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CONCEPTUAL PRINCIPLES AND APPROACHES IN THE FOREIGN LANGUAGE NATURAL SCIENCE EDUCATIONAL PROCESS IN A PROFILE SCHOOL

This article is devoted to the definition of basic principles and approaches in the foreign-language natural science educational process in a profile school. The authors believe that when realizing the goals of profile training in the profiled classes, it is necessary to provide an in-depth study of selected disciplines from the general secondary education program and provide conditions for differentiating the content of training in accordance with individual abilities and interests. The authors consider that in order to organize and build theoretical and practical activities, a system of conceptual principles and approaches is necessary for the effective implementation of the requirements of modern education and the formation of a competitive specialist in demand on the international labor market.

The authors substantiate the pedagogical effectiveness of using a certain set of principles of foreign language education in the formation of the foreign language natural science competence (FLNSC). It is noted that these principles are of particular importance in the study of a professional foreign language. Moreover, it is noted that the principle of scientific and applied adequacy develops the ability of students to work with terms, the principle of functional-operational illustrativeness forms all the speech abilities of students, the principle of cognitive-interpretive projectability develops student's cognitive activity, the principle of research and problem orientation contributes to the work of students with problem situations. The authors believe that it is necessary to create a continuous connection with vocational education and effectively train senior school students to master vocational education programs. The authors considered conceptual approaches in the foreign-language natural-science educational process: personality-oriented, cognitive-linguistic and cultural, modular-competent and integrative approaches. The article reveals the significance of these approaches in the formation of students' FLNSC. According to the authors, taking into account approaches and principles in foreign language education helps to improve the quality of education and students level of competency in preparation for a professionally oriented foreign language.

Key words: conceptual principles, conceptual approaches, foreign language natural science educational process, profile school.

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Бейіндік мектептегі шет тілді жаратылыстану-ғылыми білім беру үдерісіндегі концептуалды ұстанымдар мен тәсілдер

Мақала бейіндік мектептегі өзге тілді жаратылыстану-ғылыми білім беру үдерісіндегі негізгі принциптер мен тәсілдерді анықтауға арналған. Авторлар сыныптарда бейіндік оқыту мақсатын іске асыру кезінде орта білім берудің жалпы білім беретін бағдарламасынан таңдалған пәндерді тереңдетіп оқытуды қамтамасыз ету және жеке қабілеттер мен мүдделерге сәйкес оқыту мазмұнын саралауға жағдай жасау қажет деп санайды. Авторлар теориялық және практикалық іс-әрекетті ұйымдастыру және құру үшін қазіргі заманғы білім беру талаптарын тиімді іске асыру және халықаралық еңбек нарығында сұранысқа ие бәсекеге қабілетті маманды қалыптастыру үшін тұжырымдамалық қағидаттар мен тәсілдер жүйесі қажет деп санайды. Шет тілдік жаратылыстану-ғылыми құзыреттілікті (ШЖФК) қалыптастыру кезінде шет тілдік білім берудің белгілі бір жиынтығының педагогикалық тиімділігін негіздейді. Бұл қағидаттар кәсіби шетел тілін үйренуде ерекше маңызға ие. Сонымен қатар, ғылыми-қолданбалы адекваттылық принципі оқушылардың терминдермен жұмыс істеу қабілетін дамытады, функционалдық-операциялық

иллюстративтілік принципі оқушылардың сөйлеу қабілеттерін қалыптастырады, танымдық-интерпретациялық проекциялылық принципі оқушылардың когнитивтік қызметін дамытады, ізденушілік-проблемалық бағыт принципі оқушылардың проблемалық жағдайлармен жұмыс істеуіне ықпал етеді. Авторлар кәсіби білім берумен сабақтастықты құру және кәсіптік білім беру бағдарламаларын меңгеру үшін жоғары буын оқушыларын тиімді оқыту қажет деп санайды. Авторлар жеке тұлғаға бағытталған, когнитивті-лингвомәдениеттану, модульдік-құзыреттілік және интегративті көзқарастар сияқты шет тілді жаратылыстану-ғылыми білім беру үдерісіндегі концептуалды тәсілдерді қарастырды. Мақалада студенттердің ШЖҒҚ қалыптастырудағы осы тәсілдердің маңыздылығы айтылады. Авторлардың пікірінше, өзге тілді білім берудегі тәсілдер мен қағидаттарды есепке алу, білім беру сапасын арттыруға және кәсіби-бағытталған шетел тіліне дайындық кезінде, білім алушылардың құзыреттілік деңгейін арттыруға ықпал етеді.

