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Analysis of the modern interaction of the labor market and the professional education in Kazakhstan

The efficient interaction of the labor market and higher professional education institutions, the integration of their main purposes and objectives play an important role in providing the economy of the country with the key resource, that is, highly professional specialists. The errors in coordination of these most important market subsystems can result in irreversible economic losses and negative social consequences, as, in the market environment, the economic development and competitiveness of the country is largely determined by high quality human resources. In this connection, the objective of this article is to analyze the interaction of the labor market and the professional education on the basis of the economic and statistical analysis of the dynamics of employment, including employment of young people at the age of 15–28 with regard to their education, vacancies, professional groups, and the dynamics of unemployment and the educational systems indicators. The analysis revealed that when choosing a future profession young people are focused more on the specialty prestige, not on the real needs of the labor market, therefore graduates from educational institutions do not match the demand on the labor market. This article offers directions of improvement of the existing integration mechanisms of the labor market and the educational services market.

Keywords: labor market, educational services market, integration mechanisms and professional qualification imbalance.

In the Message to the People of Kazakhstan, dated October 5, 2018 «The growth in Prosperity of Kazakhstan People: increase in earnings and quality of life», N.A. Nazarbayev had focused his attention on the youth again: «The sustainable development of our country gives us great hope for a further improvement of the living standard. The second component of well-being is the growth in the living standard. The issues of quality and accessibility of education, healthcare, housing, comfortable and safe living concern every family in Kazakhstan... The main criterion for evaluating the success of a university is the employment of graduates after graduation, their employment in high-paying jobs. It is necessary to pursue a policy of consolidation of universities. Only those of them that provide high quality education should remain on the market. It is important to develop partnerships with leading universities in the world, attracting the best foreign top managers according to the experience of Nazarbayev University» [1].

The markets of vocational education and labour play a crucial role in the reproduction of skilled labour and the stability of society. Ensuring science and production, government bodies with highly skilled personnel which possess demanded professional competences is one of the main tasks of the vocational education system. However, vocational education in our country does not actually focus on the needs of the labour market, and the planned indicators of student enrollment by professional institutions are not consistent with its development forecasts. To calculate the balance between existing graduates and the number of jobs provided, both at the regional and state levels, as well as to further predict the same state order, it is necessary to study the labour market and the market of educational services for vocational education. It is necessary to identify which specialties are demanded today, what competencies a modern graduate of a vocational institution should have. Therefore, the study of educational services and labour markets serves as the basis for obtaining the quantitative and qualitative characteristics of the studied markets, the formation, on that basis, of the organizational mechanisms of interaction of their participants. The most important moment in all analytical and forecasting developments related to the past, present and future of the country is the assessment of the demographic situation and consideration of the main indicators of the labour market in the republic. The demographic situation in Kazakhstan is characterized not by a high birth rate. In 2017, the population of the country compared to 2015 increased to 2.9 %. During the study period, from 2015 to 2017, the number of economically active population increased in 2017 compared to 2016 by only 26.2 thousand of people, which is 0.3% increase, but has a tendency to decrease compared to 2015 by 23.3 thousand of people or 0.3% (Table 1).

Table 1

**Dynamics of the main indicators of the labour market
in Kazakhstan by education level for 2015–2017**

№	Indicators	Years		
		2015	2016	2017
1	<i>Population size, thous. of people</i>	17415,7	17669,9	17918,2
2	<i>Economically active population, thous. of people</i>	8990,2	8940,7	8966,9
3	<i>Population working capacity ratio, %</i>	51,62	50,60	50,04
4	<i>Employed population, thous. of people, including by educational level:</i>	8542,4	8495,6	8527,2
4.1	higher education and incomplete higher education	3141,4	3154,3	3149,2
4.2	secondary vocational (special) education	2842,1	2987,9	3044,2
4.3	primary vocational, secondary general, basic general, primary general education	2558,9	2353,4	2333,8
5	<i>Labour resources utilization ratio, %</i>	95,0	95,0	95,1
6	<i>Unemployed population, thous. of people, including by education level:</i>	447,7	445,1	439,7
6.1	higher education	176,9	174,4	172,5
6.2	secondary general education	116,9	111,0	107,3
6.3	secondary vocational education	153,9	159,7	159,9
7	<i>Unemployment rate, %</i>	5,0	4,9	4,9
8	<i>Economically inactive population, thous. of people</i>	8425,52	8729,2	8951,31

Note. Prepared and calculated by authors based on the data [2].

