

Baimakhanova Gulnar Kaldybayevna – Master of Pedagogical Sciences, Lecturer of the Department of pedagogy, psychology and primary education, K.Zhubanov Aktobe Regional University, Republic of Kazakhstan, 030000, Aktobe, 34 Moldagulova Ave., tel.: +7-701-360-69-53, e-mail: 22.ala@inbox.ru.*

Baimakhan Saule Nurlankyzy – Master of Pedagogical Sciences, Lecturer of the Department of pedagogy, psychology and primary education, K.Zhubanov Aktobe Regional University, Republic of Kazakhstan, 030000, Aktobe, 34 Moldagulova Ave., tel.: +7-775-664-64-90, e-mail: 2008379@rambler.ru.

Boranbayeva Gainizhamal Baimakhanovna – Master of Pedagogical Sciences, Lecturer of the Department of psychological, pedagogical and special education, K.Zhubanov Aktobe Regional University, Republic of Kazakhstan, 030000, Aktobe, 34 Moldagulova Ave., tel.: +7-775-718-53-02, e-mail: belgradsec@gmail.com.

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SCIENTIFIC AND METHODOLOGICAL SUPPORT FOR DEVELOPING INDIVIDUAL'S INTERACTIVE COMPETENCE DURING FOREIGN LANGUAGE TEACHING AT THE UNIVERSITY LEVEL

Baisseitova Zh.B. – Candidate of Pedagogical Sciences, Associate Professor, I. Altynsarin Arkalyk Pedagogical Institute, Arkalyk, Republic of Kazakhstan.*

Amirbekuly Y. – Doctor of Economic Sciences, Professor, I. Altynsarin Arkalyk Pedagogical Institute, Arkalyk, Republic of Kazakhstan.

Kudaibergenov A.Y. – Candidate of Pedagogical Sciences, acting Associate Professor, Sh. Murtaza International Taraz innovative institute, Taraz, Republic of Kazakhstan.

Shavaliyeva Z.Sh. – Candidate of Pedagogical Sciences, A. Margulan Pavlodar Pedagogical University, Pavlodar, Republic of Kazakhstan.

In modern conditions, foreign language education is positioned as one of the key factors in the socio-cultural and socio-economic development of a country, with its effectiveness directly influencing the nation's competitiveness and international standing. Accordingly, qualifications as an outcome of professional training imply that graduates possess specific professional skills and abilities. A modern specialist requires not only professional competencies in their specific field but also competencies in interactive communication. The development of an interactive competence of individuals within the process of learning a foreign language is enabled through purposeful and step-by-step activities. The development of a system of professional training relies on administrative, organizational, material resources, but scientific and methodological support form the basis of progressive trends. Scientific and methodological support of the process of teaching a foreign language, acting as an important component of the model, enables using all the resources of higher education in the formation of interactive competence of specialists, determines the general methodology of selection, scientific principles, methods, criteria and applied mathematical apparatus. This article provides a detailed analysis of the main tasks at each stage of the model for developing an individual's interactive competence. Particular attention is given to competency-based tasks as one of the pedagogical methods for fostering interactive competence, specifically in the context of communication.

Key words: education, interactive teaching, competence, personality, scientific and methodological provision.

ЖОҒАРЫ ОҚУ ОРЫНДАРЫНДА ШЕТ ТІЛІН ОҚИТУДА ТҰЛҒАНЫҢ ИНТЕРАКТИВТІ ҚҰЗЫРЕТТІЛІГІН ҚАЛЫПТАСТЫРУДЫҢ ҒЫЛЫМИ-ӘДІСТЕМЕЛІК ҚАМТАМАСЫЗ ЕТІЛУІ

Байсейітова Ж.Б. – педагогика ғылымдарының кандидаты, қауымдастырылған профессор, Ы.Алтынсарин атындағы Арқалық педагогикалық институты, Арқалық қ., Қазақстан Республикасы.*

Әмірбекұлы Е. – экономика ғылымдарының докторы, профессор, Ы.Алтынсарин атындағы Арқалық педагогикалық институты, Арқалық қ., Қазақстан Республикасы.

Құдайбергенов А.Е. – педагогика ғылымдарының кандидаты, доцент м.а., Ш.Мұртаза атындағы Халықаралық Тараз инновациялық институты, Тараз қ., Қазақстан Республикасы.

