

## FEATURES OF THE TRILINGUAL DICTIONARY COMPILING FOR CONTENT-SUBJECT EDUCATION IN THE NATURAL SCIENCES

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**Abstract:** This article defines the relevance of specialists in the natural sciences, who know the English language. To prepare the pedagogical staff of the natural-science direction in foreign-language education, it is necessary to prepare learning materials, to select the necessary content on the subject, to make a selection of special vocabulary, terminology, and to determine the metalanguage. To solve this problem, it is necessary to create glossaries or dictionaries for each discipline that is part of the cycle of natural science disciplines. The article describes the experience of compiling a trilingual electronic school dictionary on chemistry for content-subject education in the natural sciences.

The need to train a qualified specialist is one of the main goals of professional higher education. One of the most important competencies in the formation of a specialist in the natural-science direction in foreign-language education is metalanguage competence. Metalanguage competence involves the accumulation of terminological knowledge and the ability to use correctly a foreign language term.

**Keywords:** trilingual dictionary, metalanguage competence, multilingualism, multilingual education, subjects of the natural science cycle, metalanguage

### **Introduction**

At the present stage, social and political and economic transformations in the Kazakh society serve as a stimulus for the modernization of the system of national education. Education plays an important role in all spheres of human society – social and cultural, economic, legal and economic

development of society. Currently, in the era of integration and globalization in all spheres of life, education is faced with the task of forming a person who is ready to communicate at the international level. The accession of Kazakhstan to the Bologna Process and the entry of our country into the world educational space require from modern

education the improvement of the professionalism of future teachers of foreign languages.

The profession of a teacher of a foreign language acquires a new position and becomes the most in demand nowadays. A modern professional specialist should have a certain level of a foreign language, but nowadays for a wide range of specialists only knowledge of a foreign language is not enough, it is necessary to expand the level of foreign language skills to the formation of the ability to professional communication in a multicultural world.

### **Theoretical background**

Education is recognized as one of the most important priorities of the long-term Strategy "Kazakhstan - 2030". The overall goal of educational reforms in Kazakhstan is the adaptation of the education system to a new social and economic environment. The President of the Republic of Kazakhstan N. Nazarbayev also set the task of joining the Republic in the number of the 50 most competitive countries in the world. Improving the education system plays an important role in achieving this goal. International experience confirms that investments in human capital, and in particular in education, from early childhood to adulthood, contribute to significant returns for the economy and society.

To improve and modernize the system of domestic education, significant changes are needed:

- accelerating the pace of development of society, expanding the opportunities for political and social choice, which causes the need to improve the level of citizens' readiness for such choice;

- transition to a postindustrial, information society;

- a significant expansion of the scope of intercultural interaction, in this connection, the factors of communicability and tolerance acquire special importance;

- the growth of global problems that can be solved only as a result of cooperation within the international community, which requires the formation of modern thinking in the younger generation;

- the dynamic development of the economy, increased competition, a reduction in the scope of unskilled and low-skilled labor;

- deep structural changes in the sphere of employment, which determine the constant need for professional development and retraining of workers, and the growth of their professional mobility.

An indispensable condition for strengthening and expanding Kazakhstan's cooperation in the world arena is the problem of integration into the world educational space. The most important instructions of the Head of State N.A. Nazarbayev and measures taken by the Government, the Ministry of Education and Science of the Republic of Kazakhstan are oriented to solve this problem. So, the sphere of higher

education is a top priority for the country's current economic development, since it is the quality of higher education that predetermines the country's long-term competitiveness in the context of globalization [1]. In order to solve all the tasks set before education, it is necessary to raise appropriate professional personnel capable of competing at the international level.

The State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 states that the English language should be studied not only as a foreign language, but also used as a language for instruction at all levels of education [2]. This task requires special attention, since English is not used in everyday communication, in comparison with Kazakh and Russian languages.

Bearing in mind the trilingual education in our country, one can also talk about multilingualism. Multilingualism has become an important direction of human development; the question of the development of a multilingual personality that can effectively communicate in several languages is becoming topical. In many countries, people speak and can communicate in several languages. For example, in the Russian Federation, the issue of bilingual education is also relevant. Any civilized state considers the formation of bilingualism and multilingualism to be a prerequisite for normal functioning.