At the beginning of 2017, 8527,2 thousand of people, or 95.1 % of the economically active population, were employed in the state economy, and 4.9 % were unemployed, registered with the employment service and received an unemployed status. At the same time, the population working capacity ratio tends to decrease, because of the total population dynamics in the republic, the number of the employed population does not have a stable dynamics. The dynamics of education of the employed population with higher education is not stable; in 2017, the number of employed people with higher education decreased by 4.4 thousand of people compared with 2015. At the same time, the employment of the population with secondary vocational (special) education is growing, which is connected, in our opinion, with state support for youth in obtaining working specialties in colleges.

As a result of the increase in the labour market of a share of private enterprises, the employer has the opportunity to impose requirements to the competencies of applicants for the vacant position, thus some specialties become prestigious for the population. Today, the younger generation is faced with the question and the problem of professional identity, which would coincide with its interests, intentions, inclinations and abilities. However, the value of professional identity in young people, to a greater extent, lately, does not depend on the real needs of the labour market, but on the prestige of fashionable specialties and obtaining a specialty for free with a state grant, without considering whether it will be possible to find a job after graduation. The goal of many students is not to gain professional competencies, but to acquire a status, a title that allows them to apply for a more decent job with high income. Generally, young specialists do not have practical work experience (or it is insufficient), despite the use of a practice-oriented approach to training in higher educational institutions, professional internship starting from the 1st year of study, but high requirements to salary make it difficult to find a suitable job.

In Table 2, we consider the dynamics of the main indicators of the labour market of youth in Kazakhstan (aged 15–28 years) by education level.

**Dynamics of the main indicators of the youth labour market in Kazakhstan
(aged 15-28 years) by education level for 2015–2017**

№	Indicators	Years		
		2015	2016	2017
1	<i>Young workers, including by educational level, thous. of people:</i>	2379,9	2275,5	2141,0
1.1	higher and incomplete higher education	1001,0	942,1	919,3
1.2	secondary vocational (special) education	767,3	787,8	781,2
1.3	basic, secondary, general, primary education	611,6	545,6	440,4
2	<i>Youth working capacity ratio, %</i>	13,7	12,7	11,8
3	<i>Employed youth, including by educational level, thous. of people:</i>	2275,3	2182,7	2057,3
3.1	higher and incomplete higher education	958,5	907,5	889,3
3.2	secondary vocational (special) education	731,9	750,5	748,6
3.3	basic, secondary, general, primary education	581,9	524,8	419,4
4	<i>Employed youth use (to economically active population) ratio, %</i>	25,3	24,3	22,9
5	<i>Employed youth use (to employed youth) ratio, %</i>	95,6	95,9	96,1
6	<i>Load ratio per one employable young person (to population size) ratio, %</i>	6,3	6,9	7,4
7	<i>Employees, including by educational level, thous. of people:</i>	1734,8	1669,7	1564,8
7.1	higher and incomplete higher education	838,3	793,5	765,0
7.2	secondary vocational (special) education	579,1	587,2	580,4
7.3	basic, secondary, general, primary education	317,4	289,0	219,4
8	<i>Self-employed population, including by educational level, thous. of people:</i>	540,5	513,0	492,5
8.1	higher and incomplete higher education	120,2	113,9	124,3
8.2	secondary vocational (special) education	155,8	163,3	168,2
8.3	basic, secondary, general, primary education	264,5	235,8	200,0
9	<i>Unemployed youth, including by educational level, thous. of people:</i>	104,6	92,8	83,7
9.1	higher and incomplete higher education	42,5	34,7	30,1
9.2	secondary vocational (special) education	32,4	37,3	32,6
9.3	basic, secondary, general, primary education	29,7	20,9	21,0
10	<i>Youth unemployment rate, including by educational level, %:</i>	4,4	4,1	3,9
10.1	higher and incomplete higher education	4,2	3,7	3,3
10.2	secondary vocational (special) education	4,2	4,7	4,2
10.3	basic, secondary, general, primary education	4,9	3,8	4,8
11	<i>Long-term youth unemployment rate, including by educational level, %:</i>	2,6	2,2	2,1
11.1	higher and incomplete higher education	2,6	2,1	1,8
11.2	secondary vocational (special) education	2,3	1,5	2,0
11.3	basic, secondary, general, primary education	3,1	3,5	2,9
12	<i>Youth not included in labour force, including by educational level, thous. of people:</i>	1486,7	1454,3	1429,1
12.1	higher and incomplete higher education	427,6	386,1	445,0
12.2	secondary vocational (special) education	193,9	214,5	211,5
12.3	basic, secondary, general, primary education	865,2	853,7	772,6
13.	<i>Total youth number aged 15–28 years, thous. of people: thous. of people</i>	3866,6	3729,5	3570,1