Шаваалиева З.Ш. – педагогика ғылымдарының кандидаты, Ә.Марғұлан атындағы Павлодар педагогикалық университеті, Павлодар қ., Қазақстан Республикасы.

Қазіргі жағдайда шет тілін оқыту елдің әлеуметтік-мәдени және әлеуметтік-экономикалық даму факторларының бірі ретінде қарастырылып отыр. Оның тиімділігі бәсекеге қабілеттілігі мен халықаралық беделінің көрсеткіштері арқылы анықталады. Бұл ретте кәсіби дайындық нәтижесіндегі біліктілік, бітірушінің белгілі бір кәсіби дағдыларының бар екендігін білдіреді. Заманауи маманға тек арнайы салада ғана емес, сонымен қатар интерактивті қарым-қатынаста кәсіби құзыреттіліктер қажет. Шет тілін оқыту үдерісінде тұлғаның интерактивті құзыреттілігін қалыптастыру мақсатты және кезеңдік іс-әрекет жағдайында мүмкін болады. Сонымен қатар кәсіптік білім беру жүйесі өз дамуында әкімшілік, ұйымдастырушылық және материалдық ресурстарға сүйенеді, бірақ ғылыми-әдістемелік қамтамасыз ету прогрессивті тенденциялардың негізін құрайды. Шет тілін оқыту үдерісін ғылыми-әдістемелік қамтамасыз етуі мамандардың интерактивті құзыреттілігін қалыптастыруда жоғары оқу орындарының барлық ресурстарын пайдалануға мүмкіндік береді, сонымен қатар, жалпы таңдау әдістемесін, ғылыми принциптерін, әдістерін, критерийлерін және қолданбалы математикалық аппаратын анықтайды. Бұл мақалада автор тұлғаның интерактивті құзыреттілігін қалыптастыру моделінің кезеңдерінің негізгі міндеттерін жан-жақты қарастырады. Қарым-қатынасты жүзеге асыруға байланысты интерактивті құзыреттілікті дамытудың педагогикалық әдістерінің бірі ретінде құзыреттілікке бағытталған тапсырмаларға назар аударылады.

Түйінді сөздер: білім беру, интерактивті оқыту, құзыреттілік, тұлға, ғылыми-әдістемелік қамтамасыз ету.

НАУЧНО-МЕТОДИЧЕСКОЕ ОБЕСПЕЧЕНИЕ ФОРМИРОВАНИЯ ИНТЕРАКТИВНОЙ КОМПЕТЕНТНОСТИ ЛИЧНОСТИ ПРИ ОБУЧЕНИИ ИНОСТРАННОМУ ЯЗЫКУ В ВУЗЕ

Байсеитова Ж.Б. – кандидат педагогических наук, ассоциированный профессор, Аркалыкский педагогический институт имени Ы. Алтынсарина, г. Аркалык, Республика Казахстан.*

Амирбекулы Е. – доктор экономических наук, профессор, Аркалыкский педагогический институт имени Ы. Алтынсарина, г. Аркалык, Республика Казахстан.

Кудайбергенов А.Е. – кандидат педагогических наук, и.о. доцента, Международный Таразский инновационный институт им. Ш.Х. Муртазы, г. Тараз, Республика Казахстан.

Шавалиева З.Ш. – кандидат педагогических наук, Павлодарский педагогический университет им. Ә. Марғұлан, г. Павлодар, Республика Казахстан.

В современных условиях обучение иностранному языку позиционирует себя в качестве одного из факторов социально-культурного и социально-экономического развития страны, от эффективности которой зависят показатели ее конкурентоспособности и международного авторитета. Отсюда, квалификация как результат профессиональной подготовки подразумевает наличие у выпускника определенных профессиональных умений и навыков. Современному специалисту необходимы профессиональные компетенции не только в специальной области, но и компетенции в интерактивном общении. Формирование интерактивной компетентности личности в процессе обучения иностранному языку возможно при условии целенаправленной и поэтапной деятельности. При этом система профессионального образования в своем развитии опирается на административные, организационные, материальные ресурсы, однако научно-методическое обеспечение составляет основу прогрессивных тенденций. Научно-методическое обеспечение процесса преподавания иностранного языка, выступая значимым компонентом модели, дает возможность использовать все ресурсы высшей школы в формировании интерактивной компетентности специалистов, определяет общую методологию подбора, научные принципы, методы, критерии и применяемый математический аппарат. В данной статье автором подробно рассмотрены основные задачи этапов модели формирования интерактивной компетентности личности. Внимание уделено компетентностно-ориентированным заданиям, как педагогическому методу развития интерактивной компетентности, связанной с реализацией общения.

