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IMPLEMENTATION CONTENT AND TECHNOLOGIES OF THE
ENGLISH-RUSSIAN DICTIONARY IN HIGHER EDUCATION

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Abstract

The article discusses the results of an interdisciplinary study of the methodological foundations of the English-Russian translation of the terms of the sphere "Higher education in Russia, the countries of the post-Soviet space and Europe", which were used by the author in the process of developing content (content) and introducing a unique online resource UNIdictionary (www.uni-dict.com) – English-Russian dictionary of terms in the sphere of "Higher education in Russia, the countries of the post-Soviet space and Europe" and its implementation. The content of the online dictionary includes 300 terminological units and combinations in English and Russian, which function within the scope of higher education in the above-mentioned territories. The article discusses universal units related to all areas of training for undergraduate, graduate, and postgraduate studies. The main attention in the work is paid to the discussion of the problems identified during the comparative-translation analysis of terms in English and Russian: 1) translation variability, in which terms in the original language may have several uncoded translation equivalents; 2) cultural marking of terminological units, which in some cases allows us to speak about the ethnospecificity of the semantics of terms and 3) the absence in some cases of coded translation equivalents. The implementation of the results of comprehensive development of the methodological foundations of the English-Russian translation of terms in the sphere of "Higher education" was carried out in a special bilingual online dictionary of the thesaurus type UNIdictionary.

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1. Introduction

As part of the intensive globalization processes of higher education, which are implemented due to such basic principles as internationalization, integration, and informatization, a university that claims to be successful is forced to transform at all levels: educational and methodological, scientific and innovative, infrastructural, financial and economic and the level of personnel policy. The degree of university integration into the global educational space is one of the main conditions for its effective work. It is important that universities strive to ensure the harmonization of educational programs (their "tuning" to each other), and not follow the path of their simple unification. The task of bringing the academic models of graduates' qualifications to the qualifications required by the modern labor market is also urgent (Dyukarev et al., 2013). The integration of the university into the world educational community is impossible without digitalization, which can significantly speed up the integration processes. In the context of this work, we understand digitalization as the introduction of digital technologies into a specific area of human activity, in our case, higher education.

Effective, transparent interaction of institutions of higher education from different countries is impossible without the development, systematization, and approval of the terminological apparatus functioning within the sphere of "Higher education" in the intermediary language – English.

A review of bilingual dictionaries (in two formats – print and digital), conducted by the author of the article, showed that none of them includes systematized data on the terms of higher education in Russia, the countries of the post-Soviet space, and the European Union. The author revealed that, for example, in the Cambridge Learners Dictionary, Oxford Advanced Learner's Dictionary, Multitran, AbbyLingvoLive, information about the named terminological units is presented, but it is fragmentary. As for the English-Russian dictionaries, reference books, and grammars, the researcher observed only one source in which the terms of interest to us are codified – this is the "English-Russian Dictionary of Higher Education Terms. Using the example of higher education in the United States" (Budykina, 2017), this dictionary presents the results of a comparative and translation analysis and systematization of the "English-language terminology of general education, higher education (using the example of the American higher education system), as well as university terms such as residence in a hostel, funding for training, etc." (Budykina, 2017). Also, the author of the dictionary focuses only on those terms that function in the United States, while the focus of our attention is on the terms of Russian, post-Soviet, and European higher education.

Thus, we must admit that until now there was no systematized lexicographic source of thesaurus type containing the terms of the sphere "Higher education in Russia, the countries of the post-Soviet space and Europe" in English and Russian. This fact significantly hampered the work of translators, administrative and managerial personnel of universities involved in the process of integrating universities into the global academic space, complicating the activities of teachers, students, and graduate students who are interested in academic mobility, comparability of diplomas, and employment in different countries of the world. The absence of such a source also indicates that this work presents for the first time the results of a comprehensive study devoted to the analysis and implementation of the methodological foundations of the English-Russian translation of terms in the sphere of "Higher

education in Russia, the countries of the post-Soviet space and Europe." The foregoing determines the theoretical and practical novelty of the research, the results of which are reported in the article.

