The modern student does not have such a competence level, so that the Latin language and medical terminology teacher must in the process of teaching reveal to the audience both directly and implicitly different aspects of the classical languages.

A particular challenge is the study of Greek terminological elements, as it is detached from the study of the Greek language. The article presents instructional techniques and practices, which are, according to the authors, optimal in these conditions for the realization of the corresponding educational component in the system of higher medical education. They allow students not only easier to learn the appropriate terminology, but significantly increase the level of their main cultural competencies in the linguistic subject.

Moreover, the developed method can be used (under the condition of variation of the lexical content) also in the implementation of educational programmes in other Humanities – because of the similarities of the situation of the linguistic knowledge of modern Russian students, and the main tasks of training of not only highly qualified specialists, but well-rounded individuals.

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References

- Alyoshintsev, I. (1912). *The history of gymnasium education in Russia* (The 18th and 19th century). SPb.: Bogdanova O. Edition.
- Chernyavskiy, M. N. (2016). *Latin language and the basics of medical terminology*. (4th ed.). Moscow: Shiko.
- Elenev, F. (1889). *About some advisable improvements in a gymnasium education*. SPb.: Public Convenience.
- Enseignement Secondaire De Jeunes Filles En Russie*. (1900). Paris: Exposition universelle, Section pédagogique russe.
- Filipczak-Nowicka, S., & Grech-Żmijewska, Z. (2010). *Lingua Latina ad usum medicinae studentium*. Warszawa: Wydawnictwo Lekarskie PZWL.
- Humboldt, W. von. (2013). *Über die Verschiedenheiten des Menschlichen Sprachbaues*. [S. l.]: Edition Holzinger.
- Ivanova, Zh. K., Kobenko, Ju. V., Kulkova, M. A., & Riabova, E. S. (2018). The comparison of complexities of the Chinese and Russian languages on the example of terminology of chemistry. *MATEC Web of Conferences*, 194, 01023.
- Kolokolnikov, V. A. (1916). *To the problem of the secondary school's reforming*. Kazan: Central typography.
- Mamardashvili, M. K., & Pyatigorskiy, A. M. (2001). *The symbol and consciousness*. SPb.: Azbuka-Attikus.

- Piatnitsky, M. (1900). *Enseignement secondaire de garçon en Russie*. Paris: Exposition universelle, Section russe, Groupe I.
- Plašilová, J., & Kozlíková, D. (2011). *Základy Latinské Lékařské Terminologie*. Praha: Karolinum.
- Saifullova, R., Krapotkina, I., Pospelova, N., & Kayumova, G. (2018). The social status of teachers and education in the Russian empire of the second half of the XIX century. *Journal of Social Studies Education Research*, 9(3), 97-108.
- Shaykhtudinova, R., Gorobets, E., Gamirova, R., & Eliseeva, N. (2018). Cognitive development in children with Prader. Willi syndrome. *Drug Invention Today*, 10(7), 1122-1124.
- Whorf, B. L. (1956). The Relation of Habitual Thought and Behavior to Language. In Caroll J.B, (ed.) *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. Cambridge: Technology Press of Massachusetts Institute of Technology.
- Wittgenstein, L. (1963). *Tractatus logico-philosophicus. Logisch-philosophische Abhandlung*. [S. l.]: Suhrkamp.
- Yermoshin, A. V., & Nikolaeva, N. G. (2016). The Secular in the Religious and the Religious in the Secular: Humanities School Education in Pre-Revolutionary Russia and Nowadays. *The European Proceedings of Social & Behavioural Sciences EpSBS, XII*, 197-202.
- Irani, Z. B., & Rezaei, T. (2018). The effects of social networking on marital relationships and couples' quality of life (Case study: Couples of social networking members in Shiraz). *UCT Journal of Social Sciences and Humanities Research*, 6(04), 72-78.
- Tejeda, S., & Dominguez, A. (2019). Influence of interactions in the collaborative solving of a velocity problem. *International Electronic Journal of Mathematics Education*, 14(1), 91-108. <https://doi.org/10.12973/iejme/3979>.