***Ключевые слова:** образование, интерактивное преподавание, компетентность, личность, научно-методическое обеспечение.*

Introduction. The need for specialists speaking a foreign language has increased especially nowadays due to the development of international business contacts, the development of new technologies, the creation of numerous joint ventures and the intensification of professional activities in close contact with foreign specialists. Due to the social order of the society, the emergence of issues of teaching foreign languages to specialists is one of the most urgent problems of teaching foreign languages at the university.

The experience of teaching a foreign language shows that the familiarization of future specialists with professional fragments of a foreign worldview are significantly limited by the absence of many stereotypical communication situations, professional concepts peculiar to the society of the country of the studied language.

The education system that exists today was formed in the era of modern times and is based on the transfer of substantial knowledge. The new European culture is a branch culture, rational (every knowledge or every activity is divided into a sequence of operations), monologue (there is only the voice of reason that speaks the truth, and the truth is the same for everyone), utilitarian (everything requires justification, and the benefit itself is an excuse, so everything exists for something). In this logic, qualification as a result of professional training implies that the graduate has certain professional skills and abilities [1, p. 48].

On the other hand, employers do not need qualifications, which, according to them, is associated with the fragmentation of production functions into a number of tasks and activities. They need competence as a combination of skills specific to each individual, which combines qualifications with social behavior, the ability to work in a group, initiative, and the ability to make decisions and be responsible for their consequences.

The goal of the study is to provide theoretical justification and scientific and methodological support for the formation of an individual's interactive competence in the process of teaching a foreign language in higher education.

The hypothesis of the study is that if scientific and methodological support is provided for the development of an individual's interactive competence in the process of learning a foreign language in higher education using specialized content and pedagogical methods, this will contribute to the targeted formation of interactive competence. This is because it will achieve the required level of professional training, enabling graduates to successfully communicate in a foreign language.

The aim and hypothesis of the study determined the need to address the following **objectives**:

1. Identify the social and psychological-pedagogical prerequisites for the development of an individual's interactive competence;
2. Define the essence and content of the concept of "interactive competence" of an individual;
3. Develop a structural-content model for the formation of an individual's interactive competence;
4. Substantiate and experimentally test the effectiveness of selecting scientific-methodological materials and pedagogical methods for forming an individual's interactive competence.

Materials and methods of research. The analysis of research in the field of foreign language education at the university has shown that a modern specialist needs professional competencies not only in a special field, but also

competencies in interactive communication. Consequently, the success of effective interaction with the subjects of activity, regulation of the system of relations in the team, adjustments, analysis of activities depends on them [2, p. 28].

Interactive competence, which is considered in many researches as readiness and ability for effective communicative interaction through perception, understanding and interpretation of the meanings of a foreign language text and its linguistic expression in the context of professional discourse, is the object of formation in the process of teaching a professionally oriented foreign language in non-linguistic universities. Accordingly, the research and practice of teaching a foreign language at a university confirm the need to study such issues as identifying optimal conditions and determining the most effective means of forming interactive competence when teaching a professionally oriented foreign language.

The analysis of relevant sources, especially the history of its formation, shows the complexity, multidimensionality and ambiguity of the interpretation of the concept of "competence" and the approach based on it to the process and result of education. The main goals of the reform of European education in the context of the processes of globalization were defined as follows:

- to introduce comparable systems of multilevel higher education (bachelor-master);
- to introduce a credit framework for accounting the volume of subjects studied;
- to create a system of quality control and certification (accreditation) of educational programs and universities;
- to implement internal systems and mechanisms of quality control of the educational process in universities involving students, teachers and external experts;
- to introduce a single form of diploma supplement of higher education (to increase the mobility of students and educators);
- to improve the quality of higher education.

It is obvious that in the light of modern requirements for graduates, which are formed under the influence of the situation on the labour market and processes such as the acceleration of the pace of development of society and the widespread informatization of the environment, the authoritarian reproductive system of education is outdated. Nowadays education focused only on acquiring knowledge means focusing on the past [3, p. 9].

