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**ON FUTURE ENGINEERS’ COMMUNICATIVE CAPABILITY  
EXTENSION THROUGH TRAINING SECONDARY TEXTS  
CREATION**

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***Abstract***

The article discusses the importance and necessity of owning a foreign language in order to increase the professional awareness and expand the communicative capabilities of a specialist as a result of the growing information exchange in the context of globalization and integration in various spheres of human activity. In the new educational paradigm foreign languages are taught in the light of a competence approach. The goal of teaching foreign languages as itself and in a technical University particularly is the formation of communicative competence, the peculiarity of which is not the actual accumulation of academic knowledge, but the study of professional vocabulary, searching and processing scientific information, the implementation of communication on professional topics, that is, implementation of broad professional activities. Communicative orientation of teaching the students of Kapan branch of the NPUA Russian is due to the exploitation of the mining enterprises of the Syunik region by Russian mining companies and the role of Russian for communication at mining enterprises in the region. Teaching the creation of secondary texts pursues an educational goal, which consists of carrying out analytical and synthetic processing of information and presenting the material in a structurally transformed form. Thus, creating a secondary text acts as a means of communicative competence formation. The ability to create secondary text facilitates the constructing of literate and logically constructed speech not only in a foreign language but also in the native language, the formation of communicative and linguistic competence, the development of critical thinking.

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**Keywords:** Communicative competence, secondary text, information compression.



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## **1. Introduction**

The revision of the targets in training competent specialists becomes necessary taking into account modern social needs and requirements for professional activities. The tasks and content of the training process are not only to assimilate academic knowledge, but also to create conditions for further successful activities in various spheres of public practice.

In connection with the ongoing scientific and technological development and the availability of various information sources on the latest achievements in various fields of science and technology, information exchange is growing and becomes the goal of intercultural scientific communication which is a natural and necessary process.

Knowledge of a foreign language increases professional awareness and expands the communicative capabilities of a specialist, since he or she has to work with a huge amount of information from various information sources, not only in the native language, but also in foreign languages.

Thus, within the framework of the modern educational paradigm, the orientation towards teaching students a foreign language is dictated by the main task, which is the ability of future specialists to use professional literature in a foreign language, to build their own professional speech in a foreign language and, what is very importantly, to acquire the necessary skills of intercultural communication.

## **2. Problem Statement**

The problem of the communicative orientation of teaching the students of Kapan branch of NPUA Russian in obtaining technical education is due to the growing importance of foreign languages in the modern world, caused by the processes of globalization and integration, and the role of the Russian language for communication at mining enterprises in Syunik region. Due to the objective reason, that is the exploitation of mining companies of the Syunik region by Russian mining companies (Polymetal, GeoProMining), a future miner in our region must be able to implement professional activities with the help of the Russian language. Thus, the need to develop the abilities of graduates of Kapan branch of NPUA to use Russian in the future professional activity makes the formation of a foreign communicative competence relevant. The successful formation of a foreign communicative competence in the educational process, along with mastering of the profiling disciplines, is objectively regarded as the pledge of students' further successful professional career and enables the access to the international professional arena.

## **3. Research Questions**

The change in the educational paradigm, of course, involves the rethinking of existing values, goals, content and methods of teaching and the development of new ones. Communication in the new educational paradigm becomes the most important characteristic of the process of teaching a foreign languages, emphasizing the continuity of the activity approach, "... because ...users and language learners are considered ... to be members of the society, solving tasks (not necessarily related to language) under certain conditions, in a particular situation, in a certain field of activity. Speech activity is carried out in a broader

social context, which determines the true meaning of the utterance "(Common European competencies in foreign language skills: Study, training, assessment, 2003, p. 8).

The peculiarity of the formation of a foreign communicative competence in a non-linguistic university, therefore, lies in the fact that its goal is not the proper study of a foreign language, but the study of professional vocabulary, the search and processing of scientific information on the specialty, communication on professional topics, i.e. preparation of a specialist for the implementation of broad professional activities.

#### **4. Purpose of the Study**

The educational purpose of teaching the discipline "The Russian language" at the mining faculty, which is a part of the general education block and is studied in our University in the first and second courses, is to improve the oral and written forms of communication in Russian in further professional activity and the ability to use special literature written in this language (The curriculum on the specialty "Mining and Minerals Extraction", approved by the Scientific Council of the NPUA on September 16, 2016). Teaching the discipline supposes the use of Russian as a means for solving problems of a professional nature, as well as a means for replenishing professional knowledge and improving skills by acquiring information about domestic and foreign experience in the development of mineral deposits and management of the enterprise in the mining and metallurgical industries. Thus, the high level of a specialist's professionalism is determined not only by the availability of accumulated certain amount of knowledge and skills, but by his readiness to perform the functions of a specialist in a particular field of professional activity in the conditions of severe competition in the labor market.