2. Problem Statement

This paper discusses the results of the development and implementation of the content (content) of the unique intellectual online resource UNIdictionary (www.uni-dict.com) – the English-Russian online dictionary of terms in the sphere of "Higher education in Russia, the countries of the post-Soviet space and Europe" (hereinafter – terms). Universal terms that are used in all subject areas of knowledge, educational areas. Besides, these terms are used in the educational, methodological, scientific, and innovative work of each university operating in the global educational space. Let us call such linguistic units meta-terms (hereinafter – terms) (Lukmanova & Belova, 2020). The author focuses on the methodology of their English-Russian translation. The following problems are on the agenda, the solution of which makes it possible to achieve the adequacy of the translation of terms:

1. Lack of codified translation equivalents in some cases. Moreover, gaps are found both in cases of translation of units from Russian into English, and vice versa, from English into Russian. Here are some examples: the search for an equivalent of the terminological combination of the Interactive Intelligent Environment (IIE) in the reference literature in English did not give any result. Besides, there were no examples of the use of this unit in English-language texts. In this regard, the authors added their version of the translation and definition to the dictionary:

Interactive intellectual environment – is a subject and technological area providing dynamic and effective intellectual development of a personality, self-development, and activity of all educational process participants.

2. Translation variability. Many higher school terms (84 %) that are in our field of vision are neologisms in both English and Russian; they name the phenomena and objects of the new reality of higher education, which was formed in the context of globalization. Terms in the original language can have several uncoded translation equivalents, for example, it was found that the term targeted learning, which is traditional in the Russian language picture of the world, is translated into English in two ways: contract education (tracing) or education at the expense of the organization (descriptive translation). In our opinion, to achieve the adequacy of the translation, only the combination education at the expense of the organization should be used, since only in this case there is no so-called substitution of concepts: contract education is often interpreted as 'education at the expense of individuals, under an agreement (contract) on training, and if we are talking about targeted training, then we mean an agreement (contract) that must be concluded between the university and the organization through which the student receives higher education in this institution.

3. Cultural marking of terminological units. In the science of language, it is believed that terms are universal linguistic units, however, in practice, their cultural marking is found, and therefore uniqueness: it turns out that there are terminological units that are used by carriers of specific linguistic cultures and are understandable only to them. Thus, in several cases, it is impossible to speak about the adequacy of the translation if it is not accompanied by a commentary (in our case, a definition of the term is proposed). "Commenting in English, for example, should be used when translating the term student

Olympiad from Russian into English, since the phenomenon referred to by this terminological unit is typical only for the Soviet and post-Soviet spaces, and the meaning that the word Olympiad has in the educational context in modern Russia, the bearer of a different (Anglo-Saxon) linguoculture is not familiar with it.

3. Research Questions

During the study, the results of which are reported in the article, the authors solved the following scientific problems:

- Carry out a selection, systematization of terminological units of the English and Russian languages functioning within the framework of the sphere "Higher education in Russia, the countries of the post-Soviet space and Europe" (hereinafter – terms, terminological units of the sphere of "Higher education") and compile their card index (300 vocabulary articles).
- To carry out a comparative and translation analysis of the terms of the English and Russian languages, functioning within the scope of "Higher education" at the lexical-grammatical, word-formation, and semantic levels to identify the problems of translation of these linguistic units.

To establish the universal and ethnospecific features of the semantics of terminological units in the sphere of "Higher education" of the English and Russian languages, which determine the possibility/impossibility of achieving the adequacy of their two-way translation, – from the total number of terms (300), identify those of them that should be considered culturally marked.

4. Purpose of the Study

The purpose of the study is to comprehensively develop the methodological foundations of the English-Russian translation of terms in the sphere of "Higher education" and to introduce the results of this analysis into a special bilingual online dictionary of the thesaurus type UNIdictionary.

