

Training of Future Teachers of Vocational Education in the Implementation of Dual Training

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Abstract. The effectiveness of the educational process of higher educational institutions during the period of intensive development of modern technologies directly depends on the professional training of future vocational education teachers. Therefore, the urgent problem is the formation of professional competence and professional training of future specialists. In the state compulsory education standard of the Republic of Kazakhstan, the main goal of secondary general education at the national level is to promote the formation of a competent person who is ready to actively participate in the social, economic and political life of the country. The technology of dual learning involves the comprehensive development of students in the educational, educational process as the main goal of training, the development of the student's thinking skills, perseverance, attention, skills and abilities. The basis for the implementation of dual training at the training base of the Karaganda Technical University is the innovative educational consortium Corporate University, which occupies the position of the most deeply integrated university in industrial production in the socio-economic space of the region. Online educational portal «Tany» is an online platform that allows you to study for free on the course «Theory and Practice of Dual Learning» and make it accessible via the Internet. All this contributed to the development of the motivational component of students.

Keywords: dual education technology, professionalism, vocational training, vocational education, information technology.

Introduction

The professional training of future vocational education teachers affects directly the effectiveness of the educational process of higher educational institutions during the period of intensive development of modern technologies. Therefore, the formation of professional competence and professional training of future specialists may be seen as the urgent problem. The main goal of secondary general education at the national level is to promote the formation of a competent person who is competent to participate in the social, economic and political life of the country actively according to the state compulsory education standard of the Republic of Kazakhstan [1].

When studying the sources of scientific literature Z.I. Ravkin defines the teacher's professionalism: «Teacher's professionalism is a high level of special and general cultural training, professional and general erudition, a property that ensures competition in the labor market and focus on strengthening and developing social, intellectual, moral values education in a single pedagogical process». V.Ya. Sinenko «a teacher professionalism means a concept which unites the level of his abilities, personal qualities and knowledge that manifest as a result of

the teacher's activity» [2].

The purpose of training is to master scientific knowledge, skills, acquisition of the necessary personal and professional abilities and skills [3].

In research work, training manuals, training programs, electronic textbooks have been implemented and developed in the educational process as practical assistance in the training of vocational education specialists at a university.

The manual «Vocational Training Methodology» has been prepared. This manual discusses the objectives and content of training in general technical and special disciplines, forms of organization of academic disciplines, teaching methods and techniques, teaching principles and tools, issues of industrial training. Specialty 5B012000 «Vocational training» in accordance with the state-wide compulsory standard of higher professional education, the future specialist has the following knowledge, skills:

- pedagogical processes in secondary and vocational schools: significance, composition, structure, driving forces, main directions of development;

- goals, content, methods, principles, means and forms of organization and implementation of the pe-

dagogical process;

- modern pedagogical technologies of vocational training and labor technology;
- the basics of design in the learning process;
- actual problems of upbringing and education in the conditions of a comprehensive and vocational school;
- individual style of pedagogical activity;
- own the pedagogical foundations of the professional development of a teacher of vocational education.

The purpose of the discipline is the creation of a methodological basis for preparing students for future pedagogical activity, the formation of knowledge, skills necessary for conducting fruitful work in secondary schools with students in accordance with the sections of the standard curricula of primary, vocational education and labor technology, and preparing students for vocational schools to work in the current economic and social conditions of the country.

A textbook «Theory and Practice of Dual Learning» was also developed for the specialty 5B012000 «Vocational Training». The manual presents such topics as the theoretical foundations and experience of dual training, the practice of dual training and vocational education abroad, types of industrial training at the enterprise and its implementation, modern technologies in the vocational education system, dual industrial training. The domestic system of vocational education is represented by the experience of targeted intensive training of specialists commissioned by the enterprise. The training is carried out in a vocational school for a full academic week, and then will continue on the site of the enterprise. Since training is carried out through a close relationship with the company. This is due to production practice, the targeted implementation of coursework and diploma projects, the passage of undergraduate practice at the workplace.

The comprehensive development of students in the educational process as the main goal of the development of the student's thinking skills, perseverance training, attention, skills and abilities are involved in the technology of dual learning [4].