In a changing world, the education system should form such new qualities of graduates as initiative, innovation, mobility, flexibility, dynamism and constructiveness. A future professional should have the desire for self-education throughout his life, speak a foreign language and understand the possibilities of its use, be able to adapt in a multicultural social and future professional sphere, solve problems and work in a team, regardless of the language in which communication is carried out. The upbringing of such a socially and professionally active personality requires teachers of modern higher schools to apply completely new methods, techniques and forms of work in order to form a competent graduate in all potentially significant areas of professional education and life itself.

There is a need to create effective pedagogical conditions that ensure competent command of a foreign language. We defined the outcome of learning a foreign language as the formation of interactive competence, the development of methods and strategies of independent cognitive activity in the use of language means of a foreign language. The main emphasis is not on the study of tools (a foreign language as such), but on the development of the ability to use it for communicative purposes. Combining systemic, personal-activity and competence-based approaches to teaching foreign languages allows us to take a fresh look at the content of the educational process and identify the leading linguistic and pedagogical methods of its organization.

The formation of an interactive competence of an individual within the process of learning a foreign language – the formation of a set of interrelated knowledge, skills, personality qualities that contribute to the establishment and maintenance of constructive contacts with other people in a foreign language – is possible under the condition of purposeful and step-by-step activities [4, p. 15].

According to the model developed by us for the formation of interactive competence of the individual, this process is carried out in stages.

The tasks of the first phase of the practical stage of activity are associated with the formation of the target component of the interactive competence of the individual. The basis for the development of motives and awareness of the need for knowledge of a foreign language are socio-economic and psychological-pedagogical prerequisites that serve as a mechanism for improving the learning process.

The settings for the formation of the target component are determined by regulatory documents. In the SCES, in the section "Requirements for the level of training of students", the expected learning outcomes are determined on the basis of Dublin descriptors of the first level (bachelor's degree) and expressed through competencies. Learning outcomes are formulated both at the level of the entire program and at the module level of a separate discipline.

First – level descriptors assume abilities:

- 1) demonstrate knowledge and understanding in the studied field, including elements of the most advanced knowledge in this field;
- 2) apply this knowledge and understanding at a professional level;
- 3) formulate arguments and solve problems in the studied field;
- 4) to collect and interpret information for the formation of judgments taking into account social, ethical and scientific considerations;
- 5) to report information, ideas, problems and solutions to both specialists and non-specialists [5].

The elective component, which is determined by the university independently, takes into account the specifics of the socio-economic development of a particular region and the needs of the labor market, the established scientific schools in a particular higher education institution, as well as the individual interests of the student himself. The compulsory component of the BD cycle includes the discipline "Professionally oriented foreign language" in the volume no less than 2 credits.

From the above excerpts from the SCES, we can see that the purpose of teaching a foreign language at a university is not only to prepare students to communicate in a foreign language orally and in writing form, which will allow students to read foreign literature in the original, receive information on the specialty, participate in international seminars and forums, but also freely interact with native speakers.

Accordingly, the possession of high school graduates with the skills and abilities of self-education is the next stage of professional self-improvement. The harmonious combination of the substantive and formal aspects of the subject "Foreign language" is an important factor not only in the success of teaching, but also in the basis for the formation of interactive competence of a person in foreign language lessons. Based on the above stated, we have identified the following conditions for the effective formation of interactive competence in the process of teaching a foreign language at a university (table 1).

Table 1 – Conditions for effective formation of interactive competence in the process of teaching a foreign language at a university

Conditions for effective formation of interactive competence in the process of teaching a foreign language at a university

Optimization of the joint activities organization of teachers and students	Improving the content and forms of foreign language teaching	Scientific and educational-methodical updating of the teaching process
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The tasks of the second stage of the formation of interactive competence are associated with the development of a substantial component. The most important aspect of this process is scientific and methodological support.

In the psychological and pedagogical literature, there are different concepts and interpretations of the term "support": this term means – the environment and the educational environment, the learning environment, the information environment, the educational space, information and methodological support, educational and methodological support, methodological support, scientific and methodological support.

We are impressed by the point of view of T. P. Kazakova, who understands the scientific and methodological support of the quality system of education as a set of normative, programmatic, didactic, criterion-evaluation materials, aimed at improving the effectiveness of professional training of specialists and focused on the effectiveness of the subjects of the educational process (students, teachers, university and employers) and adequate socio-economic development of the state [6, p. 5].