5. Research Methods

As part of the research work, it is proposed to use an interdisciplinary (integrative) approach to the development of the methodological foundations of the English-Russian translation of the terms in the sphere of "Higher education" and the implementation of the results of this research in a special bilingual online dictionary of the thesaurus type UNIdictionary. Of fundamental importance is the fact that the work implements two types of interdisciplinarity: interdisciplinarity and multidisciplinary (Fedorova, 2020).

Interdisciplinarity is realized since as a result of this study, new knowledge is formed, common to comparative linguistics (theory and practice of translation) and cultural linguistics. In this case, it should be said that the research was carried out at the intersection of these scientific disciplines.

Multidisciplinary quite clearly manifests itself in the mechanical addition of scientific achievements of two disciplines – linguistics and computational mathematics – and makes it possible to introduce the results of the development of the methodological foundations of the English-Russian

translation of the terms of the sphere of "Higher education" in a special online dictionary of the thesaurus type UNIdictionary (www.uni-dict.com).

Various research methods were involved in scientific work at different stages: 1) the method of continuous sampling of terminological units and combinations, 2) pre-translation analysis, 3) comparative-translation analysis.

6. Findings

The central concept in this work is the term. The question of its content and functioning remains unresolved both in Russian and foreign linguistics. So, Superanskaya et al. (2019), who consider the term as a unit of special vocabulary, give the following definition.

A term is a special word (or phrase) adopted in professional activities and used in special conditions. A term is a verbal designation of a concept that is part of the concept system of a certain area of professional knowledge. Within its terminological field, a term is always unambiguous. For its correct understanding, the term requires a special definition (precise scientific definition). (p. 62)

In foreign linguistics, only the name "term" is used, which has acquired other meanings in the English language, and in the meaning that interests us, the combination of the words technical term is often used. In this case, we are talking about special units that fill industry terminology systems (technical, legal, economic, financial, commercial, medical, pharmaceutical) (Sokolov, 2020).

In this work, the definition of the term proposed by Leichik is used as the main one. Note that in the study "term", "terminological unit", the terminological combination is defined as synonyms. The author recommends understanding the term "lexical unit of a certain language for special purposes" (Golovina & Shcherbakova, 2017). According to Grinev-Grinevich, the signs of the term should be considered: 1) belonging to a special field of knowledge; 2) accuracy; 3) relative independence from context; 4) stylistic neutrality, 5) uniqueness; 6) nominative character. Analytical work aimed at interpretation (defining the definition of a term and identifying compatibility – selection of examples of the use of a terminological unit in English and Russian-language texts) and translation of terms in the sphere of "Higher education", showed that "the term, as a special unit of language, has universality and uniqueness, however, it is not absolute, but the relative unambiguity and accuracy of the term, especially when it comes to those linguistic units that name new phenomena and objects, and therefore are neologisms both in the original language and in the target language. It is important for us that this relativity leads to the appearance of variants of the English-Russian translation of the terms in the sphere of "Higher education". Thus, the correct interpretation and translation of the term make it possible to approach that very absoluteness" (Lukmanova, 2020). In the course of work on the content (content) of the English-Russian dictionary of terms in the sphere of "Higher education in Russia, the countries of the post-Soviet space and Europe" by the method of continuous sampling from the texts (300 units) of authoritative scientific and scientific-methodical works devoted to the problems of higher education, it was withdrawn 300 terms in English and Russian, respectively, the dictionary includes 300 articles,

arranged according to the following scheme: 1. The name of the term in the original language – English. 2. Definition of the term in English. 3. An example of the use of the term in the English-speaking context. 4. The name of the term in the translated language is Russian. 5. Definition of the term in Russian. 6. An example of the use of the term in the Russian-language context. Let's look at an example of a dictionary entry.

Academic mobility

Academic mobility refers to students and teachers in higher education moving to another institution inside or outside of their own country to study or teach for a limited time. The Bologna process regulates academic mobility within the European higher education area.