For students of the specialty «Vocational training» practical programs have been developed. Let us consider them below:

Production (pedagogical) practice work program. Vocational colleges and lyceums activities, the educational process features in educational institutions.

5B012000 – «Vocational training» (undergraduate) specialty students conduct undergraduate practice due to «Work program of undergraduate practice» the state compulsory standard and the curriculum. After students have mastered theoretical and practical knowledge at the university, completed all exams and tests, coursework in accordance with state mandatory requirements for training graduates, undergraduate practice is the final stage of training. This experience

is the last important element of the learning process at the university. This ensures the expansion and refinement of the theoretical knowledge obtained in the development of theoretical knowledge, mastery of practical work skills, mastery of skills in the work collective.

In particular, the electronic textbooks Professional Psychology (certificate No. 0213, 02/01/2016), Theory of Continuing Professional Education (certificate No. 0214, 02/01/2016), and Distance Learning Technologies (certificate No. 0236, 03.02. 2016), «Vocational education: the dual system of training» (certificate No. 1791, 07/21/2017), The Ministry of Justice of the Republic of Kazakhstan issued certificate of an intellectual property registration. The electronic textbooks structure consists of such sections as textbook information, authors, introduction, contents, theoretical data (lecture), practical, independent work tasks, test tasks, glossaries, references, such frames as transition to other systems.

Electronic textbooks developed by our students provide independent training, improving the knowledge base, mastering theoretical materials and practical implementation.

The purpose of the course: to study the basic characteristics, subject, content, principles of monitoring continuing education [4].

Main results

Course content: subject, main content of continuing education monitoring. Purpose, tasks, mechanisms for monitoring continuing education. Effective methods for monitoring continuing education. Basic principles for monitoring continuing education. Program, structure, monitoring tools for continuing education of the Kazakhstan Republic. The use of information technology and communications in vocational education institutions are monitored. The international experience in the quality management of professional education is presented. The use of electronic teaching aids in the educational process creates favorable conditions for a successful educational process for both the student and the teacher. In addition, test questions will be given in several ways and get the opportunity to immediately see the results. After each topic, a task was given and aimed at summarizing the topic (Figure 1).

The content of the electronic training manual «Vocational education: the dual system of training» includes the following topics: essence, capabilities of the dual education system, stages of regional development, development trends in the world, the formulation of regulatory documents. There are video lectures on additional materials. In the educational process in the specialties 5B012000 – Professional training of the Karaganda State Technical University is integrated the dual training system, a training seminar for students and teachers, a video lecture of the round table are presented (Figure 2). In conclusion, the proposed electronic textbook is aimed at improving the professional knowledge and

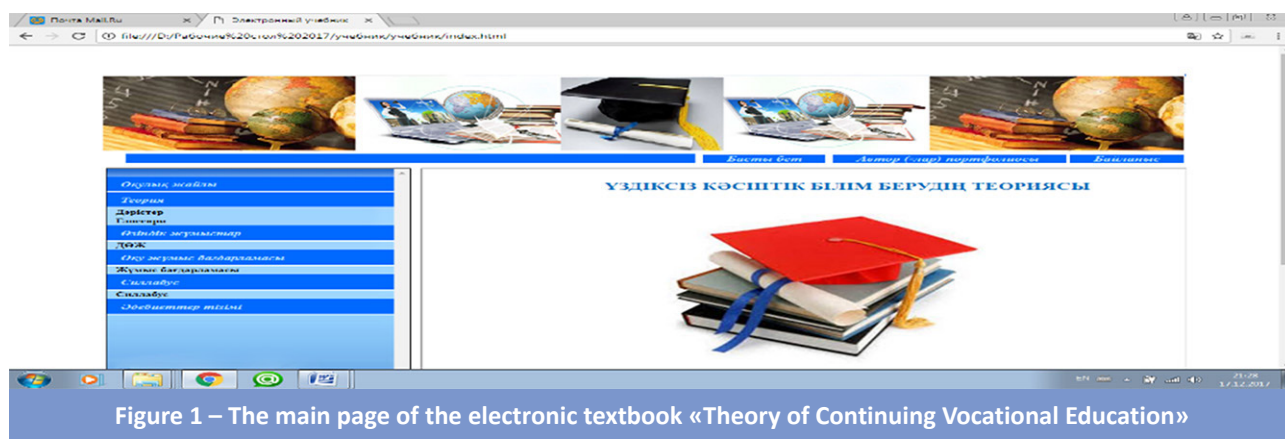


Figure 1 – The main page of the electronic textbook «Theory of Continuing Vocational Education»