Scientific and methodological support determines the general methodology of selection, scientific principles, methods, criteria and applied mathematical apparatus. Evaluation and verification of the effectiveness of recruitment, analysis and generalization of data, development of recommendations for improving the work of personnel services are of great importance.

Accordingly, we interpret the scientific and methodological support for the formation of interactive competence in the process of teaching a foreign language as a set of normative (SCES, WAP, SAP), programmatic (AMC, programmes), didactic (monographs, manuals, textbooks, methodological guidelines, competence based tasks, trainings, techniques for the development of critical thinking), criteria and evaluation materials (knowledge control materials: tests, tasks).

Scientific and methodological support of the teaching process should be based on empirical experience, which, in turn, is related to the requirements of regulatory documents. Besides the state standards of the education system, there are such documents as standard qualification characteristics, which graduates of the university are guided to use them directly in their activities. For scientists, teachers of higher education, they serve as a guide in teaching [7, p. 65].

The system of vocational education in its development relies on administrative, organizational, material resources, but scientific and methodological support form the basis of progressive trends.

The need to ensure the variability, practical and personal orientation of the educational process at the university today is associated with the design of individual educational trajectories, the introduction of interactive and activity components into the educational process, the formation of competencies necessary to achieve professional and personal growth.

The substantive and procedural aspects of this process are based on scientific and methodological support, which are reflected in the educational and methodological complex (Figure 1).

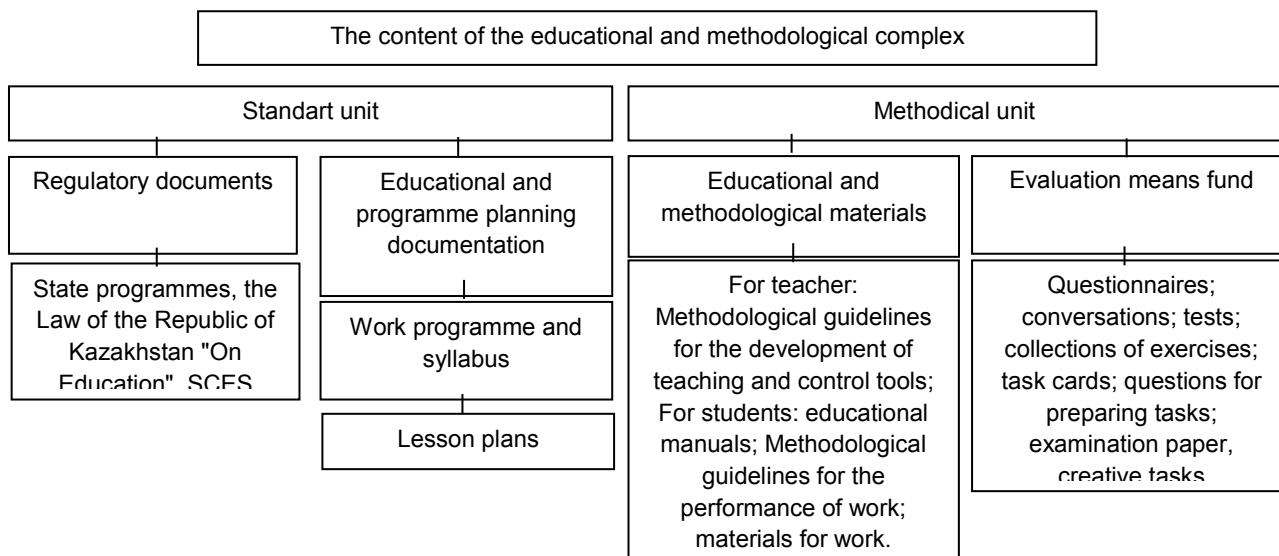


Figure 1 – The content of the educational and methodological complex

The subject content of interactive competence makes it possible to determine the complex and scope of knowledge, skills, abilities and competencies acquired by students during foreign language teaching. The main normative documents regulating the learning process in higher education are constantly being improved, responding to the challenges of practice, the labor market and imposes requirements for the construction of an educational learning trajectory.

The main goal of the training is to master the interactive competence of students. It will allow them to continue using a foreign language in various fields of professional activity, scientific and practical work, in communication with foreign partners, as well as improving the previously acquired oral speech skills and the formation of new group communication skills in the form of discussions on public and career-oriented problems.