- *The impact of transnational academic mobility on the internationalization of universities and interculturality in HE needs to be interrogated more specifically, e.g. in terms of: (1) the quality of research; broadening of the intellectual tradition and pedagogic discourse; (2) the introduction of new styles of scholarship to the UK; (3) disciplinary differences and interdisciplinary knowledge; and (4) the influence of senior manager-academics from abroad (UK national or not) (Artamonova & Demchuk, 2012).*

Academic mobility is the movement of students and teachers of higher education institutions to other educational institutions within or outside their country for study or teaching for a certain period.

- *What is new is rather the transition to academic mobility as a mandatory component of the educational process, i.e. the development of mass academic mobility. The latter presupposes serious changes in the work of the university – from new organizational requirements (for example, the implementation of joint educational programs or assistance in finding financial resources for the implementation of individual academic mobility) to a change in the regulatory and methodological base (for example, the practice of recounting periods of study passed in other universities) (Artamonova & Demchuk, 2012).*

Let us describe the procedure of comparative-translation analysis, which was subjected to the terms of the sphere of "Higher education" in the framework of our research.

Firstly, a pre-translation analysis of the original units was carried out. Extra-linguistic factors have been identified that affect the choice of the method of translating a terminological unit from one language to another. Secondly, correspondences/equivalents of the names of terms in the translating language were found. Thirdly, the versions of the translation of terms are presented (those cases when translation matches/equivalents are not recorded in the reference literature). Fourthly, the article presents the main features of the English-Russian translation of terms in the sphere of "Higher education"

The problem of an adequate English-Russian translation of a terminological unit is directly related to the choice of a translation method from several available ones: 1) transliteration, 2) the choice of an equivalent correspondence, 3) semantic / word-formation tracing, 4) descriptive translation. We especially note that in a few cases it is impossible to speak about the adequacy of the translation of a terminological unit if it is not accompanied by a commentary. Of the 300 terms we analyzed, 78 were commented on (26% of the total number of original units). The frequency of commenting on the terms in the sphere of higher education is because in most cases they are neologisms both in the original language and in the target language, and therefore they should be considered non-equivalent units since these terms

have not yet formed a certain category in the conceptual and terminological system of the target language., i.e. have not yet become in the Russian language such units that have absolute accuracy and uniqueness, but it is on the way.

According to our observations, the terms of the "Higher School" sphere of the English language in most cases are translated into Russian using 1) transliteration: *mobility, modernization, credit*. This method of translation is used to transfer a term from one language to another more often than other methods, which is associated with the same lack of equivalence, which was discussed above. In this case, we are talking about international units that make up the core of the term "Higher Education"; 2) word-formation tracing: *student-centered learning, m-learning (mobile learning); semantic tracing: (lifelong learning, soft skills)*; 3) descriptive translation – *access arrangements* – preparatory activities before passing the exam, *access course* – preparatory courses for adults. The terms of the English language are transferred into the Russian language using 1) equivalent correspondence, for example, *learning; education; academic advising / scientific advising* (in this case, there are two translation options); 2) descriptive (*targeted training* – education at the expense of the organization, *written test* – written achievement test); 2) semantic tracing (*senior tutor*), derivational tracing (*intermediate assessment*); 3) by tracing, the term *bachelor*.

The analysis showed that in those cases when a translator works with a neologism term, the phenomenon of translation variability arises. For example, in cases with case studies, *soft skills, hard skills* (). The variability is due to extralinguistic factors. For example, in the Russian-language literature, the term soft skills correspond to terminological combinations of *soft skills, flexible skills, over-professional skills, soft skills*. In this case, we must talk about the presence of four translation doublets. We assume that such duplication is a temporary linguistic phenomenon, and the Russian-speaking community will eventually stop using some duplicate units. Let us take another example. A case study can be translated into Russian through transliteration (*case study*) or descriptively (*situational analysis method, case study method*). We think that in this case, when choosing a translation method, it is necessary to consider the style of the context: it is preferable to use descriptive translation in official and scientific texts, while transliteration is preferable in texts of other styles. Also, in Russian texts, a case study often retains its graphical appearance, i.e., presented as a *case study*. In this case, a question arises regarding the spelling norm of the target language: which spelling to choose. The fact is, in the texts of different styles you can find all the listed graphic variants of the word, we believe that the relative equality of these options is due to the language fashion and, of course, the fact that none of the units is codified in Russian-language literature.