Түйін сөздер: концептуалды қағидаттар, тұжырымдамалық тәсілдер, шет тілді жаратылыстану-ғылыми білім беру үдерісі, бейіндік мектеп.

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Концептуальные принципы и подходы в иноязычном естественнонаучном образовательном процессе в профильной школе

Статья посвящена определению основных принципов и подходов в иноязычном естественнонаучном образовательном процессе в профильной школе. Авторы считают, что при реализации целей выбранного обучения в профильных классах необходимо обеспечить углубленное изучение выбранных дисциплин из общеобразовательной программы среднего образования и обеспечить условия для дифференциации содержания обучения в соответствии с индивидуальными способностями и интересами. Чтобы организовать и построить теоретическую и практическую деятельность, необходима система концептуальных принципов и подходов для эффективной реализации требований современного образования и формирования конкурентоспособного специалиста, востребованного на международном рынке труда.

Авторы обосновывают педагогическую эффективность использования определенной совокупности принципов иноязычного образования при формировании иноязычной естественнонаучной компетенции (ИЕНК). Данные принципы приобретают особое значение при изучении профессионального иностранного языка. Отмечается, что принцип научно-прикладной адекватности развивает способности учащихся работать с терминами, принцип функционально-операциональной иллюстративности формирует все речевые способности учащихся, принцип познавательного-интерпретационного проецируемости развивает когнитивную деятельность учащихся, принцип изыскательско-проблемной направленности способствует работе учащихся с проблемными ситуациями. Рекомендуется создать преемственную связь с профессиональным образованием и эффективно обучать учащихся школ старшего звена для усвоения программ профессионального образования. Авторами рассмотрены концептуальные подходы в иноязычном естественнонаучном образовательном процессе: личностно-ориентированный, когнитивно-лингвокультурологический, модульно-компетентностный и интегративный подходы. В статье раскрывается значимость этих подходов при формировании ИЕНК студентов. Учет подходов и принципов в иноязычном образовании способствует повышению качества образования и уровня компетентности обучающихся при подготовке к профессионально-ориентированному иностранному языку. В опытно-педагогическом исследовании приняло участие 45 студентов Казахского университета мировых языков и международных отношений.

Ключевые слова: концептуальные принципы, концептуальные подходы, иноязычный естественнонаучный образовательный процесс, профильная школа.

Introduction

Currently, the educational system is undergoing significant changes related to globalization throughout the world, the political and economic borders and the boundaries of intercultural interaction are expanding, which leads to tolerance and intercultural communication with representatives of other

communities. Successful intercultural communication in the modern era requires the introduction of the latest innovative approaches in the education system. Thus, we have identified the main goal for this work, which is associated with the definition of fundamental conceptual principles and approaches for high-quality training of specialists in the foreign-language natural-science educational process.

At present time, Kazakhstan is updating the content of education. Profiled education is introduced in the upper grades of secondary schools, the purpose of which is in-depth pre-vocational training of schoolchildren. To implement the profile training program in our country, the “Beyindik Mektep” program has been developed since 2015, in addition to this, Kazakhstan is planning to introduce a 12-year education, which should be based on a competency-based approach.

Article 1 of the Republic of Kazakhstan “On Education” states that “profiled education is the process of differentiation and individualization of education, the organization of the educational process, taking into account students’ interests, inclinations and abilities” [1].