For example, to solve problems related to the formation of interactive competence, it is effective to use specially designed competence-oriented tasks in foreign language classes. These tasks require the use of knowledge in conditions of uncertainty, outside of the educational situation, organize the student's activities, and do not require them to reproduce information or individual actions (V.A. Bolotov) [8, p. 12].

The competence-oriented task (COT) is an activity-based one, simulates a life situation, has a certain structure, is based on relevant material, requires the use of general educational skills, the involvement of existing experience. Each component of the COT is complied to certain requirements, due to the fact that this task organizes the student's activities, and not by reproducing information or individual actions. Based on the requirements for the students' activities, the teacher, in preparation for the lesson, determines which aspects of key competencies can be formed when studying this topic, at what stage of mastering the topic, students can be offered a task [9, p. 76].

Working with such tasks, students master the aspect of public speaking, learn to comply with the norms of public speech and regulations, prepare a speech plan, work with questions asked for clarification and understanding. All this helps to form productive group communication. Students independently follow the prescribed procedure of group discussion, explain their idea or prove their attitude to the ideas of other members of the group, thereby developing interactive competence related to the implementation of communication.

Results and discussion. Requirements for "CRT" (Creative Research Tasks):

- the task requires progression from reproducing a known model to independently expanding knowledge. Such a task involves creating or researching new information unfamiliar to students based on existing knowledge.
- the task requires finding and developing new, previously unexplored approaches to analyzing an unfamiliar problem or situation requiring decision-making under conditions of uncertainty. Solving the problem or situation may have practical significance or represent personal, social, and/or cognitive interest.
- the task involves creating a coherent written or oral statement, such as a descriptive or argumentative text, oral or written conclusion, commentary, explanation, description, report, hypothesis formulation and justification, statement, evaluative judgment, reasoned opinion, appeal, instruction, etc., with specified parameters: topic, communicative purpose, volume, and format.
- the task presumes the reasonable and justified use of ICT to enhance the effectiveness of the process of developing all key skills (independent acquisition and transfer of knowledge, collaboration and communication, problem-solving, self-organization, as well as ICT skills).

Table 2 – Levels of Interactive Competence Development in Students

Levels	Critical		Acceptable		Optimal	
	Start of experiment	End of experiment	Start of experiment	End of experiment	Start of experiment	End of experiment
1	2	3	4	5	6	7
Motivational	13%	13%	64%	67%	23%	20%
cognitive	4%	2	90%	91%	6%	7%
Professional-Personal	6%	4%	55%	57%	39%	39%

As we can see, at the beginning of the study in both the experimental and control groups, the majority of students showed little interest in learning a foreign language, engaging in interactive communication, or recognizing the importance of English language proficiency. This is also confirmed by the survey results.

The reasons lie in the lack of necessary knowledge among students regarding the essence of interactive speech activity. These two criteria had a mutual influence. They also affected the development of professional and personal qualities and competencies.

Students at the critical level of interactive competence formation are unable to set goals for speech interaction and lack the skills to organize interaction among participants in the educational process. Moreover, such students cannot identify or analyze the reasons hindering the successful organization of interaction and, consequently, are unable to stimulate processes and relationships. Functions of control and coordination of activities are not implemented.

At the control stage, positive dynamics for this criterion are observed. If, at the beginning of the experiment, 15% of students were at the critical level, by the control stage this figure improved by 5%. The optimal level was reached by 38% of students compared to 35% at the beginning of the experiment, showing a 3% increase.

No such changes were observed in the control group. Only one student advanced from the critical to the acceptable level. At this level, students insufficiently plan the goals of interaction, do not always select appropriate organizational methods, and often fail to identify the reasons hindering successful interaction. The regulation of processes remains spontaneous, and the control of communication among participants is inconsistent.

The study of a foreign language is carried out at all levels of school education, and continues in the system of vocational education. It should be noted that in modern conditions, foreign language teaching positions itself as one of the factors of social-cultural and social-economic development of the country, on the effectiveness of which the indicators of its competitiveness and international prestige depend. In higher education, the main goal in teaching a foreign language is to prepare for the use of knowledge, skills, and competencies in a professional, multilingual environment.