Thus, it can be noted that the need to change the approach to the preparation of future teachers of foreign languages is an actual problem for today.

Proceeding from the above, it can also be noted that the formation of a multicultural specialist, on the one hand, is a state order, since our country needs qualified specialists capable of communicating at the international level. On the other hand, it is also a social order, since there is a need for society in such specialists.

The President of the Republic of Kazakhstan N. Nazarbayev in his annual Address to the people of Kazakhstan emphasizes the relevance of multilingual education, since "one of the most important values and the main advantage of our country are multinationalism and multilingualism" [3]. The program of multilingual education provides for the creation of a new model of education that fosters the formation of a generation that is competitive in the globalization context and who knows the language culture. The knowledge of Kazakh, English and Russian languages will allow the young generation to enter the world markets, to approach the world science and new technologies. Moreover, the introduction of a new model of education in higher education begins this year: the standards of education are being reformed; special departments are opening in universities, where teaching is conducted in three languages.

The program of multilingual education, introduced in Kazakhstan, is unique and involves parallel and simultaneous training in three languages.

Trilingual education is being introduced in Kazakhstan, and in connection with this there is a problem of shortage of pedagogical cadres of the natural science cycle, which are supposed to teach this cycle in English. The program "Roadmap for the development of trilingual education for 2015-2020 years" was developed in our country, according to which the subjects of the natural science cycle are expected to be taught in English, such school subjects as "Informatics", "Physics", "Biology" and "Chemistry" [4].

In accordance with the State Educational Standard of Education in the Republic of Kazakhstan, subjects of the natural science cycle and a foreign language are compulsory for secondary education. At the senior level (grades 9-11), students have already received certain knowledge on the mentioned subjects.

Moreover, most students already have ideas and inclinations to their future profession. In their native language, students acquire the necessary knowledge and can identify them, they form a "primary cognitive consciousness", "primary cognitive knowledge (constructs)." On the basis of their native language, they identify the knowledge gained in English, the students have a reconceptualization of the knowledge

block, and consequently, "secondary cognitive consciousness" and "secondary cognitive knowledge (constructs)" are formed [5, p. 15].

Nobody denies the fact that by studying a certain discipline, first of all, it is necessary to master the terminology of this subject, to master the metalanguage of this discipline.

Metalanguage is defined as "language by means of which the properties of a language, called objective, or object, are explored and described" in the philosophical encyclopedia. "For example, when we begin to learn a foreign language, get acquainted with its vocabulary, its grammatical structure, system of times, etc., we use to describe the properties of this language, which is not yet known to us, with its native language, which in this case appears as a metalanguage "[6].

In the financial dictionary metalanguage is defined as "a language by means of which the properties of some other, objective (objective) language are described and explored" [7].

Part of metalanguage is the terminology that is inherent in any subject; in this article we are talking about natural sciences.

In a linguistic encyclopedic dictionary, terminology is defined as "the totality of words and phrases used in linguistics for expressing special concepts and for naming the typical objects of a given scientific field.

Being an integral part of the metalanguage, the terminology is particularly difficult to learn because the object language and metalanguage completely coincide in terms of expression, outwardly they are the same language. Any terminology includes:

a) proper terms, that is, words that are either not used at all in the object language, or acquire a special meaning, being borrowed from the object language;

b) original combinations of words and their equivalents, leading to the formation of composite terms that are part of the terminology on the same rights with whole-unit elements "[8].

Due to the general nature of humanitarian knowledge, terminology cannot be standardized. It can only be systematized and unified. The dictionaries of terms - a kind of branch terminology dictionaries, which include vocabularies (alphabetical lists of terms without definitions), explanatory and encyclopedic dictionaries, as well as thesauruses - dictionaries that fix the semantic links of terms serve for these purposes.

The viability of a particular terminological system is determined primarily by its order and the consistency of the relationship between content and expression. A terminological system that meets these requirements can survive the scientific direction that generated it, and enter the modern metalanguage of this science.