Thus, the state policy of the Republic of Kazakhstan is focused on the training of teaching staff with a level of English proficiency at a professional level, and in this case, unfortunately, there is a problem of a lack of relevant professional staff. To solve the problem posed by the state, it is necessary to begin training such personnel from the school level and for this it is necessary to create a model of a foreign-language natural-science educational complex in profiled schools, a special discipline should be the basis of the created model, and a foreign language should be used as a tool of transferring subject knowledge.

In the current period, there is a constant change in priorities in school education, which is aimed at the development of personality, which leads to the need to create new learning models that facilitate personal adaptation to modern conditions and realities of the world. Each student needs a quality education that meets his needs and abilities; therefore, the student should receive not only the accumulated amount of knowledge, but also formed thinking, the development of cognitive abilities. Thus, for the formation and development of the student’s abilities, it is necessary to apply a competency-based approach in profile training. A competent approach in school reinforces the practical nature of subject teaching.

In accordance with the Concept for the Development of Foreign Language Education of the Republic of Kazakhstan, language is an indicator of culture, reflects sociocultural reality and promotes appropriate communication with representatives of other linguistic societies. A “Level model of foreign language education” was developed in Ablai Khan KazUIR&WL, which determines a specific number of levels of knowledge of a foreign language for different types of educational institutions. The developed

level model is based on the CEFR for languages and suggests a significant improvement in the quality of foreign language education in the era of the Republic of Kazakhstan entering the world educational space. “The main link in the level model is the student as a subject of the educational process and as a subject of intercultural communication” [2, p. 4].

Literature review

The concept of foreign language education has a variety of approaches for classifying the principles of teaching, and many researchers have been doing and are doing it (S.S. Kunanbaeva (Kunanbayeva, 2010a), N.I. Gez, N.D. Galskova (Galskova, 2004), R.K. Minyar- Beloruchev (Minyar- Beloruchev, 1967), A.N. Shchukin (Shchukin, 2007a), I.L. Bim (Bim, 1988), etc.)

So, A.N. Schukin identifies the following methodological principles, which are basic, in his opinion, for the formation of a methodological model in a foreign-language natural-science educational complex:

- the principle of professional orientation of training, taking into account the correspondence of students interests and inclinations and future professional activities during studying process;
- the principle of approximation, interpreted as a “condescending attitude” of a teacher to students’ incorrect answers made during communication, but provided that the communication act is respected and the message idea is not changed;
- the principle of situational-thematic construction of training, this principle implies conducting classes, using real-life communication situations on selected topics that express the content of the selected field of communication, also for presenting and consolidating educational material;
- the principle of compliance with foreign language proficiency by levels, ensuring the organization of the educational process according to the students language training (Shchukin, 2007b:165-173).

The modern methodology of foreign language education must comply with the modern requirements of today’s education system. In order to organize and build theoretical and practical activities, a system of methodological principles is needed. Kunanbaeva S.S. identifies the following system-forming principles of foreign language education: communicative, cognitive, conceptual, linguistic and cultural, social and cultural, personality-centered (developing-reflective) principles (Kunanbayeva, 2010b:83).

Analyzing the literature on this study, it can be noted that different scientists in this field of science distinguish principles as follows. Danilov M.A. defines didactic principles as “main provisions” that establish “the content of the educational process, its forms and methods according to its goals and patterns”. The author believes that the principles of teaching convey the “normative foundations of instruction taken in its concrete historical form” and, being a category of didactics, they describe the application of patterns according to specific goals (Danilov, 1967:32).

Ya. A. Comenius believed that the basic principle is the “principle of the nature of learning”, while he built the other principles in order in combination with the meaning of nature compatibility. A. Dysterweg took into account the didactic rules and principles more clearly, since he considered them to be “the main requirement for the content of education, for educators and learners” (Comenius, 1955:131).

K.D. Ushinsky noted that the following aspects are necessary for effective learning: “gradualness, organicity, constancy, clarity”, timeliness, the student’s initiative, firmness of understanding, without significant tension and ease, and accuracy. The scientist determined the following “didactic principles - the consciousness and activity of learning, visibility, consistency, the strength of knowledge and skills” (Ushinsky, 1974:122-130).