Note. Prepared and calculated by authors based on the data [2].

For the analysed period, there is a tendency for decrease of economically active youth aged 15–28 by almost 238.9 thousand people, while 39.2 % of youth of this age have higher and incomplete higher education,

and 43% in 2017. The quantitative participation of youth in the labour market is decreasing annually. Unpromising tendency is observed also in the quantitative level of employed youth, in 2017 employed youth amounted to 2057.3 thousand of people, which is 218 thousand less than in 2015, there is an annual decrease in the participation of youth of analysed age in the labour market of Kazakhstan, regardless of the education level.

Currently, the labour market has a fairly large number of job vacancies, that is, there is a demand for labour force. At the same time, the number of unemployed citizens, including unemployed youth aged 15–28, who are registered with the employment and labour services, far exceeds the employers' need for labour force. However, the demand of employers for the excessive number of unemployed citizens in the labour market of Kazakhstan, applying for jobs and declared in the relevant agencies, remains unsatisfied due to the mismatch of demand and supply in the labour market and in terms of quality parameters (Fig. 1).

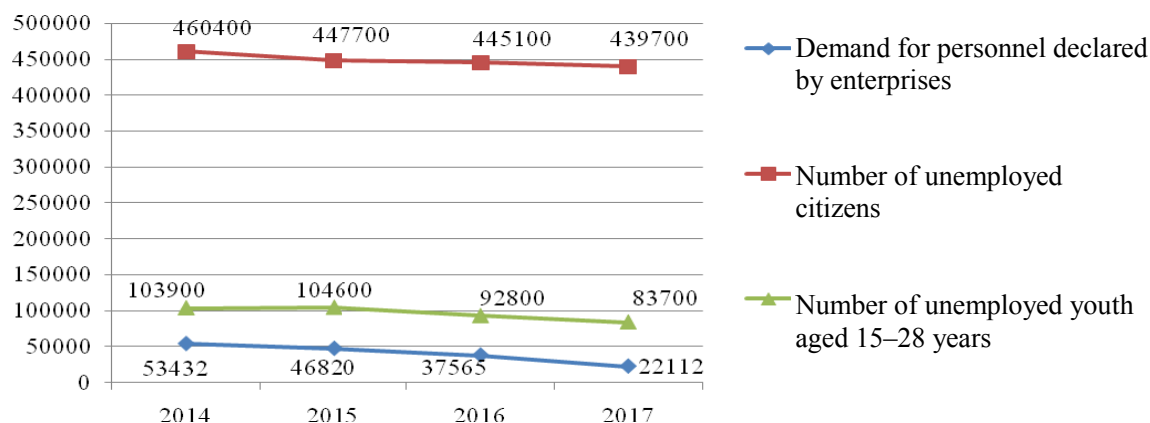


Figure 1. Number of unemployed citizens and job vacancies registered with the employment agencies of Kazakhstan for 2014–2017, people. Prepared and calculated by authors based on the data [2]

Attention should be paid to the structural imbalance of the demand and supply of labour force, and therefore the demand for labour force in the labour market, declared by enterprises, has not been filled.