The modern period of the life of the world community is characterized by the expansion of various intercultural ties, including the establishment of direct professional contacts between educational institutions of different countries. This creates new opportunities for professional communication, exchange of students and specialists, discussion and solution of scientific problems, contributes to the professional development of specialists. Because of the expanded educational policy of our republic, one of the directions of which is the development of effective approaches to the problem of improving the teaching of foreign languages at a professional level, as well as the Internet and information opportunities that create a unique business space that promotes the expansion of the geography of professional communication at the present time; the teaching of foreign languages goes to a qualitatively new level, because "it is through a foreign language as a means of intercultural communication that people become familiar with the values of a foreign culture, the wealth of foreign culture experience and the comprehension of the values of their national culture, which in itself is a factor of great humanitarian significance."

Thus, an access to the level of intercultural communication is the social need of a contemporary person, and, consequently, the development of effective educational technologies aimed at developing

intercultural skills, is justified and important. The role of a foreign language as a functional means of communication is obvious.

However, the possession of a foreign language at the basic level cannot be sufficient to overcome cultural barriers and successful communication on professional topics. The key moment in training a professional is the formation of a system of knowledge of special vocabulary in a certain area in the language being studied. [9].

### **Results**

Analyzing the important role of a foreign language, namely the English language, as well as the state's current policy in the field of education, there is a need for training specialists in the natural sciences with proficiency in English at the professional level. First of all, to prepare such specialists it is necessary to prepare learning materials, to select the necessary content on the subject, to make a selection of special vocabulary, terminology, to determine the metalanguage in the natural sciences. To solve this problem, you need to create glossaries or dictionaries for each discipline that is part of the cycle of natural science disciplines. For the professional training of such specialist, it is necessary to develop metalanguage competence.

In accordance with the Resolution of the Government of the Republic of Kazakhstan dated 23.08.2012 No. 1080 "On the approval of the SCES of Secondary Education" to the educational field "Natural

Science", item 2/ 15 such subjects as "Natural Science", "Geography", "Biology", "Physics" and "Chemistry" are included.

Thus, having revealed the urgency of this problem, we created a trilingual electronic dictionary for schoolchildren in chemistry. This dictionary was created in Microsoft Excel in three languages: Russian, English and Kazakh. The dictionary is created, but still requires further development, since it is not brought to automaticity. To solve this problem, special software is required, which requires the support of specialists in the field of IT technologies.

The first stage in the creation of this dictionary was the selection of the necessary sources. It was assumed that the dictionary will be used by senior schoolchildren, that is, grades 8-11, so schoolbooks on chemistry from the 8th to the 10th grades for schools with the Russian language of teaching served as sources for the creation of the dictionary: a textbook on chemistry for 8 classes of general education schools of the publishing house Almaty "Mektep", 2012., textbook on chemistry for 9th grades of general education schools of Almaty publishing house "Mektep", 2013, textbook on chemistry for 10th grades of public and humanitarian schools of Almaty publishing house "Mektep", 2014.

The second stage included the selection of the necessary specialized vocabulary in chemistry from the sources provided. For this

purpose, we looked through each section, topic and paragraph of the above textbooks and wrote out specialized vocabulary on the subject "Chemistry", and also used a periodic system of chemical elements (Mendeleev's table). In the process of selecting specialized vocabulary, we worked in stages, starting with a textbook for grade 8 and ending with a textbook for grade 10. A chemistry textbook for grade 11 was not used, since this tutorial provided material for repetition, and there was no new vocabulary.

The third stage of this work was to structure the selected lexical units in alphabetical order. Using the computer program Microsoft Excel, the selected lexical units were structured in alphabetical order in Russian. The next stage in the creation of this dictionary was the translation of the selected lexical units into English and then into the Kazakh language. For an accurate translation, the Multitran Electronic Dictionary was used (Figure 1).