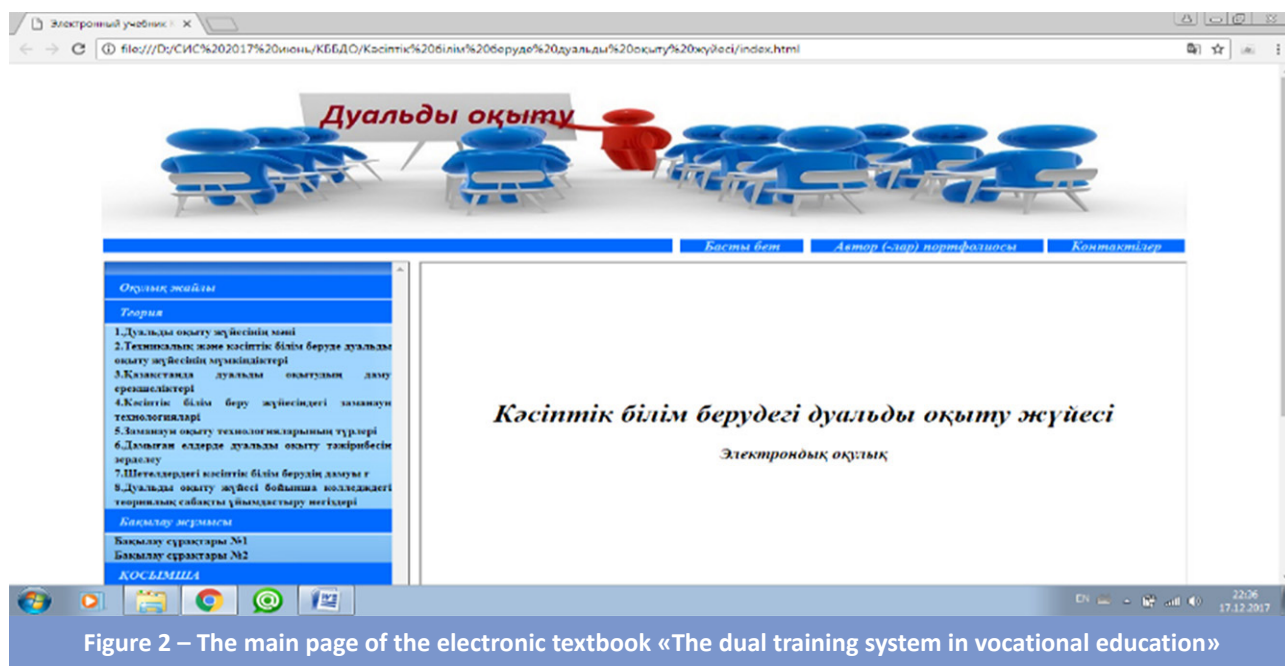


Figure 2 – The main page of the electronic textbook «The dual training system in vocational education»

skills of students.

Methodological guidelines for practical exercises on the subject «Professional Psychology» have been developed. Let us dwell on goals, objectives, and one practical work.

As a result of studying the course «Professional Psychology», the future teacher learns to activate creative – cognitive abilities and to widely use them in practice.

The Karaganda State Technical University as the basis for the implementation of dual training is the innovative educational consortium of Corporate University, which has the position in the socio-economic space of the region as the most deeply integrated university in industrial production [4].