Based on the data of the Statistics Committee, the greatest need in the labour market of Kazakhstan is observed in the construction, industry, administrative and support services, agriculture, forestry and fishery, health care and social services. In the data presented in Figure 2, the determining factor is the need of enterprises for personnel in various sectors of the economy.

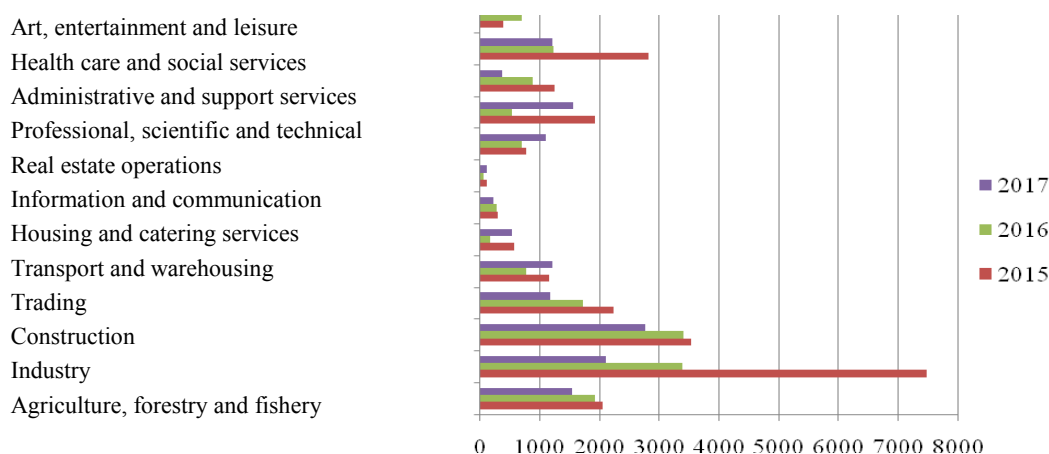


Figure 2. Need for personnel by types of economic activities of Kazakhstan for 2015–2017, people. Prepared and calculated by authors based on the data [2]

As it can be seen from the data in Figure 2, all sectors of the state economy annually reduce their demand (quantitative need) for personnel compared to 2015. However, there is a constant demand for the services sector, as the services sector is one of the most promising and rapidly developing sectors of the econo-

my. The services sector plays a compensating role in reducing employment in traditional industries and agriculture. The redistribution of human capital from less efficient sectors of the economy to the services sector generally contributes to increasing economic productivity and productive employment. As world experience shows, to influence economic growth, developing countries currently set the primary task of accelerating the development of the services sector, as the services sector has a significant potential for increasing employment and developing entrepreneurship.

In Figure 3, the determining factor of the structure is the need of enterprises for personnel by occupational groups.