	A	B
382	родий	Rhodium [ 'rəʊdiəm ]
383	ртуть	hydrargyrum [haɪ'drɑ:dʒɪrəm]
384	рубидий	Rubidium [ rə'biðiəm ]
385	руда	ore [ɔ:]
386	рутений	Ruthenium [ ru:'θi:njəm ]
387	С	
388	самарий	samarium [ sə'meɪrɪəm ]
389	сахар	sugar [ 'ʃʊgə ]
390	сахароза	saccharose [ 'sækərəʊz ]
391	свинец	Lead [ led ]
392	свойство	property [ 'prɒpəti ]
393	селен	Selenium [ si'li:niəm ]
394	селитра	nitre [ 'naɪtə ]
395	семейства химически совместимых веществ	chemical compatible families [ 'kɛmɪk(ə)l kəm'pætɪb(ə)l 'fæməlɪz ]
396	сера	Sulfur [ 'sɒlfə ]
397	серебро	Silver [ 'sɪlvə ]
398	серная кислота	sulphuric acid [sʌl'fjuəɪk 'æsɪd]
399	сернистая кислота	sulphurous acid [ 'sʌlf(ə)rəs 'æsɪd]
400	сероводород	hydrogen sulphide [ 'haɪdrədʒ(ə)n 'sʌlfaɪd]
401	сероводородная кислота	hydrosulphuric acid [ 'haɪdrəʊsʌl'fjuəɪk 'æsɪd]
402	сиборгий	Seaborgium [ 'si:bɔ:giəm ]
403	силикат	silicate [ 'sɪlɪkeɪt ]
404	силикат натрия	soluble glass [ 'sɒljəb(ə)l glɑ:s ]
405	силикатная промышленность	silicate industry [ 'sɪlɪkeɪt 'ɪndəstri ]
406	силикатоцемент	silicate fillings [ 'sɪlɪkeɪt 'fɪlɪŋz ]
407	синтез	synthesis [ 'sɪnθɪsɪs ]
408	ситалл	stall [ si 'tʌl ]
409	скандий	Scandium [ 'skændɪəm ]

Figure 1

The final stage of the work was the creation of Russian-English-Kazakh, Kazakh-English-Russian, English-Russian-

Kazakh, English -Kazakh-Russian types of dictionaries. This work was done in the Microsoft Excel program (Figure 2, 3,4).

A	F
3	189
4 adsorption [æd 'sɔ:pjən] адсорбция	190 feeder [ 'fi:da] воронка
5 alcohol oxide [ 'ælkəhɒl 'ɒksaɪd] альдегид	191 feldspar [ 'feldspɑ:] полевой шпат
6 alkali hydroxide [ 'ælkəlaɪ haɪ 'drɒksaɪd] едкие щелочи	192 Fermium [ 'fermiəm] фермий
7 aminoacid [ə 'mi:nəʊ 'æsi:d] аминокислоты	193 ferric chloride [ 'ferɪk 'klo:raɪd] хлорид железа
8 aquamarine [ 'ækwəmə 'ri:n] аквамарин	194 ferric hydroxide [ 'ferɪk haɪ 'drɒksaɪd] гидроксид железа
9 atomic silica scale [ə 'tɒmɪk 'sɪlɪkə skeɪl] атомная кристаллическая решетка	195 ferric sulphide [ 'ferɪk 'sʌlfɪd] сульфид железа
10 atomic theory [ə 'tɒmɪk θɪəri] атомно-молекулярное учение	196 ferrihydrous oxide [ 'ferɪfərəs 'ɒksaɪd] магнитный железняк
11 acetic acid [ə 'si:tɪk 'æsi:d] уксусная кислота	197 filtrate [ 'fɪltreɪt] фильтрат
12 acid [ 'æsi:d] кислота	198 filtration [fɪ 'treɪʃn] фильтрование
13 acid ion [ 'æsi:d 'aɪən] анион	199 flerovium [flə 'vɔ:rɪəm] flerovий
14 acid rain [ 'æsi:d reɪn] кислотный дождь	200 Fluorine [ 'fluəri:n] фтор
15 acidic oxide [ə 'sɪdɪk 'ɒksaɪd] кислотный оксид	201 flux oil [ 'flʌks ɔɪl] гидрон
16 acidic residue [ə 'sɪdɪk 'rezɪdʒu:] кислотный остаток	202 formalin [ 'fɔ:məli:n] формалин
17 acidic solution [ə 'sɪdɪk sə lu:ʃ(ə)n] кислый раствор	203 formic acid [fɔ:mɪk 'æsi:d] муравьиная кислота
18 actinium [æk 'tɪniəm] актиний	204 Francium [ 'frænsɪəm] франций
19 active carbon [ 'æktɪv 'kɔ:bən] активированный уголь	205 fruit sugar [fru:t 'ʃʊgə] фруктоза
20 active metal [ 'æktɪv 'metl] активный металл	206 fullerene [fʊl 'lɪrɪn] фуллерен
21 air [eə] воздух	207 fusible metal [ 'fju:zɪb(ə)l 'met(ə)l] легкоплавкий металл
22 alabamine [ə 'lə'bæmi:n] астат	208 fusion [ 'fju:ʒ(ə)n] плавка
23 alkali metal [ 'alkəlaɪ 'met(ə)l] щелочной металл	209
24 alcohol [ 'alkəhɒl] спирт	210 Gallium [ 'gæliəm] галлий
25 alcoholic lamp [alkə 'hɒlɪk læmp] спиртовка	211 genetic interrelationship [dʒɪ 'netɪk ɪntəri 'leɪʃ(ə)nʃɪp] генетическая взаимосвязь
26 alkali [ 'alkəlaɪ] щелочь	212 glycol alcohol [ 'glɪsɪl 'ælkəhɒl] глицерин
27 alkali earths [ 'alkəlaɪ əθ] щелочноземельные металлы	213 Gadolinium [ 'gædəlɪniəm] гадолиний
28 alkaline solution [ 'alkəlaɪn sə lu:ʃ(ə)n] щелочной раствор	214 gas [gæs] газ
29 alkane [ 'ælkən] алкан	215 gas [gæs]; gaseous substance [ 'gæstəs 'sʌbst(ə)ns] газообразное вещество
30 aluminium [ælju 'mɪniəm] алюминий	216 gas gage [gæs 'geɪdʒ] газометр