Thus, the professional sphere, in which the professional characteristics of the graduates in the specialty "Mining and Minerals Extraction" must be manifested, combines such activities as:

- analysis of mining and geological conditions of mineral deposits, qualitative and technological properties of ore raw materials;
- calculation of technical and technological parameters and indices of mineral deposits exploration and enrichment of ore raw materials;
- drawing up of technical documentation for prospecting projects on exploration of mineral resources and objects of industrial development, reports on the work for calculations;
- use of modern software and computing devices for computer modeling of mineral deposits and the design of exploration and operation;
- a study of the specialty and continuous professional development;
- cooperation with colleagues, the implementation of effective communication and full participation in teamwork. These main professional activities for future miners are included in the Curriculum for the specialty "Mining and Minerals Extraction", approved by the Scientific Council of the NPUA (2016).

## 5. Research Methods

Formation of the given skills is carried out on the basis of a work with special scientific and technical literature while studying a foreign language at the University. Recently, *the secondary texts*, as they appear in the scientific literature, attract the researchers' attention for educational purposes. Such great interest is due, first of all, to the main task of modern education, that is to orient in the continuously increasing information flow, to perform analytical and synthetic processing of information and to present the material in a structurally transformed form. Such an activity requires a creative approach, since the analytical aspect of working with the primary text presupposes the allocation of the most valuable information and the exclusion of the secondary one, which is possible when mental activity (comparison, abstraction, generalization, particularization) is being carried out. The synthetic side provides a logical generalization of the information extracted by the analysis of the primary text. Thus, the actual understanding of the content of the primary text, albeit a full-fledged one, is clearly insufficient in modern conditions of learning a foreign language. It is necessary at the same time to develop the ability to formulate the content of the primary text logically sequentially and laconically, creating in this way a secondary text, which, in fact, acts as a means of processing and transferring the primary information in a rethought form, and, ultimately, as a means of future specialists' communicative competence formation.

As studies show, the students' skills of systemic and logical presentation of the primary text content is sufficiently weakened due to the wide interest in the testing form of the control over the dynamics of the knowledge formation. Thus, the work on the formation of skills in creating a secondary text is relevant and very necessary in the process of teaching a foreign language. However, we are deeply convinced that for our students the development of skills for creating a secondary text is extremely important not only for studying Russian as a foreign language, but as an important tool for disclosing intellectual abilities, literate and logically constructed professional speech by means of the native language. It is obvious, that the work with a text material is not easy for a student who studies at the University in native language. Learning the creation of secondary texts is directly related to the teaching of reading. When teaching a foreign language, the main attention is paid to viewing, searching and introductory reading. The depth and adequacy of understanding the text material is obtained "when a person starts to see a cultural layer under the text, as well as a communicative situation, the most important parameters of which are the sender and the recipient" (Kornienko, 1996, p. 75). Successful reading and deep penetration into the meaning of the proposed text material is greatly facilitated by knowing the subject of the speech. Therefore, when choosing a text as a teaching material for an audience in a technical University, it is important to take into account the links between special disciplines and a studied foreign language. The knowledge gained in the classes on special disciplines is a reliable basis for increasing the level of reading proficiency as a type of speech activity and the level of communicative competence of the reader.

To achieve educational goals, it is necessary, first, to identify the main difficulties in reading the primary text, associated with the underdeveloped ability of students to perceive information contained in the text material in a foreign language consciously. As practice shows, the difficulties can be caused by misunderstanding the words (terms), unusual meanings of lexical units, as well as grammatical means and syntactic constructions. Taking into account the specifics of the graduates' future professional activity, special attention should also be paid to the linguistic features of the scientific style in direct connection with

the extra-linguistic features of this functional style, since "the concept of "text" refers to the concept of "language" through a functional style" (Odintsov, 1980, p. 51). Thus, the formation of students' ability to create secondary texts based on the primary text and the development of communicative competence in teaching a foreign language in a technical University will be successful when a phased organization of the learning process is presented, starting with teaching the basic language and ending with teaching the language of the specialty applying the proper system of tasks and exercises. The system of tasks and exercises offered for analytical and synthetic processing of the information contained in the primary text in order to create a structurally new text can include:

### **1. Tasks for implementation of semantic transformations.**

The tasks proposed for making equivalent substitutions are advisable to offer in comparison with the texts that are identical in content but are transmitted under different conditions of expression, which is a very effective means of showing the stylistic specificity and uniqueness of the linguistic features and functional purpose of the scientific literature. Let's consider some examples of mistakes made while doing semantic transformation, which are caused by ignoring the belonging of lexical units to this or that functional style or genre within a given functional style:

*Waste – junk, trash*

*Component (constituent) – ingredient*

*To extract a mineral – to take out (a mineral)*

*Deposit opening – discovery of the deposit*

*The magnitude of the rock pressure – the size of the rock pressure*

### **2. Compression of information at the syntactic level. For example:**

**- transmit the information contained in the paragraph of the primary text in one sentence.**

#### **Example of a paragraph from the primary text:**

*A young science - geotechnology arose on the basis of mining, metallurgy, chemistry, geology and microbiology. It is engaged in the study of non-mine ways of solid minerals extraction. Geotechnological methods of development are based on the changing the aggregate state of minerals directly at their locations. Solid minerals are transferred to the liquid and gaseous state deep in the ground, so that they can be pumped to the surface by the wells (Margaryan, 2016, p. 82).*

#### **While converting the primary text, we can get the following secondary text:**

*Geotechnology as a science arisen on the basis of mining, metallurgy, chemistry, geology and microbiology is engaged in a non-mine method of extracting solid minerals by changing their aggregate state directly in the places of occurrence.*

**- summarize the information contained in several sentences in the primary text in one sentence.**

**Primary text:**

*Among the minerals that are extracted from the earth's bowels, coal takes the first place. Every year, 2.5 billion tons of coal is mined. In recent years, the importance of coal as a raw material for the chemical industry has been increasing more and more (Margaryan, 2016, p. 77).*

**Secondary text:**

*Coal as the most important raw material for the chemical industry ranks first among minerals by the volume of its annual extraction.*

**3. Converting the text by reducing lexical repetitions.**

**4. Converting the text to generalized thoughts.**

**5. Converting information in the primary text to a brief formulation of the main topic, which develops the ability to abstract the primary text material.**

**6. Determine the number of facts presented in the primary text.**

**Example of a primary text:**

*Khibinsky deposits of apatite-nepheline ores of the Kola Peninsula are the main raw material base of the superphosphate industry of Russia, which is explained by their large reserves, enrichment and the possibility of using apatite concentrate for the production of all types of phosphorus fertilizers. The composition of these minerals includes more than twenty chemical elements, the most important of which are phosphorus, aluminum, sodium, potassium, titanium, iron, fluorine, etc. The presence of the above mentioned minerals and the elements, contained in them, indicates that apatite-nepheline ores of Khibinsky deposit are a potential source of raw materials for the chemical and construction industries, non-ferrous and ferrous metallurgy. Presently, up to twenty-five types of commodity products can be produced from the concentrates obtained from apatite-nepheline raw materials after chemical processing: from apatite concentrate - phosphorus, building materials, fluorine; from nepheline - aluminum, cement and building materials, soda, fertilizers; from sphe - titanium, enamel (Margaryan, 2016, p. 85).*

**The following facts can be singled out based on the information contained in the primary text:**

- *Khibinsky deposits of apatite-nepheline ores are located on the Kola Peninsula;*
- *Khibinsky deposits are rich in stocks of apatite concentrate;*
- *Khibinsky deposits of apatite-nepheline ores are the raw material base of Russia's superphosphate industry;*
- *the composition of apatite-nepheline ores includes phosphorus, aluminum, sodium, potassium, titanium, iron, fluorine, etc.*
- *apatite-nepheline ores are a source of raw materials for the chemical and construction industries, non-ferrous and ferrous metallurgy;*
- *phosphorus fertilizers, building materials, fluorine are produced from apatite concentrate;*

- aluminum, cement and building materials, soda, fertilizers are produced from nepheline concentrate;
- titanium, enamel are produced from spheu concentrate.

**These facts can easily be transformed into a secondary text:**

*Khibinsky deposits of apatite-nepheline ores are located on the Kola Peninsula. The deposits are rich in stocks of apatite concentrate and are the raw material base of Russia's superphosphate industry. Apatite-nepheline ores are a source of raw materials for the chemical and construction industries, non-ferrous and ferrous metallurgy. Phosphoric fertilizers, building materials, fluorine are produced from the apatite concentrate. Aluminum, cement and construction materials, soda, fertilizers are produced from the nepheline concentrate. Titanium, enamel are produced from the spheu concentrate.*

**7. Find the main and explanatory information in each paragraph of the text.**

**8. Leave out all the introductory sentences in the paragraph (opening words, subordinate clauses in the sentence)**

**9. Select the keywords in the text (paragraph)**

**10. Make a logical plan for the text, etc.**

## **6. Findings**

1. Knowledge of a foreign language increases professional awareness and expands a specialist's communicative capabilities.
2. The relevance of studying Russian in Syunik is due to the exploitation of mining enterprises of the region by Russian companies.
3. Communication in the new educational paradigm becomes the most important characteristic of the foreign languages learning process.
4. Secondary texts act as means of processing the primary information and transferring it in a rethought form, and, ultimately, a means of forming the communicative competence of future specialists.

## **7. Conclusion**

The ability to shorten the text without distorting its content and create a secondary text contributes to the formation of communicative and linguistic competence, the development of critical thinking, characterized by logic, generalization and abstractness.

To our opinion, any competent engineer in modern life must possess these qualities.

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