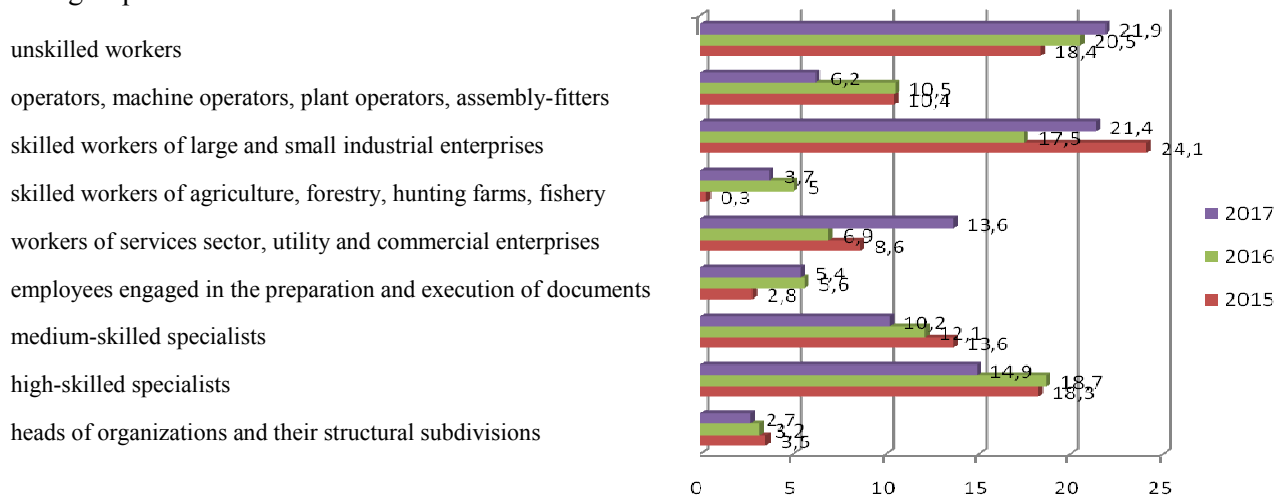


Figure 3. Demand of the labour market of Kazakhstan for personnel by occupational groups for 2015–2017 (% of total volume). Prepared and calculated by authors based on the data [2]

The Figure clearly defines the stable demand of the labour market in personnel by the following occupational groups:

- skilled workers of large and small industrial enterprises, construction (in 2017 — 21.4 %, in 2015 — 24.1 % of the total demand);
- highly skilled specialists (in 2017 — 14.9 %, in 2015 — 18.3 % of total demand);
- workers in the services sector, service providing and commercial enterprises (in 2017 — 13.6 %, in 2015 — 8.6 % of the total demand);
- unskilled workers — in 2017 — 21.9 %, in 2015 — 18.4 % of the total demand of the labour market.

To characterize the situation on the educational services market, an economic and statistical analysis of indicators characterizing the existing system of vocational education in Kazakhstan for 2015–2018 has been carried out (Table 3).

Table 3

Indicators of the education system in Kazakhstan

№	Indicators	Academic years		
		2015/2016	2016/2017	2017/2018
1	2	3	4	5
1	<i>Total number of educational institutions, units:</i>	8416	8352	8309
1.1	<i>general educational institutions (day and evening)</i>	7509	7448	7408
1.2	<i>secondary educational institutions (colleges)</i>	780	779	779
1.3	<i>higher educational institutions</i>	127	125	122
2.	<i>Total number of students, thous. of people:</i>	3752,7	3896,6	4036,3
2.1	number of students in general educational institutions (day and evening)	2799,6	2930,6	3050,8
2.2	number of college students	499, 0	488, 9	489, 3
2.3	number of university students	454, 1	477, 1	496, 2

Continuation of the Table

1	2	3	4	5
3	<i>Graduation of students, total, thous. of people:</i>	311,5	358,3	336,3
3.1	graduates of general educational institutions (day and evening)	86,9	136,3	102,5
3.2	graduates of vocational schools (lyceums)	-	-	-
3.3	college graduates	95,7	100,2	106,7
3.4	university graduates	128,9	121,8	127,1

Note. Prepared and calculated by authors based on the data [2].

We note the following tendencies in the market of educational services in more detail for each group of indicators of Table 3:

The number of educational institutions for the analysed period is reduced by 107 units, this is due to the closing of general secondary schools of evening tuition and schools in sparsely populated regions of the republic. At the same time, the number of colleges has a positive tendency to increase, firstly, according to the Law of the Republic of Kazakhstan «On Education», vocational lyceums are transformed into colleges, thus, the number of colleges has increased or continued operation on the basis of higher educational institutions; secondly, programs for the support and development of secondary educational institutions are being implemented in the republic.

The total number of students at the end of 2017–2018 academic year in all forms of secondary, primary and secondary vocational, higher vocational education amounted to 4036.3 thousand of people. The number of students in secondary educational institutions has a positive tendency. However, not all school graduates have the opportunity and desire to continue their studies in college and university. There is a quantitative tendency of growth in the number of students in higher educational institutions.

Graduation of students. The total number of students in the 2017–2018 academic year in relation to the 2015–2016 year has decreased in absolute terms by 24.8 thousand of people. The graduates of higher educational institutions have a tendency to decrease in 2018 by 10.6 % compared to 2015. This decrease, in our opinion, was due to the fact that in 1992–2000, the birth rate in Kazakhstan was reduced.

