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## **The role of innovative technology in the process of training specialists of the information profile**

The main problems of training specialists in the information field with the application of innovative technologies are considered in the article. The goals and objectives of the educational program that provide comprehensive training of qualified, competitive professionals based on the development of student's personal qualities, as well as the formation of universal and professional competencies are shown. The authors analyzed the issues of credit and distance learning technology. The possibilities of using innovative technologies in the process of training information professionals are described. The main types of interactive educational technologies and teaching methods used in the educational process of the university singled out. The authors concluded that the use of innovative technologies contribute to the development of cognitive interest among students, they teach to systematize and generalize the material studied, to discuss and debate.

*Keywords:* training, innovative technologies, educational programs, competitive specialists, competence, credit education technology, distance education technology.

One of the most important directions of the development of the Republic of Kazakhstan is the informatization of the society, which is focused on radically improving of efficiency and quality of professional training of highly qualified specialists that meet the world educational standards.

The quality of training specialists: from the educational process focused on the future professional activity, which is connected with the solution of various processing tasks, transmission, transformation of flowing information flows and processes.

Credit system and distance learning technologies, which allow students to build an individual trajectory of learning; to choose teachers; independently learn training courses, using educational and methodological complexes of disciplines, course cases, resources of the electronic library; to receive consultations of teachers during independent work of students under the guidance of the teacher; track your academic rating, etc., contribute to ensuring the transparency of the educational program of information specialists.

Within the educational program is used credit technology which allows successfully implementing the principles of the Bologna process: academic mobility, a system of joint education and training. The emphasis of the programs is on basic science, mathematics and information training aimed at the formation of universal cultural and professional competencies of graduates [1].

All educational documents, including working curricula, teaching and methodological complexes, course cases, methodological recommendations, etc. are prepared under the model curriculum and model curricula. By forming an educational program, specialists use scientifically based approaches to planning, methodological provision, and teaching technologies. It contributes to maintaining the continuity of standard programs, working curricula and teaching and methodological complexes. Academic integrity of normative and educational documents, which are resulting from it, ensures effective management of the implementation mechanism of educational programs.

Currently implemented formats of educational programs, the system of planning the educational process, methods of teaching disciplines are determined by the credit technology of education. With the adoption of credit technology, the methodology of conducting classes was adjusted through the use of interactive learning tools: discussions, a round table, a forum, technology in online mode. Individual work of students is actively practiced in preparation of diploma and coursework. It contributes to the development of skills of writing scientific research based on a common methodology and the ability to defend one's own position. Subject matter of scientific research of students corresponds to the direction of the educational program.

Distance learning technology is provided with computer support program, which allows to conduct virtual classes using electronic lectures, course cases, electronic textbooks, virtual consultations, on-line testing. There are educational and methodological materials, timetable of classes, timetable for the independent work of students under the guidance of a teacher, a guidebook, etc. on the official website of the university

www.ksu.kz. Teachers who are working in the conditions of distance learning technology have been trained and have certificates. Disciplines studied within the framework of distance learning are provided with course cases.

The basic principles of public policy in the field of education include the equality of rights of all to receive qualitative education and the availability of education of all levels for people, taking into account the intellectual development, psychophysiological and individual characteristics of each citizen. Inclusive education is one of the processes of transforming the education system, focused on the formation of conditions of the accessibility of qualitative education for all. Access to the education for students with disabilities is provided by the system of e-learning, distance learning, which is implemented in the Ye.A. Buketov Karaganda State University.

In the Ye.A. Buketov Karaganda State University training of specialists of extramural form of education is implemented with the usage of case and network technology of distance learning. Case technology of distance learning is based on the use of an electronic educational and methodical complex - a course case that contains a full set of educational and methodological materials on the specialty and course.

The network technology of distance learning is realized through the computer program «Automated support of distance learning «Fakel-2» - a modern software, which is intended for training remote users with the help of the global Internet. The software for «Fakel-2» computer received an author's certificate which is registered in the Committee of Intellectual Property Rights of the Ministry of Justice of the Republic of Kazakhstan No. 813 of June 19, 2012.

Teaching and methodological base for students on distance educational technologies: the library fund of the Ye.A. Buketov Karaganda State University; electronic lectures, electronic textbooks and manuals; course cases; video lectures and video materials; Internet resources; access to satellite TV channels; audio materials.

The implementation of interactive forms of education is one of the most important directions for improving the preparation of students in modern university. Nowadays the main methodological innovations are connected with the use of interactive methods of teaching. The educational process, based on the use of interactive teaching methods, is organized by taking into account the inclusion of all students of the group without exception. Joint activity means that everyone makes his own individual contribution, an exchange of knowledge, ideas, methods of activity take place during the work. Individual, pair and group work are organized, project work, role games are used, work with documents and various sources of information is carried out.