KSTU includes educational research centers and 70 leading industrial enterprises of Kazakhstan, as Arcelor Mittal Temirtau JSC, Kazakhmys Corporation LLP, Kazakhtelecom JSC, Karaganda Electrical Equipment Plant JSC, Scientific and Research LLP GeoMark Engineering Center, Resource Center of

Secondary School No. 5, Professional Lyceum No. 15, Karaganda Polytechnic College, and etc. The quality of the training will be carried out through a vertical system of alternative education: within the framework of the State Educational Standard on the basis of centers of applied education. The design of engineering production, construction, operation and repair of vehicles, information technology, communications and telecommunications are the chosen trajectories and students have an opportunity to get qualifications for these trajectories.

In the course of the study, the «Tanyam» online educational portal was launched to ensure the accessibility and effectiveness of the organization of work on introducing the subject of Kazakh pedagogy into the pedagogical process of the university. Currently, at <http://tanyam.com>, a separate mass open online course platform is running on the basis of the open edX system (Figure 3). Its goal is to ensure the harmonious development of an educated, qualified, advanced thinking personality through the

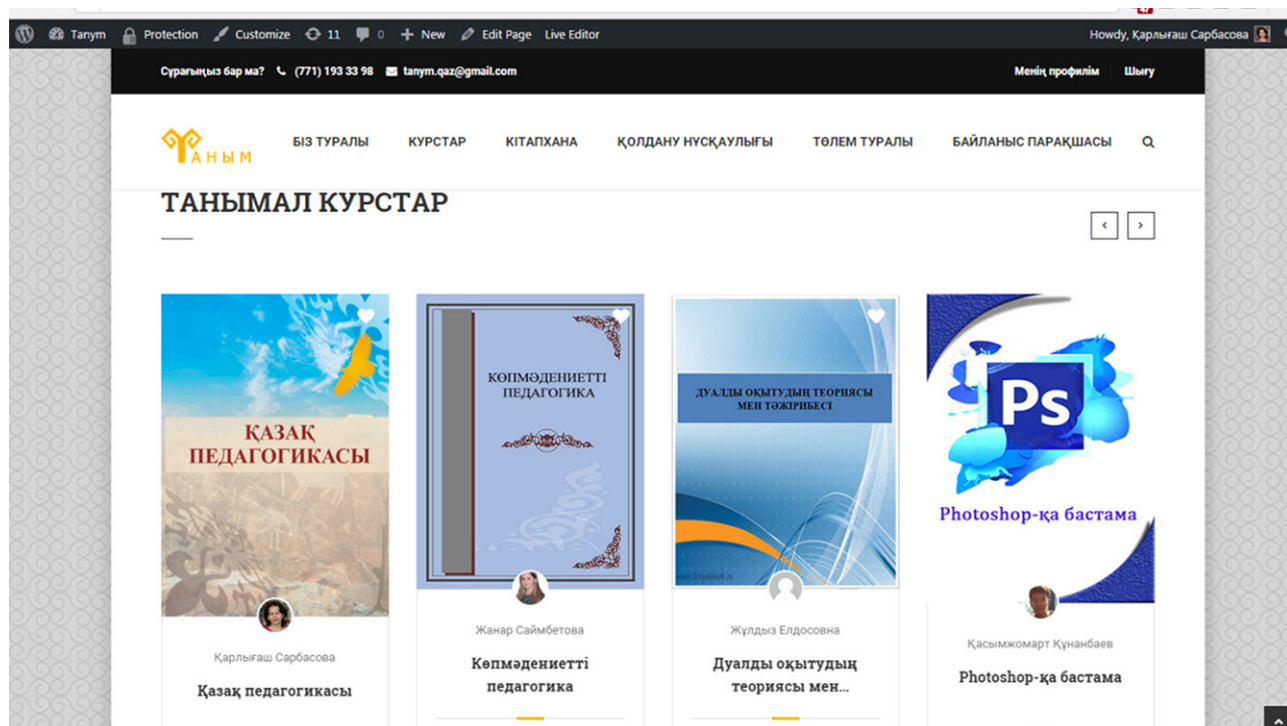


Figure 3 – «Tanyim» Online Education Portal

dissemination of innovative ideas. The target audience is students, undergraduates, doctoral students of universities, educators, students of the continuing education system for teachers. In addition, citizens who are not able to study in for various reasons, as well as anyone who wants to receive online courses.