In recent years, the priorities of the population regarding the specialty they receive have changed significantly. An analysis of the list of specialties of the higher education system allows us to judge the diversity and wide choice of professions. Today, the most popular areas of study among youth are education, technical sciences and technology, social sciences, economics and business, and law (Fig. 4).

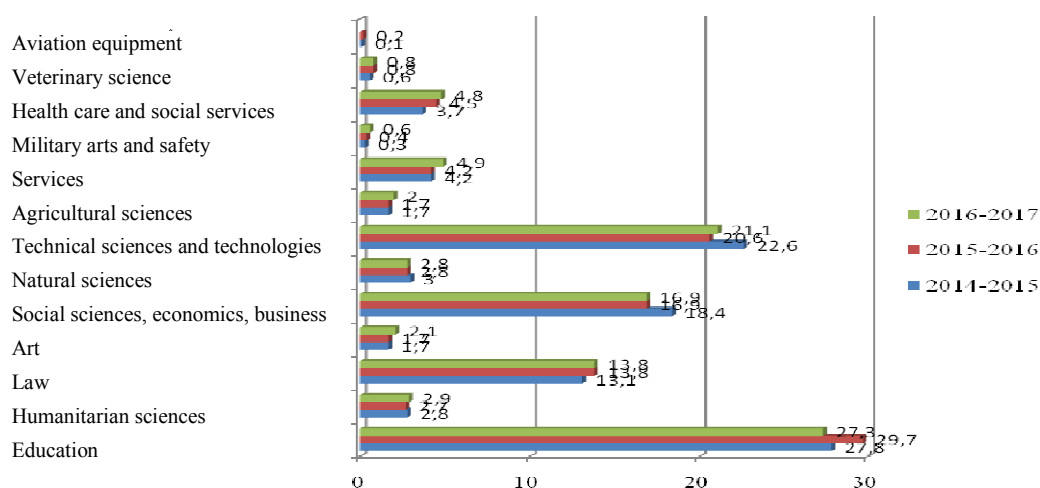


Figure 4. Graduation of university students by specialty groups in 2014–2017, %. Prepared and calculated by authors based on the data [2]

As it can be seen from the data, the graduation of students in 2017 compared to 2015 decreased by 14.3 %.

27.3 % of graduates received diplomas in the specialties of «education» or 33250 people, and has a stable number of graduations for each analysed year, despite the decrease in the total graduation in the re-

public; 21.1 % — specialties of «technical sciences and technology» (25736 people), while there is a tendency to decrease in 2017 compared to 2015 by 1.5 % or by 6432 graduates; 16.9 % (20560 graduates) — social sciences, economics and business, having a negative tendency of graduation compared to 2015 in absolute terms to 5318 graduates. The following specialties enjoy low demand among youth: «veterinary science» — 0.8 % (855 graduates), «military science and security» — 0.6 % (730 graduates), «agricultural sciences» — 2 % (2420 graduates), and «art» — 2.1 %. These data suggest that not all specialties are demanded among youth.

Of the university students, 477074 people (2017), 41579 people or 9 % are fully expelled annually. At the same time, due to the lack of money to pay tuition fees, 27300 students or 66 % are expelled. Due to misconduct and academic failure, only 1.6 % of the total student body are expelled. Of the number of university graduates, 10 % — received diplomas with honours, 70 % — with excellent good marks, 20 % — hardly pass exams with satisfactory marks. The overall level of competence of graduates, respectively, is not the highest. Only 18 % of graduates of bachelor's program receive education on the master's program. Of the number of university graduates, 81 % are bachelors, that is, not trained specialists. Thus, high barriers of access to education from the moment of graduation from school, concomitant problems with tuition fees, low access to the master's program form a pattern of a modern young specialist in Kazakhstan, making it difficult for him/her to find a job in well-paid positions with further career growth.

The structure of graduation of specialists does not correspond to the structure of demand in the labour market, as a result of which not all young specialists succeed in finding a job according to their major. In the light of the foregoing, it may be concluded that the national market of vocational education was, to a significant extent, not ready to respond promptly to qualitative changes in demand in the labour market, and today this circumstance is one of the reasons that the formed demand for labour force exceeds supply in such areas where high qualification is required. Analysis of the situation on the labour market reveals a number of tendencies characterizing the degree of integration of the education sector in the process of forming the labour market.