Some foreign researchers, such as Larsen-Freeman and S.L. Mackay, believe that in the study of foreign languages it is necessary to take into account psychological, linguistic and didactic conditions (Mackay, 2002).

So, researcher Larsen-Freeman (Larsen-Freeman, 2000) defines principles based on leading methodological aspects. Among them, in the first place are the cognitive principles that imply the development of the student’s internal motivation for the conscious mastery of foreign language speech, which contributes to the automation of speech activity and leads to further communication. Further, the scientist dwells on linguistic principles that take into account the influence of the native language (native language effect) in the study of a foreign language and the development of students communicative abilities, while the target language will act as a transitional language system (interlanguage). And, in the next step, Larsen-Freeman identifies affective principles, implying the study of a foreign language is inextricable from the culture, which he defined as “language ego” and “language - culture connection”.

Materials and methods of research

For the formation of a foreign-language natural-science educational complex in a profile school, it is necessary to highlight the necessary teaching principles in accordance with the modern concept of foreign-language education. In our study, we determined the actual methodological principles for a foreign-language natural-science educational complex, which should reflect the main issues of the theory of foreign-language education.

Thus, we distinguish the following methodological principles: the principle of scientific and applied adequacy; the principle of functional operational illustrativeness; principle of cognitive and interpretive projectability; principle of conceptual cognitive base; principle of research and problem orientation.

These principles must be singled out in connection with the current demand for specialists in foreign language science education who have professional communication in their activities at the international level.

1. The principle of scientific and applied adequacy.

The principle of scientific and applied adequacy is the scientific and applied basis of a foreign language natural science education; it is the initial and productive level of branch speech. At this stage, the student develops the ability to represent the terms and appropriate to use them in a foreign language.

According to E.I. Passov, the category of “adequacy” implements a methodological function. The author believes that “in the methodology: the educational (cognitive, developing, educational and training) effectiveness of a particular tool is directly proportional to the level of its adequacy to a particular goal in specific conditions” (Passov, 2015: 68).

2. The principle of functional operational illustrativeness.

This principle implies an awareness of the functional purpose of all aspects of foreign speech activity, the student must be aware that the practical use of the language contributes to the development of its cognitive activity. In accordance with this principle, four types of speech activity (reading, writing, listening, speaking) are mastered as a means of communication. The principle of functionality is based on the function of the speech unit, the student’s consciousness is focused on the function.

Equally important in foreign language education is the ability to master a foreign language. The modern concept of foreign language abilities is based on the definition proposed by J. Carroll, who

called it “the initial state of individual readiness and ability to learn a foreign language, as well as the likely degree of possibility for this ...” (Carroll, 1981a:85). In terms of structure, J. Carroll described the ability to speak a foreign language as consisting of four relatively independent subcomponents: the ability to phonetic coding, grammatical sensitivity, the ability to inductive learning and associative memory (Carroll, 1981b:105).

The most influential modern models of foreign language abilities are P. Skehan’s processing stage model and P. Robinson’s comprehensive ability model, which includes the results of studies of the psycholinguistic and cognitive sciences about human cognitive abilities (Skehan, 2002). P. Skehan’s model connects the stages of mastering a foreign language with the components of a foreign language’s abilities, while P. Robinson’s model connects cognitive profiles of foreign language learners with different types of learning that require different levels of awareness.

3. The principle of cognitive-interpretive projectability.

Linguistic interpretation requires the properties of speech, that is, connected sentences or texts and knowledge about the properties of speech. This principle implies the sound knowledge of a foreign language. In connection with the anthropological orientation of modern education, it should be noted that when studying a foreign language, the student develops his cognitive activity, through the language he is able to learn his own and other culture, therefore, the student forms and develops the qualities of a multicultural linguistic personality, which contribute to the development of intellectual and speech-cognitive skills of a personality.