Online educational portal «Tanyim» is an online platform that allows you to study for free on the course «Theory and Practice of Dual Learning» and make it accessible via the Internet. Any citizen can enroll in the online courses offered on the platform at any time and master them. Also, the portal library has access to all educational materials used in the preparation of this course, and users are provided with a set of the best services for such sites. This is an intuitive interface, a convenient video player, forums, lecturer profile, video lectures, test assignments and notes, etc [4].

The development of the students' motivational component is contributed to all this. In the framework of each course, we mentioned that the results of the slices obtained at the end of a course increase the motivation of students from year to year to implement dual training, knowledge develops and expands, but, nevertheless, it is necessary to improve your skills. Thus, as a result of an experiment in the formation of practical work, we formulated the effectiveness of the dual learning system.

In our study, we used the methodology «Assessing the level of competitiveness of an individual», the purpose of which is to comprehensively identify the competitiveness of students.

According to the assessment of the level of the

individual competitiveness of the control group, 16.9% showed a very low level, in the experimental group this level showed 20%. In the control group, the average level was above 42.4%, experimental group – 37.2%. A very high level of competitiveness of the individual 40.7% – the control group, the experiment – in the group 42.8%.

In order to comparatively improve the self-education ability of students in vocational training, the methodology «Self-development, assessment of the ability to improve their knowledge» was carried out. The introduction of the dual education system in the training of vocational education teachers is important when doing independent work in the educational process. We summarized the results of the methodology, citing the indicators below.

Conclusions

As you know, labor plays a decisive role in shaping a person's personality. The purpose of this labor education is to teach youth diligence, respect for work, work skills and the formation of their labor skills. There are many types of labor, one of which is academic labor and practical labor. Practical work includes types of self-service, socially useful labor, agricultural, technical, design, and art work. In their work, students contribute to increasing their cognitive interest, creating their own characteristics of artistic and labor activity, creating students' imagination. Modern technologies in the context of cognitive interest in modern education are aimed at the formation of the individual through adaptation to the knowledge of new knowledge and actions