Figure 2

A	B	C
451 У		
452 углеводород	көмірсутек	hydrocarbon [ 'haɪdrə(ʊ) 'kɔ:b(ə)n]
453 углевод	үглеввод	carbohydrate [kə:'bɑ:'haɪdrɪt]
454 углекислый газ	көмірқышқыл газы	carbon dioxide [ 'kɑ:b(ə)n daɪ 'ɒksaɪd]
455 углерод	көміртек	carbon [ 'kɑ:b(ə)n]
456 уголь	көмір	carbon [ 'kɑ:b(ə)n]
457 угольная кислота	көмір қышқылы	carbon dioxide [ 'kɑ:b(ə)n daɪ 'ɒksaɪd]
458 удельная теплота сгорания	меншікті жану жылуы	low heating value [ləʊ 'hi:tiŋ 'vɔlju:]
459 удельный вес	салыстырмалы салмақ	specific gravity [speɪ 'sɪfɪk 'grævɪtɪ]
460 удобрение	тыңайтқыш	manuring [mən 'njuəriŋ]
461 уксусная кислота	сірке қышқылы	acetic acid [ə 'si:tɪk 'æsi:d]
462 уран	уран	Uranium [ 'ju:'reɪniəm]
463 Ф		
464 фенолфталеин	фенолфталеин	phenol-phthalein [ 'fi:nɒl fteɪlɪn]
465 фермий	фермий	Fermium [ 'fermiəm]
466 фильтрат	сүзінді; сусүзбе	filtrate [ 'fɪltreɪt]
467 фильтрование	сүзгіден өткізу; сүзу	filtration [fɪl 'treɪʃn]
468 флеровий	флеровий	flerovium [flə 'vɔ:rɪəm]
469 формалин	формалин	formalin [ 'fɔ:məli:n]
470 фосфин	фосфин	phosphine [ 'fɒsfi:n]
471 фосфор	жанартас; фосфор	Phosphorus [ 'fɒsfərəs]
472 фосфорная кислота	фосфор қышқылы	phosphorus acid [ 'fɒs(ə)trɪk 'æsi:d]
473 фотосинтез	фотосинтез	photosynthesis [ 'fəʊtə(ʊ) 'sɪnθəsɪs]
474 франций	франций	Francium [ 'frænsɪəm]
475 фруктоза	жеміс шырыны; фруктоза	fruit sugar [fru:t 'ʃʊgə]
476 фтор	фтор	Fluorine [ 'fluəri:n]