4. The principle of conceptual cognitive base.

This principle is based on cognitive thinking and leads to foreign language communication. Applying this principle in a foreign language natural science educational process, the student forms concepts, ideas about integrity, in which elements can be combined, that is, a complex is built. In the course of foreign language communication, the student begins to comprehend his knowledge and begins to analyze, draw conclusions.

Foreign researchers (S. Oyama, M. Long, V.P. Collier, R. Johnstone) examined the following problem: is there an initial age or an identifiable period during which the mastery of the second language is more effective, this period was called by scientists as a “sensitive period” (Oyama, 1979). This period is based on the belief that there is a process of mastering the language that is separate from general

cognitive functioning. As a rule, the argument is that the closer the beginning of language acquisition to the beginning of the “sensitive period”, the more effective the language acquisition.

5. The principle of research and problem orientation.

The principle of research and problem orientation involves an independent search for a solution to problem situations. This principle has a problem-permissive and problem-evidence-oriented orientation and implies not so much communication and speech activity separately, but creates a whole complex for training a specialist in foreign languages.

This principle in the foreign language natural science direction distinguishes the processes of understanding, perception, cognition, thinking and explanation, which focus on the development of the processes of obtaining, storing and interpreting acquired knowledge. During the educational process, the student forms his own linguistic representation, which means that when teaching a foreign language, the teacher not only transfers knowledge, but the real concepts of linguistic phenomenon are formed in the student’s thinking. Learning will be successful and effective if the brain creates its own mental structures. Therefore, it is necessary for the student to develop his own cognitive mechanisms, based on the need for communication in a foreign language and motivating the student to communicate and express himself. If we develop the cognitive mechanisms of the student, then the process of learning a foreign language will be interesting and research for him.

This principle can also be attributed to a foreign-language science education in a profile school, which implies stimulating student’s cognitive interest and cognitive activity. The basis of this principle is the creation of a problem situation for students to resolve it independently. Using the principle of research and problem orientation, students develop vigorous activity to find the best way to solve the problem and search for new knowledge. Analyzing a problem situation, the student uses the acquired knowledge and obtains new knowledge to resolve the situation, his cognitive mechanisms, critical thinking are activated and the student independently finds ways to solve the problem, acquires his own experience. To use this principle in a foreign language natural-science educational process, it is necessary to apply modern innovative teaching methods, such as the project method, case study, incident method, discussions, debates, brainstorming and others. As a result of applying the principle of research and problem orientation, the personality

develops comprehensively, which contributes to the achievement of meta-subject results and the student's readiness for further development. The principle of the search and problem orientation is creative in nature, which stimulates the active mental, speech-cognitive and cognitive activity of the student, which contribute to the development of internal motivation, and as a result, a successful study of a foreign language occurs.

We have defined the following as conceptual approaches in the foreign-language natural-science educational process: personality-oriented, cognitive-linguistic and cultural, modular-competent and integrative approaches.

The personality-oriented approach in education contributes to the spiritual and intellectual development of the student, allows you to form and develop the ability of the individual, reveals the creativity and creative potential of the student's personality. At the present stage in a dynamically progressing society, an important task of the education system is the formation of a personality as an individual capable of self-realization and self-regulation, and involves the active activity of the student as the main subject of the educational process. With this approach, the student is considered an active subject of activity, and, accordingly, in the educational process, subject-subject relations arise. Thus, the main goal of modern education is the formation of a competent and mobile personality, ready for independent decision-making, critical thinking, self-realization and self-affirmation on the basis of high motivation and activation in the learning process. In the foreign-language natural-science educational process in a profile school, the educational process needs to be oriented toward the development of the personality, his abilities and inclinations, his active work, which requires a personality-oriented approach in foreign-language education. With a personality-oriented approach in foreign language education in a secondary school, considerable attention is paid to the social and cultural component of intercultural and communicative competence, as it contributes to the development of students' cultural orientation, introduces them to a different culture through awareness of their own culture.

Personally-oriented education implies an anthropological, that is, a humanistic approach and is the conceptual basis of foreign language education. In accordance with this approach, it is necessary to create suitable conditions for the formation and development of the personality in the educational process, that is, the personality should be developed

by means of a foreign language, through the study of a different and own culture.