In our opinion, to ensure the interaction of labour markets and vocational education, as well as to mitigate the negative consequences, it is necessary to: a) conduct vocational guidance work in schools; b) introduce new professions and specialties that will meet the requirements of the modern economy into the vocational education system with the participation of employers; c) attract employers to participate in the training of specialists, to encourage them to finance the educational process. In addition, to ensure close interaction of the studied markets we could use a cluster approach and create university complexes based on clusters, within which educational and research activities of universities can be organized not only in accordance with state and international educational standards, but also with direct needs of enterprises and institutions of the region themselves.

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Қазақстанның еңбек нарығы мен кәсіби білімінің заманауи өзара әрекеттесуін талдау

Ел экономикасын басты ресурс, біліктілігі жоғары кадрлармен, қамтамасыз етуде еңбек нарығы мен жоғары кәсіби білім мекемелерінің тиімді өзара әрекеттесуіне, олардың негізгі мақсаттары мен міндеттерін интеграциялауға үлкен рөл бөлінеді. Қалпына келтірілмейтін экономикалық жоғалтуларға және жағымсыз әлеуметтік салдарға нарықтың осы ең маңызды ішкі жүйелерін нарықтық үйлестірудегі қателер әкеледі, себебі нарық жағдайында ел экономикасының және бәсекеге қабілеттілігінің дамуы көбінесе сапалы адами капиталмен анықталады. Осыған байланысты мақалада мақсат қойылады — жұмыспен қамтылғандар санының, оның ішінде олардың білім деңгейін, бос жұмыс орындарын және кәсіби топтарды, жұмыссыздар санын және білім жүйесі көрсеткіштерін

ескере отырып, 15-тен 28 жасқа дейінгі жастардың динамикасын экономикалық-статистикалық талдау негізінде еңбек нарықтары мен кәсіби білімнің өзара әрекеттесуіне талдау жасау. Талдау негізінде анықталғандай, болашақ мамандықты таңдау кезінде жастар көбінесе еңбек нарығының шынайы қажеттіліктеріне емес, мамандықтың беделдігіне мән береді, осымен байланысты білім беру саласындағы мамандарды шығару құрылысы еңбек нарығындағы сұраныс құрылысына сәйкес келмейді. Мақалада еңбек нарықтары мен білім беру қызметтерін интеграциялаудың қолданыстағы механизмдерін жетілдіру бағыттары ұсынылған.

Кілт сөздер: еңбек нарығы, білім беру қызметтерінің нарығы, интеграциялау механизмдері, кәсіби-біліктілік диспропорциясы.

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Анализ современного взаимодействия рынка труда и профессионального образования Казахстана

В обеспечении экономики страны ключевым ресурсом, кадрами высшей квалификации, отводится большая роль эффективного взаимодействия рынка труда и учреждений высшего профессионального образования, интеграции их основных целей и задач. К необратимым экономическим потерям и негативным социальным последствиям приводят ошибки в рыночной координации этих важнейших подсистем рынка, поскольку в условиях рынка развитие экономики и конкурентоспособности страны во многом определяется качественным человеческим капиталом. В связи с этим в статье ставится задача — проанализировать взаимодействие рынков труда и профессионального образования на основе экономически-статистического анализа динамики численности занятых, в том числе молодежи от 15 до 28 лет, с учетом уровня их образования, вакантных рабочих мест и профессиональных групп, численности безработных и показателей системы образования. В результате анализа выявлено, что при выборе будущей профессии молодежь больше ориентируется не на реальные потребности рынка труда, а на престижность специальности, в связи с чем структура выпуска специалистов в сфере образования не соответствует структуре спроса на рынке труда. В статье предложены направления, включающие в себя усовершенствования существующих механизмов интеграции рынков труда и образовательных услуг.

Ключевые слова: рынок труда, рынок образовательных услуг, механизмы интеграции, профессионально-квалификационная диспропорция.

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