Figure 3

A	B	C
199 коррозия	ең; коррозия; тоттану; тотығу; тотық	corrosion [kə 'rɒʊz(ə)n]
200 корунд	корунд	corundum [kə 'rʌndəm]
201 коэффициент	коэффициент; шама	coefficient [kəʊ 'fɪʃ(ə)nt], index [ 'ɪndeks]
202 красный железняк	қызыл темір кені; қызыл темір тас	hematite [ 'hi:mətaɪt]
203 крахмал	крахмал	starch [stɑ:tʃ]
204 крекинг	крекинг	cracking processing [ 'krækɪŋ p'rəʊsesɪŋ]
205 кремнезем	кремнезем	silica [ 'sɪlɪkə]
206 кремниевая кислота	кремний қышқылы	silicic acid [sɪ 'lɪsɪk 'æsi:d]
207 кремний	кремний	silicon [ 'sɪlɪk(ə)n]
208 криптон	криптон	Krypton [ 'krɪptən]
209 кристалл	кристалл	crystal [ 'krɪstəl]
210 кристаллизация	кристалдану; кристалдау	crystallisation [ 'krɪstə,lɪzeɪʃ(ə)n]
211 кристаллическая решетка	кристалл торы	crystal lattice [ 'krɪstəl 'lætɪs]
212 кристаллическая решетка кремния	кремний кристалл торы	silica scale [ 'sɪlɪkə skeɪl]
213 круговорот веществ	заттар айналымы	circuit of substance [ 'sə:kɪt əv 'sʌbst(ə)ns]
214 ксенон	ксенон	Xenon [ 'zenən] [ 'zi:nən]
215 кюрий	кюрий	Curium [ 'kjʊəriəm]
216 Л		
217 лаборатория	зертхана	laboratory [lə'bɔ:rə 't(ə)rɪ]
218 лакмус	көк бояу; лакмус	lacmus [ 'lækməs]
219 лантан	лантан	Lanthanum [ 'lænθənam]
220 легкий металл	жеңіл метал	poor metal [puə 'met(ə)l]
221 легкоплавкий металл	тез балқитын металл	fusible metal [ 'fju:zɪb(ə)l 'met(ə)l]
222 ливерморий	ливерморий	livermorium [ 'lɪvəmɔ:riəm]
223 лигроиин	лигроиин	naphthol mineral spirit [ 'næfθəl 'mɪn(ə)r(ə)l 'sprɪt]
224 литий	литий	lithium [ 'lɪθiəm]

Figure 4

Thus, a trilingual electronic dictionary for schoolchildren in chemistry was created. The dictionary contains 512 words. The

English version contains a transcription for correct pronunciation.



The presented dictionary was approved by the students of the preparatory course, who studied at the Kazakh University of International Relations and World Languages named after Ablai Khan from September 2017 to July 2018 under the state program for further admission to Kazakhstan universities and obtaining a pedagogical specialty for teaching natural science subjects in English. When working with this dictionary, listeners noted great convenience, as the vocabulary is terminological and specialized, which facilitates the search for necessary word and very helps them in their work. Moreover, it was very useful and effective to apply this dictionary for listeners with the Kazakh language of tuition since it is trilingual.

As noted above, students receive the necessary knowledge in their own language and can identify them, they form a "primary cognitive consciousness", "primary cognitive knowledge (constructs)." Further, based on their native language, they identify the knowledge gained in English; students have a reconceptualization of the knowledge block, "secondary cognitive consciousness" and "secondary cognitive knowledge (constructs)" are formed [5, p. 15].