Numerous studies have proven the existence of a mutual correspondence between personal and situational characteristics. D. Mathews and J. Diard (Mathews, 2004) note that this relationship determines the behavior of a person in a specific situation and subsequent changes in character. Therefore, in the learning environment we can only talk about the aspect of someone's personality that functions in these conditions - this student can show completely different personality traits at home, at work or even when another teacher teaches him. In addition to influencing the process of mastering knowledge, personality factors very often affect student performance and, thus, they can determine the assessment process and its results.

The following conceptual approach in our study, we identified a cognitive-linguistic and cultural approach, which is appropriate and relevant in foreign language science education. The modern theory of foreign language education is based on a cognitive linguistic and cultural methodology developed and scientifically proven by S.S. Kunanbayeva. According to S.S. Kunanbayeva, this methodology represents a system of scientific knowledge, an interdisciplinary construct "foreign language - foreign culture - personality". The cognitive-linguistic and cultural methodology of foreign language education reflects the essential principles of the theory of cognition – the principles of determinism, relevance, complementarity, and is expressed by three basic functions, such as the philosophical-psychological theory of activity, system analysis, and science of science (Kunanbayeva, 2010c). In foreign language education, the cognitive approach refers to the problem of the most favorable organization of cognitive actions of students that correspond to the natural behavior of a person, and language information must be assimilated and conscious, thanks to cognitive mechanisms.

Learning a foreign language is inextricably linked with the study of the culture of native speakers of that language. Many scholars have studied the aspects of language teaching and the inclusion of cultural elements in foreign language education and devoted their works to this problem I.I. Khaleeva (1989), S. G. Ter-Minasova (1994), V.V. Safonova (1996). Among the scholars whose work was focused on teaching a foreign language, taking into account the cultural orientation, S.Yu. Ilyin (1988), A.N. Bogomolov (1997), P.V. Sysoyeva (1999), N.V. Kulibin (1985) and others. All of these scholars

note the importance of studying culture along with language learning in foreign language education, and believe that understanding of the problem of the interconnectedness of language and culture is increasing more and more, and this inextricable link is reflected in the teaching of foreign languages. Linguist D. Schuman (Schuman, 1978) proposed a model that tried to take into account social and psychological factors in the study of a second language. D. Schumann centered his acculturation model around the process of learning a language in a natural environment. He emphasized the role of the process of acculturation, i.e., adaptation to a new culture.

The linguistic and cultural methodological principle is focused on mastering the native language and culture as an unconscious process and learning a foreign language as a conscious process in the formation of a “different language world” that affect the primary consciousness in the form of mental constructs, the formation of new cognitive-linguistic and cultural complexes while assimilating a foreign language and a foreign culture (Kunanbayeva, 2010d).

The next approach we have highlighted is the modular competency approach. In order to intensify the educational process, a prerequisite is the introduction of a modular organization in the educational process.

Modular learning is an organizational form of the educational process that allows students of a profile school to study in a learning environment consisting of training modules that contribute to effective self-education in selected individual educational programs. The technology of modular learning contributes to the individualization of learning, the choice of career-oriented trajectories in the process of self-learning and self-development coordinates the selection and content of educational material in accordance with the profiling of the student. In the course of modular training, it is necessary to create an instrumental learning environment containing informational and methodological material and interactive educational models for the formation of students’ independent work. In this case, the informational learning environment acts as a link between the teacher and the student and models the teacher’s activities to organize the learning process, which favors self-learning and student’s self-development. In an interactive learning environment, students acquire independent work skills with a variety of sources of information, which contributes to the development of their abilities. Modular learning favors students’ self-motivation and develops self-management skills by

learning activities, activates the reserve potential of the individual and he becomes an active participant in the learning process.

The modular competency-based approach to the design of the learning environment contributes to the organization of students joint creative activity and dynamically replenishes the training modules with the necessary training resources. In addition, in modular training, the probability of applying the design method to the educational process is realized. When developing the hierarchical structure of the training module, the teacher is given the opportunity to develop many problem tasks and provide them in the form of projects. The project method is a developing educational technology that allows students to intensify their learning activities and develop cognitive thinking while independently solving the tasks assigned to them.