The main types of interactive educational technologies and training methods in preparing future specialists that are used in the educational process of the university: work in small groups, project technology, Case-study, role-playing and business games, modular training, development of critical thinking, individual training, interdisciplinary training, information and communication technologies (IT-methods).

Electronic textbooks, electronic lectures, multimedia presentations were developed by teachers and now they are actively used to study the disciplines effectively.

The electronic resources of the university have a base of digital didactic materials, including electronic lecture courses, multimedia presentation materials. Teachers conduct webinars on various scientific topics, on-line communication, etc. [2].

Student-centered education allows to realize the personal and creative potential of students. Academic environment of the university helps to form such characteristics of students as responsibility, independence, desire for personal and professional growth. The most effective tool of this approach is the activity type of education. The advantage of evaluating the learning outcomes of students on an educational trajectory is the focus on the achievements of students. To reward the achievements of students, including academic successes, active public activities, the university provides a system of credits: the provision of university grants and scholarships, prizes, letters of appreciation and letters of commendation.

One of the important components of the acquired competencies is the ability to work in a team, quickly adapt to the group and do your own part of the job; build a business relationship; persuade colleagues of the correctness of the proposed solution; admit mistakes and take someone else's point of view; manage and obey depending on the task assigned to the team; to restrain personal ambitions and come to the rescue of colleagues. The method of forming this quality is practical lessons using business games, discussions, multimedia programs, which allows to identify the professional skills and capabilities of each of the participants and also features of interaction with team members.

Improvement and development of the system of research activities of university students is designed to solve such problems as: active engagement of students in research activities, integration of scientific research

and educational process at all levels of training; improvement and development of the support system of student initiatives in the field of research.

The structure of the educational program allows students to participate in scientific research and acquire the culture of research. The trajectory of education requires student's compulsory preparation of research papers, starting from the 3rd course. Each student is assigned a supervisor, whose tasks include providing methodological assistance in writing coursework and diploma. Alternative forms of participation of students in research work are the preparation of scientific reports, participation in student conferences, the publication of articles in co-authorship with the scientific supervisor. Program's students participate in the work of the Scientific Association of students and undergraduates of the University, whose tasks are coordinating the research work of students. This public association involves students in the work of conferences, forums, competitions, provides scientific and methodological assistance, informs about upcoming scientific events.

Within the framework of annual plans, students participate in scientific research in priority areas of research of departments and faculties, prepare and present scientific innovation projects for participation in international and regional competitions, prepare speeches at conferences and scientific articles; for them are organized the meetings with famous Russian and foreign scientists, open lectures, visiting thematic exhibitions, scientific conferences, are organized and trained student teams to participate in the Olympiads.

There are also events on separate scientific areas: master classes, open lectures, presentation of scientific laboratories, student scientific conferences and seminars on the discussion areas of the faculty.

Scientific work is activated and characterized by increasing creative activity of students, raising the level of scientific and organizational activities, deepening international cooperation in the field of scientific work. The number of students participating in NIRS is growing, and the level of authority of science among students is also growing.

To increase the knowledge and development of creative abilities, the students of the program are engaged in clubs, attend training sessions and seminars on teaching modern technologies of software development and testing with subsequent employment in the company.

Nowadays, different types and methods of teaching are used in the world practice of vocational education, such as: dual, integrated, modular and other innovative teaching technologies.

Dual education system provides for the mixture of training in an educational institution with periods of production activity. The educational process is organized in the following way: concurrently with regular studies at a university, college or other vocational school (general education), students go to work for a particular enterprise or firm, where they acquire practical experience (training).

This form of education is an excellent opportunity for employers to train specialists needed by the enterprise, and for students to get not only theoretical but also practical knowledge.

In this way, the main goal of innovative education technologies is to prepare a person for life in an ever-changing world. The goal of innovative activity is a qualitative changing the personality of the student in comparison with the traditional system. Consequently, innovative methods of teaching facilitate the development of cognitive interest in students, they teach to systematize and generalize the studied material, debate and discuss. Comprehending and processing the obtained knowledge, students acquire the skills of applying them in practice, gaining experience of communication. Undoubtedly, innovative methods of teaching have advantages over traditional, because they contribute to the development of students, teach their independence in cognition and decision-making [3].

In this regard, the education system should focus on the formation of a new type of specialist who would be able to independently find, process, analyze the necessary information and effectively use it at the right time.