E.B. Borunova "to didactic conditions for the implementation of interdisciplinary integration "chemistry - English "includes:

1) the support of bilingual semantization (the students learn the meaning of chemical concepts in two languages);

2) actualization of special (chemical) knowledge in problem-communicative situations;

3) assimilation of chemical material using a complex of communicative skills (reflexive, information, heuristic, creative);

4) the development of methods of logical thinking (generalization, comparison, classification, etc.), which are simultaneously built on chemical and linguistic material;

5) implementation of the principle of person-centered learning;

6) ensuring the expansion of students' intercultural competence;

7) careful selection of chemical and linguistic material in compliance with all didactic principles, while the principle of accessibility should be considered as a priority;

8) use receptions of formation of the communicative core in speech stimulating creative, research activity of pupils (for classes of a humanitarian profile) [10]. She believes that it is possible to find a common one when considering the English language and the language of chemical science: "in the semantic (the disclosure of the meaning of designations and lexical units-terms by their interpretation and connection with real chemical objects), etymological (the origin of chemical terms, names and symbols) communicative (communication between subjects through reading, listening, writing) aspects "[10, p. 89].

The most relevant and effective in the modern education system is the competence

approach. The introduction of a competence approach in the system of higher professional education will improve the competitiveness of graduates in the labor market, improve cooperation with employers, facilitate the revision and updating of the goals, content and methodology of training. The need to train a qualified specialist is one of the main goals of professional higher education. One of the most important competencies in the formation of a specialist in the natural-science direction in foreign-language education is metalanguage competence. Metalanguage competence involves the accumulation of terminological knowledge and the ability to correctly use a foreign term.

Competent approach in the professional foreign language preparation of pedagogical cadres of the natural-science cycle forms the students' ability to intercultural communication in special professional, scientific and business spheres, taking into account the peculiarities of professional cognitive thinking; it aims to develop an active, creative personality, a future professional who is ready to successfully use linguistic skills in his future professional

## REFERENCES:

1. Shaymukhanova S.D., Nugman B.G. (2010). Current state and ways of development of the education system of the Republic of Kazakhstan, Karaganda State Technical University,

2. Kazakhstan <https://www.sworld.com.ua/index.php/ru/current-status-and-the->

work, who has specialized competences and is ready to apply them in intercultural communication with his future business partners.

## Conclusion

Thus, mastering a metalanguage helps to obtain information and mutual understanding of communicants in the process of carrying out joint professional activities.

Terms form a professional component of information, are the linguistic units forming the statements of a professional specialist, and are included both in the receptive and in the productive vocabulary of specialists. Subject terminology is one of the necessary conditions for the implementation of intercultural communication in the professional sphere.

In the future, it seems necessary to identify the requirements for the training of specialists in the natural sciences, professionally using a foreign language, to systematize approaches, theories and concepts regarding its teaching on the basis of a theoretical analysis of literature and professional experience.

development-of-the-education-c112/11980-c112-073

3. Akhmetova M.K. (2018). Development of professional foreign-language competence of a specialist in the natural science cycle. Bulletin of AbayKazNPU., "Pedagogical Sciences" №1 (57), Almaty, p. 76-81

4. The President of the Republic of Kazakhstan N. Nazarbayev's address to the people of Kazakhstan. January 27, 2012

5. The roadmap for the development of trilingual education for 2015-2020. November 13, 2015 No. 1066

6. Kunanbaeva S.S. (2017). Conceptual foundations of cognitive linguistics in the development of a multilingual personality. Almaty, 264 p.

7. [https://dic.academic.ru/dic.nsf/enc\\_philosophy](https://dic.academic.ru/dic.nsf/enc_philosophy)

8. [https://dic.academic.ru/dic.nsf/fin\\_ency](https://dic.academic.ru/dic.nsf/fin_ency)

9. (<http://tapemark.narod.ru/les/509a.html>)

10. Omarova S.K., Kabdrakhmanova A.I. (2014). Use of the educational multilingual terminological dictionary in teaching foreign languages to students of technical specialties // Young Scientist. № 20 - P. 610-615. – URL <https://moluch.ru/archive/79/13739/>

11. Borunova E.B. (2010). On the interdisciplinary integration of "Chemistry-English language" in the teaching of chemistry in secondary school. "Science and School"