The next approach we have highlighted is the integrative approach. Integration in foreign language education implies a complete understanding and reproduction of foreign language material in the specialty. The integrative approach assumes, in accordance with the goals of foreign language education, the implementation of the following features of the subjects of foreign language communication: the development of thinking, the development of search activity, the formation and development of horizons, the creation of integrated courses and others. Means of integration can be problem tasks and situations, exercises, thematic-textual unity. The integrative approach assumes the integrity of education, that is, the interconnection of social and pedagogical factors, the unity of upbringing, development and training, the unity of the subject and process aspects of training, intersubject links, the integrity of the formation and development of the student’s personality.

Results and discussion

Based on the selected principles and approaches, we have analyzed the technology of interactivity. The objectives of the experimental work were as follows:

- to study the state of the problem under study in the practice of forming communicative competence of profile schools students based on interactive teaching methods;
- conduct diagnostics of the formation of students’ communicative competence through the use of interactive teaching methods.

45 students of the preparatory department, who studied at the Ablai Khan KazUIR&WL from

September 2018 to July 2019 (10 months) under the state program for further admission to Kazakhstani universities for getting a pedagogical specialty for teaching natural science subjects cycle in English took part in the experiment. Assignments focused on the dialogical interaction of students with the text were highlighted during the experiment. When selecting texts, we were guided by the principles we identified: the principle of scientific and applied adequacy; the principle of functional operational illustrativeness; principle of cognitive and interpretive projectability; the principle of conceptually cognitive based and the principle of research and problem orientation. The understanding of the text, as well as the development of interaction within the group during the experiment, was facilitated by interactive methods. In our study, the texts are focused on the development of foreign language communicative competence, forming the students of the preparatory department the ability to write and oral communication in English, the ability to logically, reasonably, clearly build oral and written speech, the willingness to cooperate with classmates, the ability to conduct polemics and discussion, as well as the ability to work with various information, scientific, reference materials. Using an interactive technology that includes the phases “Challenge - Implementation - Reflection”, the teacher combines them, planning their classes in accordance with the level of students’ readiness, volume and features of

the content. It turned out that 32% of students had an idea about this technology, since at school teachers of other disciplines often used them. When creating the experimental materials, we took into account the functions of the three phases of critical thinking technology, as well as the inclusion of students in group activities in the classroom.

When introducing the principle of scientific and applied adequacy, students developed the ability to represent the terms and use them in a foreign language appropriately. Work with terms in English lessons can be carried out at all its stages: when learning new material, securing it, testing knowledge, skills. The terminological work begun in the study of new material should be continued when it is consolidated. Since not all the material of the topic of the lesson is fixed, but only the main, leading concepts, naturally, the selection of terms also occurs. Giving tasks clarifying how clear and learned new material may include special techniques aimed at working with terms and contributing to the refinement of concretization, fixing in memory of the basic concepts of the lesson and their terms. As a result, an exam was made in the form of a test to obtain material for evaluating the systematic work of forming a conceptual framework. If at the beginning of the academic year the students use the terms in their speech for 48%, then at the end of the academic year there was a noticeable increase of 56% (Chart 1).