Conclusion. The analysis of views on the scientific and methodological support of the process of formation of interactive competence in the process of teaching a foreign language showed that:

- the content of scientific and methodological support can be interpreted as a set of normative (SCES, WAP, SAP), programmatic (AMC, programmes), didactic (monographs, manuals, textbooks, methodological guidelines, COTs, trainings, techniques for the development of critical thinking), criterion-evaluation materials (control materials);
- normative, educational and methodological documentation, the regulation of which regarding the goals and objectives of the formation of interactive competence depends on approaches to teaching a foreign language, enriching the content of teaching with materials about current trends in teaching;
- didactic materials should meet the needs of educational practice, reflecting modern scientific views on teaching and contributing to the development of independence in getting an education;
- for a student learning a foreign language, learning is not limited to the formation of knowledge. Standard qualification characteristics as a reflection of practice requests put forward requirements for mastering interactive competence.

Compared with the traditional list of teaching tools and educational equipment in a foreign language, modern recommendations are focused not only on ensuring the visibility of the learning process, but also, first of all, on creating the necessary conditions for the implementation of the requirements for the level of training of graduates.

Scientific and methodological support of the process of teaching a foreign language, acting as an important component of the model, makes it possible to use all the resources of higher education in the formation of interactive competence of specialists.

Thus, the use of the capabilities of higher school in teaching a foreign language contributes to the formation of interactive competence among future specialists, which allows them to solve professional problems in current conditions.

Based on the results obtained in the study, we proposed a number of recommendations for the formation of interactive competence in the process of teaching a foreign language at a university:

- 1) systematic pedagogical activity is necessary in the formation of interactive competence.
- 2) the first stage of the formation of IC, the purpose of which is to help the student understand the importance of learning a foreign language, should begin from the first year, when the discipline of the compulsory cycle "foreign language" is studied, aimed at creating motivation for learning a foreign language.
- 3) studying the discipline "Professionally oriented foreign language" is the main condition that resolves the problems of the content of the educational program.
- 4) the use of interactive teaching methods and the development of assignments require a lot of preparatory work on the part of the teacher; it is important to take this aspect into account when planning the hours allocated to students assigned to independent work, when distributing the load and calculating assignments.
- 5) to implement the practical aspect in teaching a foreign language, we propose to include in the training program a number of tasks that contribute to the development of interactive competence.
- 6) it is necessary to strengthen the methodological support of the language training process.
- 7) the formation of interactive competence must be consistently implemented. Accordingly, it is important to reconsider the scientific and methodological support of the learning process.

The main provisions and conclusions give grounds to assert that the hypothesis has been confirmed and the research objectives have been solved. The results of introducing theoretical and scientific-practical developments into educational practice have experimentally confirmed their positive impact on the process of developing interactive competence. The completed research determines new directions for research into problems of teaching a foreign language. We see possible directions for further development of the stated problem in the study of the features of the organization of the formation of basic competencies.

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Information about the authors:

Baiseitova Zhanar Baiseitovna* – Candidate of Pedagogical Sciences, acting Associate Professor, I. Altynsarin Arkalyk Pedagogical Institute, Republic of Kazakhstan, 110300, Arkalyk, 17 Auelbekov Str., tel.: +7-771-560-41-00, e-mail.: baiseitova-z@bk.ru.

Amirbekuly Yerzhan – Doctor of Economic Sciences, Professor, I. Altynsarin Arkalyk Pedagogical Institute, Republic of Kazakhstan, 110300, Arkalyk, 17 Auelbekov Str., e-mail: e.amirbekuly@api.edu.kz.

Kudaibergenov Arman Yergaliyevich – Candidate of Pedagogical Sciences, acting Associate Professor, International Taraz innovative institute named after Sh. Murtaza, Republic of Kazakhstan, 080000, Taraz, 69B Zheltoksan Str., tel.: +7-702-000-99-99, e-mail: kudaibergenov@htii.kz.

Shavaliyeva Zulfiya Shavaliyevna – Candidate of Pedagogical Sciences, Associate Professor of the Higher School of Pedagogy, A. Margulan Pavlodar Pedagogical University, Republic of Kazakhstan, 140000, Pavlodar, 60 Olzhabai Batyr Str., tel.: +7-705-148-76-50, e-mail: zulyas580plm@mail.ru.

Байсейітова Жанар Байсейітқызы* – педагогика ғылымдарының кандидаты, қауымдастырылған доцент (профессор), Ы. Алтынсарин атындағы Арқалық педагогикалық институты, Қазақстан Республикасы, 110300, Арқалық қ., Ауельбеков к., 17, тел.: +7-771-560-41-00, e-mail: shanar_b@mail.ru.