## References

- 1 Казимова Д.А. Реализация задач комплексной подготовки специалистов информационного профиля / Д.А. Казимова // Международный журнал экономики и образования. — 2017. — № 3. — С. 81–90.
- 2 Шкутина Л.А. Компьютеризация образования: проблемы, сущность, перспективы / Л.А. Шкутина, Д.А. Казимова, Г.Н. Манашова // Вестн. Караганд. ун-та. Сер. Педагогика. — 2013. — № 1(69). — С. 49–54.
- 3 Аркабай Э.С. Инновационные методы обучения в сфере технического и профессионального образования / Э.С. Аркабай, Н.И. Койшыкулова, Р.Т. Каимова, Р.К. Нурманбеков // Исследования, результаты. — 2016. — № 3(71). — С. 236–242.

Д.А. Казимова, А.Б. Кельдибекова, В.А. Кубиева, А.Түсіпхан  
**Ақпараттық бейіндегі үрдісте мамандарды даярлауда  
инновациялық технологиялардың ролі**

Мақалада инновациялық технологияларды қолданатын ақпараттық бейіндегі мамандарды даярлаудың негізгі мәселелері қарастырылды. Студенттердің жеке басының қасиеттерін дамыту, сондай-ақ жан-жақты және кәсіби құзырет қалыптастыру негізінде білікті, бәсекеге қабілетті мамандарды кешенді даярлауды қамтамасыз ететін, білім беру бағдарламасының мақсаттары мен міндеттері көрсетілген. Авторлармен оқытудың кредиттік және қашықтан оқыту технологиясына қатысты мәселелері талқыланған. Инновациялық технологияларды ақпараттық бейіндегі мамандарды даярлау барысында қолдану мүмкіндігі сипатталған. Жоғары оқу орындарының оқу үдерісінде пайдаланылатын оқытудың интерактивті білім беру технологиялары мен әдістерінің негізгі түрлері ажыратылған. Авторлармен инновациялық технологиялардың студенттердің танымдық қызығушылығын дамытуға ықпал ететіндігі, зерделенетін материалды жүйелеуге және жинақтауға, талқылауға және пікір таластыруға үйрететіндігі жайлы қорытынды жасалды.

*Кілт сөздер:* мамандарды даярлау, инновациялық технологиялар, білім беру бағдарламасы, бәсекеге қабілетті мамандар, құзыретілік, кредиттік оқыту технологиясы, қашықтан оқыту технологиясы.

Д.А. Казимова, А.Б. Кельдибекова, В.А. Кубиева, А. Тусипхан  
**Роль инновационных технологий в процессе подготовки  
специалистов информационного профиля**

В статье рассмотрены основные проблемы подготовки специалистов информационного профиля с применением инновационных технологий. Показаны цели и задачи образовательной программы, которые обеспечивают комплексную подготовку квалифицированных конкурентоспособных специалистов на основе развития у студентов личностных качеств, а также формирование универсальных и профессиональных компетенций. Авторами проанализированы вопросы кредитной и дистанционной технологий обучения. Описаны возможности использования инновационных технологий в процессе подготовки специалистов информационного профиля. Выделены основные виды интерактивных образовательных технологий и методов обучения, используемые в учебном процессе вуза. Сделаны выводы, что использование инновационных технологий способствует развитию познавательного интереса у студентов, учит систематизировать и обобщать изучаемый материал, обсуждать и дискутировать.

*Ключевые слова:* подготовка специалистов, инновационные технологии, образовательная программа, конкурентоспособные специалисты, компетенция, кредитная технология обучения, дистанционная технология обучения.

### References

- 1 Kazimova, D.A. (2017). Realizatsiia zadach kompleksnoi podgotovki spetsialistov informatsionnoho profilia [The goals of the comprehensive training of professionals information profile]. *Mezhdunarodnyi zhurnal ekonomiki i obrazovaniia – International Journal of Economics and Education*, 3, 81–90 [in Russian].
- 2 Shkutina, L.A., Kazimova, D.A., & Manashova, G.N. (2013). Informatizatsiia obrazovaniia: problemy, sushchnost, perspektivy [Computerization of education: problems, essence, prospects]. *Vestnik Karahandinskoho universiteta. Seriya Pedagogika – Bulletin of Karaganda University. Series of Pedagogy*, 1(69), 49–54 [in Russian].
- 3 Arkabaj, A.S., Kojshykulova, N.I., Kaimova, R.T., & Nurmanbekov, R.K. (2016). Innovatsionnye metody obucheniia v sfere tekhnicheskoho i professionalnoho obrazovaniia [Innovative teaching methods in the field of technical and vocational education]. *Issledovaniia, rezulyaty – Research, results*, 3(71), 236–242 [in Russian].