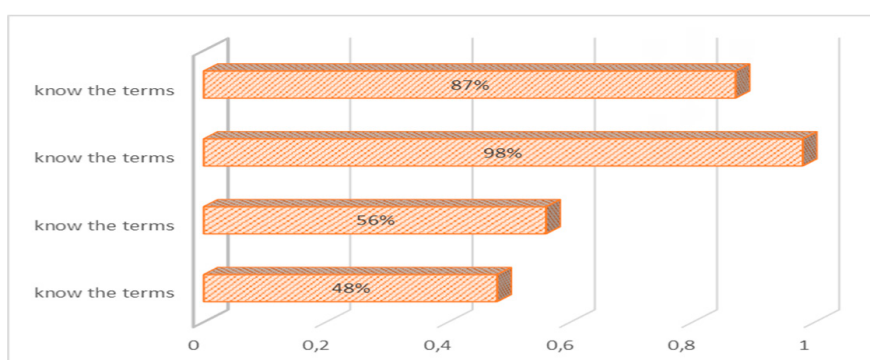


Chart 1 – The use of foreign language natural science terminology

Thus, based on the results obtained, we see that purposeful work with terms in English lessons has a positive effect on improving the quality of students’ knowledge and is one of the conditions for a conscious understanding of branch terminology and its appropriate use in foreign language speech.

The principle of functional operational illustrativeness was carried out using the RAFT (Role/Audience/Form/Theme) method. In carrying out the proposed tasks, the students were involved in active interaction for the development of foreign language communicative competence. The essence of the method is that the main task of students was to

describe, discuss on behalf of their chosen character. Moreover, the character must take into account the audience to which he refers. For example, in written forms of communication, a student chose a role for himself and wrote a text on his behalf. This method allows insecure timid students to reveal in order to reveal the topic, highlight complex, contradictory questions in it and own attitude to the subject. As the result showed, 98% of students showed an interest in this method of training.

It was established that 87% of students in the preparatory department expressed that as a

result of the use of interactive technology in the formation of foreign language communicative competence, the nature of the interaction of students has changed. As the respondents indicated, they became “more human”, “soulful”. 76% noted that the quality of the educational process has changed, “classes have become more interesting” - 89%, students in classes have become more active - 76%, communication in the classes becomes “productive” - 43%, more than 60% successfully cope with the flow of information (Chart 2).

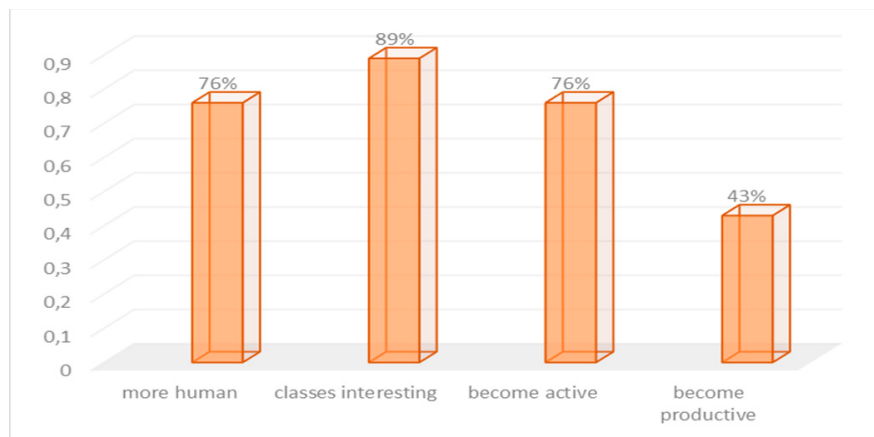


Chart 2 – The survey results

Thus, teaching students English and the formation of their foreign language communicative competence through the use of interactive technologies allowed them to consciously change and carry out work on the formation of the communicative competence of students based on interactive tasks.

Conclusion

The principles of foreign language education are the principles of the theory and practice of foreign language education, which demonstrate the objective laws and laws of foreign language education and create a systematic structural organization, activity and development of foreign language education processes for the formation of intercultural and communicative competence as a targeted category, and at the same time determine the teacher’s activities

the formation and development of these processes. At the present stage of humanization of education, the key point is the development of a person as a personality. The formation and development of personality in foreign language natural science education will be effective if students engage in active educational and cognitive activities during the educational process, based on cooperation and partnership between the teacher and students.

The experiment showed that mastering a foreign language will be effective if the student’s learning activities are intensive and active, and all students are active participants during the training session and are involved in speech activity and all other activities during the lesson.

Thus, we have identified the necessary principles and approaches to teaching in the foreign language natural science educational process, which, in our opinion, are the most effective in a profile school.

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