Әмірбекұлы Ержан – экономика ғылымдарының докторы, профессор, Ы. Алтынсарин атындағы Арқалық педагогикалық институты, Қазақстан Республикасы, 110300, Арқалық қ., Ауельбеков к., 17, e-mail: e.amirbekuly@api.edu.kz.

Құдайбергенов Арман Ерғалиұлы – педагогика ғылымдарының кандидаты, доцент м.а., Ш. Мұртаза ат. Халықаралық Тараз инновациялық институты, Қазақстан Республикасы, 080000, Тараз қ., Желтоқсан к., 69Б, тел.: +7-702-000-99-99, e-mail: kudaibergenov@htii.kz.

Шавалиева Зулфия Шавалиевна – педагогика ғылымдарының кандидаты, педагогика жоғары мектебінің профессоры, Ә. Марғұлан атындағы Павлодар педагогикалық университеті, Қазақстан Республикасы, 140000, Павлодар қ, Олжабай Батыр к., 60, тел.: +7-705-149-76-50, e-mail: zulyas580plm@mail.ru.

Байсеитова Жанар Байсеитовна* – кандидат педагогических наук, ассоциированный доцент (профессор), Аркалыкский педагогический институт имени Ы. Алтынсарина, Республика Казахстан, 110300, г. Аркалык, ул. Ауельбекова, 17, тел.: +7-771-560-41-00, e-mail: shanar_b@mail.ru.

Амирбекулы Ержан – доктор экономических наук, профессор, Аркалыкский педагогический институт имени Ы. Алтынсарина, Республика Казахстан, 110300, г. Аркалык, ул. Ауельбекова, 17, e-mail: e.amirbekuly@api.edu.kz.

Кудайбергенов Арман Ерғалиевич – кандидат педагогических наук, Международный Таразский инновационный институт им. Ш.Х. Муртазы, Республика Казахстан, 080000, г. Тараз, ул. Желтоқсан, 69Б, тел.: +7-702-000-99-99, e-mail: kudaibergenov@htii.kz.

Шавалиева Зулфия Шавалиевна – кандидат педагогических наук, профессор Высшей школы педагогики, Павлодарский педагогический университет им. Ә. Марғұлан, Республика Казахстан, 140000, г. Павлодар, ул. Олжабай Батыр, 60, тел.: +7-705-149-76-50, e-mail: zulyas580plm@mail.ru.

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ПРАКТИЧЕСКОЕ ПРИМЕНЕНИЕ STEM-ТЕХНОЛОГИИ НА ЗАНЯТИЯХ ЕСТЕСТВЕННОНАУЧНОГО НАПРАВЛЕНИЯ В ВЫСШЕЙ ШКОЛЕ

Брагина Т.М.* – доктор биологических наук, профессор кафедры естественно-научных дисциплин, Костанайский региональный университет имени Ахмет Байтұрсынұлы, г. Костанай, Республика Казахстан; главный научный сотрудник Азово-Черноморского филиала ФГБНУ «ВНИРО» («АзНИИРХ»), г. Ростов-на-Дону, Российская Федерация.

В статье представлены результаты анализа практического применения STEM-технологии в образовательном процессе высшего учебного заведения при преподавании дисциплин биологического цикла. Цель исследования – анализ эффективности применения STEM-технологии на практических занятиях естественнонаучного направления в высшей школе. Задачи: провести анализ эффективности применения STEM-технологии на примере изучения темы «Прямокрылые (Orthoptera)» студентами, обучающимися по биологическому направлению. В процессе работы было проведено первоначальное тестирование студентов на остаточные знания после проведенного занятия по традиционной форме обучения и после занятия с применением STEM-технологии. В разделе актуализации знаний с применением STEM-технологии был применен групповой метод работы, персонализация заданий, визуализация и анализ полученных результатов. Для определения отношения студентов к STEM-технологии в конце занятия было проведено анкетирование, по каждому вопросу были сделаны соответствующие выводы. В работе использовались следующие исследовательские методики: сравнительный анализ и педагогическое наблюдение. В результате проведенных работ было показано статистически достоверное повышение уровня усвоения знаний по теме занятия после применения STEM-технологии. Отмечено повышение мотивации и интереса студентов к изучению материала, а также развитие таких навыков, как креативность, критическое мышление, командная работа и направленность на решение проблем. В то же время большинство студентов пришло к выводу, что в развитии профессиональных качеств, навыков и умений использование STEM-технологии и традиционной