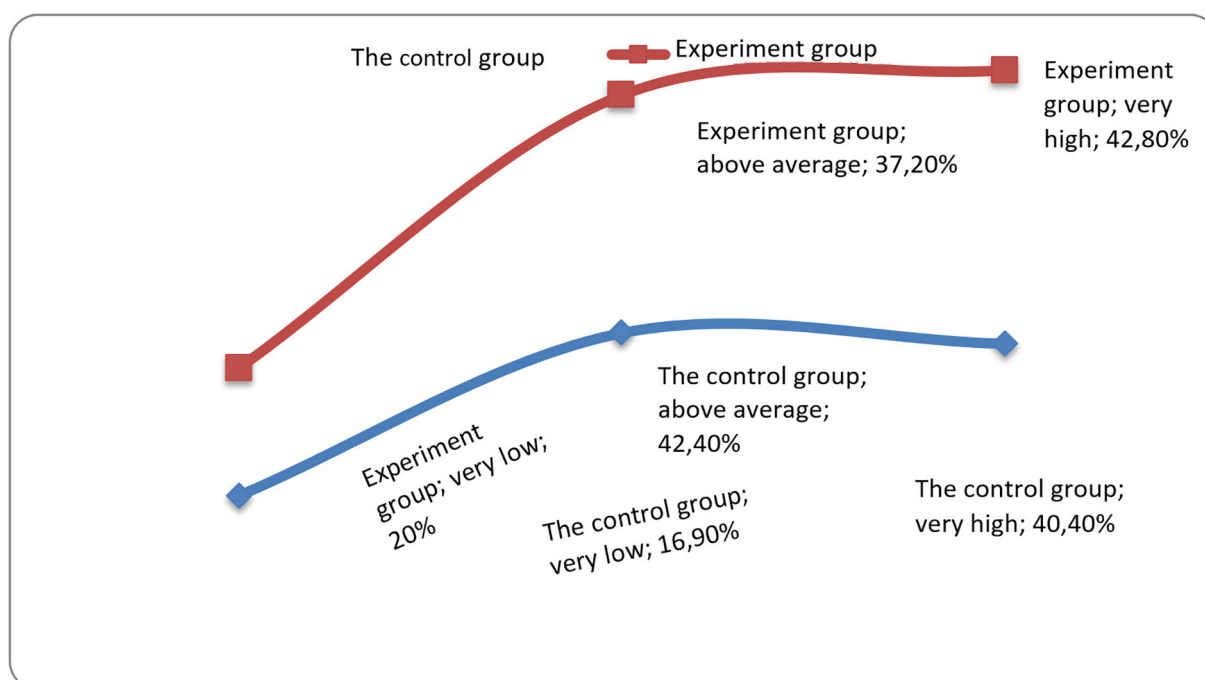


Figure 4 – The result of determining the assessment of the level of competitiveness of the individual

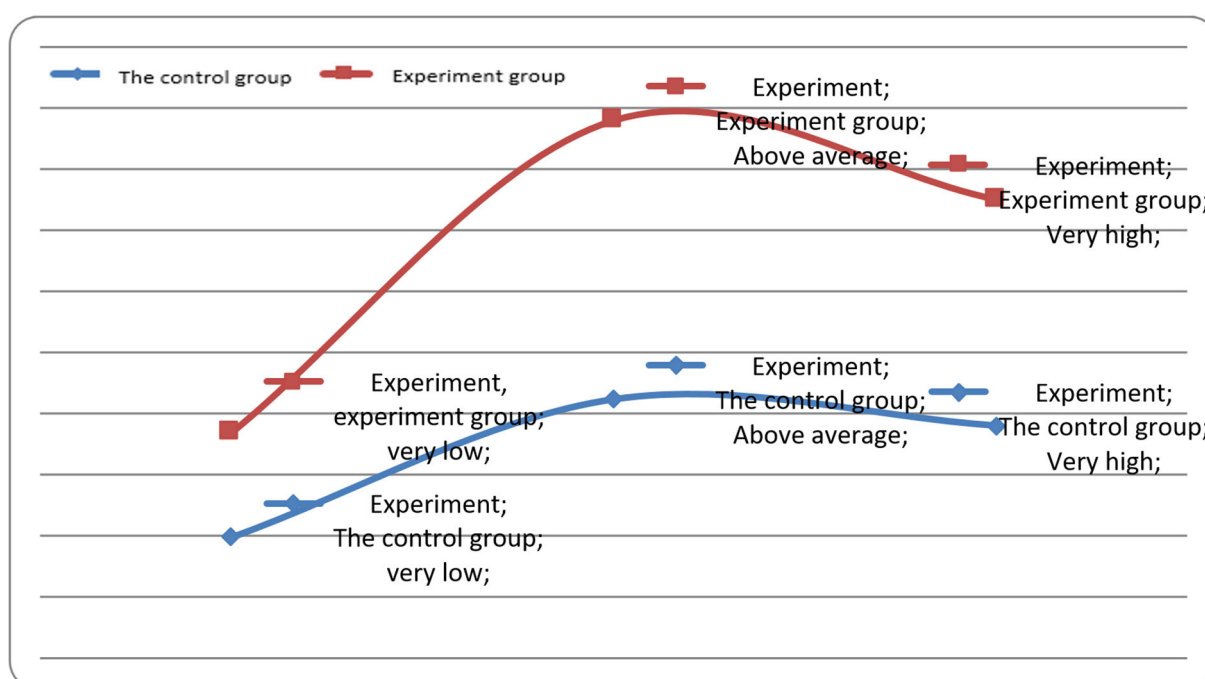


Figure 5 – Results of determining the assessment of the ability to self-education, self-development

that determine the quality of the activity of cognitive interest in education. A special place in the formation of cognitive interest among students is to increase industriousness and working capacity. After all, in it, the student not only performs limited tasks, but also in extracurricular activities constantly improves his ideas, releases new works. On this basis, in order to increase interest in the work of students of vocational

training, the methodology «Assessment of diligence and performance» was carried out. The results of the methodology are presented below [5].