The term *hard skills* is translated as professional skills (semantic tracing), as *hard skills / (tracing)*. In the reference literature in English, we find the following definition of the term *hard skills* – these are the basic skills of professional activity. It is noteworthy that such terminological units as a *case study, soft skills, hard skills* are neologisms both in the original language and in the target language and are often transferred from English to Russian in finished form – using English graphics (Lukmanova & Belova, 2020)

Let us consider the unit sending *higher education institution (SHEI)* (in charge of selecting students/staff to send abroad or to manage incoming students and staff from partner countries, as well as

invited staff from enterprises). It discovers two transferable equivalents – *sending institution* (*home institution, sending organization*). The presence of several translation options, undoubtedly, on the one hand, can negatively affect the act of interlanguage mediation, and on the other hand, on the contrary, there is a synonymy of terms in the target language – Russian, which makes it possible for its bearer to avoid lexical repetitions, which has a positive effect on the level of the speaker's speech culture.

Note that most of the terms we have considered (for example, a *module-rating system of assessment, professional practice, soft skills, academic advisor, associate professor*, etc.) are international (universal), but there are cases when we should talk about the so-called cultural marking terminological units. For example, a *student Olympiad* is ethnospecific: the phenomenon that is called this linguistic unit is typical only for the Soviet and post-Soviet spaces, and the meaning that the word *Olympiad* has in the educational context in modern Russia is not familiar; therefore, the transfer of this language unit from Russian to English must be accompanied by a commentary.

The implementation of the results of a comprehensive development of the methodological foundations of the English-Russian translation of terms in the sphere of "Higher Education" was carried out in a special bilingual online dictionary of the thesaurus type UNIdictionary (hereinafter referred to as the online dictionary).

The first stage of implementation at the technological level is design: the choice of a database and a description of its models, the logic of the application. The complexity of project support depends on the chosen architecture, so it was decided to apply the most efficient way to develop web applications, one of which is "REST (Representational State Transfer) – an architectural style of the interaction of distributed application components in the network. REST is a consistent set of constraints to consider when designing a distributed hypermedia system. In certain cases (search engines, databases), this leads to increased performance and simplified client-server architecture". The tasks of the author of the article included the implementation of the server part of the web application (online dictionary), that is, the part that is responsible for receiving, processing, storing, and sending information. Next, the database was selected. This is the MongoDB non-relational (NoSQL) database due to its flexibility and scalability. Within the framework of this database, the data may not be structured: adding a new stored translation language does not break the table logic. The web application is written in the general-purpose programming language Python using the Flask web framework. The advantages of these tools should be considered their ease of use, lightness, and modularity of the latter. Besides, the authors have written documentation for easy maintenance of the code. It is a Swagger specification available as one of the application endpoints. For convenient deployment of the web application, it was decided to containerize the application and all dependent elements. For these purposes, Docker was used – software for automating the deployment and management of applications in environments with support for containerization. Thus, there are three containers: a flask application, a database, and a web server. All of them are conveniently packaged and ready for deployment on any server with one command (Lukmanova, 2020)

7. Conclusion

During a comparative analysis of terms in English and Russian, serving higher education in the framework of the global educational space, a few main problems and features of translation were identified. So, in the context of our research, the thesis that the term is characterized not by absolute, but only by relative unambiguity and accuracy, became important, especially when it comes to those linguistic units that name new phenomena and objects and therefore are neologisms in English and Russian languages. This relativity in some cases leads to translation variability. The translator can choose a foreign language equivalent from several possible ones. In some cases, there may more than two equivalents. In most such cases, when choosing an equivalent for the translator, it is necessary to consider the style of the text in which the term functions.

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