After analyzing the results of the work carried out during the identification experiment, an experiment was conducted to form the next stage of the experiment.

The experiment was attended by 3-4 year students

of the specialty of vocational training of higher educational institutions for vocational education teachers training on the dual education implementation under study.

In conclusion the implementation of the content and methods of training teachers of vocational

education for the realization of dual training has raised the quality of training of a teacher of vocational education to a new level. This conclusion is convincingly proved by the results of an experiment conducted on comparison bases of the training levels of students in the experimental and control groups.

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Болашақ кәсіптік оқыту педагогтарын дуальды оқытуды іске асыруға даярлау

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Аңдатпа. Қазіргі заманғы технологиялардың қарқынды дамуы кезеңінде жоғары оқу орындарының білім беру процесінің тиімділігі болашақ кәсіптік оқыту педагогтарының кәсіби даярлығына тікелей байланысты. Сондықтан кәсіби құзыреттерді қалыптастыру және болашақ мамандарды кәсіби даярлау өзекті мәселе болып табылады. Қазақстан Республикасының Мемлекеттік жалпыға міндетті білім беру стандартында ұлттық деңгейдегі жалпы орта білім берудің негізгі мақсаты елдің әлеуметтік, экономикалық және саяси өміріне белсенді қатысуға дайын құзыретті адамды қалыптастыруға жәрдемдесуі талқыланған. Дуальды оқыту технологиясы оқытудың басты мақсаты ретінде білім алушылардың оқыту, тәрбие процесінде жан-жақты дамуын, ойлау қабілетін, табандылығын, зейінін, іскерлігі мен дағдыларын дамытуды көздейді. Сондай-ақ, Қарағанды техникалық университетінің оқу базасында дуальды оқытуды жүзеге асырудың негізі ретінде «Корпоративтік университет» инновациялық оқыту консорциумы болып табылады, ол облыстың әлеуметтік-экономикалық кеңістігінде өнеркәсіптік өндірісте ең терең интеграцияланған университет позициясын алады. Жұмыста «Дуальды оқыту теориясы мен практикасы» курсына ақысыз оқуға және оны Интернет арқылы қол жетімді етуге мүмкіндік беретін онлайн-платформа – «Таным» онлайн-білім порталы жайлы мәлімет берілген. Қарастырылған проблема студенттердің мотивациялық компонентін дамытуға ықпал етті.

Кілт сөздер: дуальды оқыту технологиясы, кәсіпқойлық, кәсіптік оқыту, кәсіптік білім, ақпараттық технология.

Подготовка будущих педагогов профессионального обучения при реализации дуального обучения

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Аннотация. Эффективность образовательного процесса высших учебных заведений в период интенсивного развития современных технологий напрямую зависит от подготовки будущих учителей профессионального образования. Поэтому актуальной проблемой являются формирование профессиональных компетенций и профессиональная подготовка будущих специалистов. В Государственном общеобязательном образовательном стандарте Республики Казахстан основной целью среднего общего образования на национальном уровне является содействие формированию компетентного человека, готового активно участвовать в социаль-

ной, экономической и политической жизни страны. Технология дуального обучения предполагает всестороннее развитие обучающихся в учебном, образовательном процессе как основной цели обучения, развитие у обучающегося навыков мышления, настойчивости, внимания, навыков и умений. Также основой осуществления дуального обучения на учебной базе Карагандинского технического университета является инновационно-образовательный консорциум «Корпоративный университет», который занимает позицию самого глубоко интегрированного университета в промышленное производство в социально-экономическом пространстве области. В работе представлен онлайн-образовательный портал «Таным» – онлайн-площадка, позволяющая бесплатно обучаться по курсу «Теория и практика дуального обучения» и сделать его доступным через Интернет. Это проблема способствовала развитию мотивационной составляющей студентов.

Ключевые слова: технология дуального обучения, прфессионализм, профессиональное обучение, профессиональное образование, информационные технологии.

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