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**DEVELOPMENT OF VOCATIONAL EDUCATION
SYSTEM IN AZERBAIJAN AND INCREASING ITS IMPACT
ON EMPLOYMENT**

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ABSTRACT

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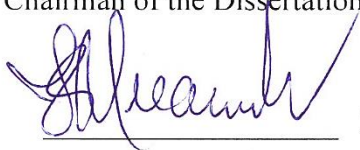
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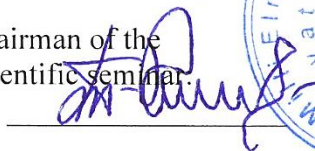
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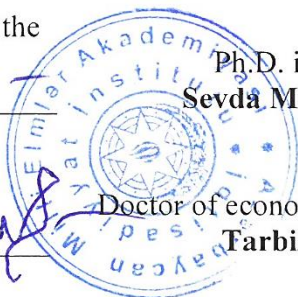


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Relevance and degree of scientific elaboration of the topic.

The training of specialists who meet the requirements of the labor market has an important role in the transformation of each state into a high-level, developed industrial country. The emergence of new techniques and technologies necessitates the intellectual development and improvement of people in order to be useful personnel for the economy. The modern economy needs not only narrow specialists in any field, but also workers who are able to quickly change the field of activity and solve a wide range of problems. In this case, a great responsibility falls on all levels of the education system, including vocational education. Therefore, modern vocational education must work to train a broader profile of professionals who are ready to continuously improve their skills. It should be noted that vocational education is a key tool for improving the economy in modern society, and now it is considered at a higher level as one of the most important elements of the state's development strategy.

The analysis of the stages of development of vocational education institutions from the time of their establishment to the present shows that the need for personnel for ancillary positions performing labor and service work is increasing for the sector that is developing in the economy. Examining the first period of interest in vocational education in Azerbaijan, we see that the opening of the Sheki Practical Silk Art School in 1843 was directly related to the development of silkworm breeding at that time. After that, new art schools were opened in other regions too.

Subsequent periods - the development of industry, the opening of new factories and plants increased the demand for skilled workers, the establishment of Factory- Plant Apprenticeships, increasing the number of Technical Vocational Schools under large production associations in accordance with the requirements of the time, etc. facts can be illustrated.

If we analyze our modern times, in recent years, various services - tourism, hospitality, family recreation, restaurant business, etc. development has led to the introduction of new specialties in

vocational education. The establishment of new Vocational Training Centers in the framework of international cooperation can be considered a positive step to improve staffing in these areas.

Thus, all of the above shows that the economy has a direct impact on vocational education. In turn, well-trained professionals play an important role in economic development.

The current socio-economic situation in Azerbaijan makes the development and increase of the prestige of the vocational education system one of the most important and urgent issues. Thus, in order to achieve economic development in our country, raising the level of employment and minimizing unemployment, especially among the younger generation, is one of the most important issues in terms of reducing many socio-psychological, health, demographic, migration, crime and other problems. Therefore, in order to ensure the employment of people, it is necessary to direct them from adolescence to a profession in accordance with their knowledge and skills, internal interests. Undoubtedly, the more quality and comprehensive education that young people, who are considered the future of the country, receive, the more the basis for sustainable economic development will be created. All the above confirms the relevance of the research topic in terms of modern requirements.

Degree of scientific elaboration of the topic. Researchers in the field of pedagogical sciences have conducted extensive and multifaceted research on vocational education. From Russian researchers: O.N. Oleynikova, K.G. Kazimov, A.A. Muravyova, N.V. Tyukalova, V.A. Gurtov and from our Azerbaijani scientists and researchers K.G. Agamaliyev, Z.H. Orujov, A.O. Mehrabov, R.B.Asgarov, M.C.Mardanov and others.

The problems of employment and unemployment have been extensively investigated by economists. For example, from foreign scientists: K. Marx, A. Pigou, D. Ricardo, A. Marshall, J. Sey, J.M. Keynes, etc., from Azerbaijani scientists and researchers: Sh.M.Muradov, C.B.Guliyev, T.A.Guliyev, G.A. Azizova, T.H.Huseynov, R.Sh.Muradov, R.S.Abdullayeva, A.N.Muradov, F.G.Musayeva, G.B.Nasirova, T.A.Sardarov and others can be noted.

Problems of employment, unemployment, demographic problems are more widely and comprehensively covered in the works of Sh.M.Muradov. Issues related to vocational education and training of workers are widely covered in the works of T.A.Guliyev, A.I.Mammadov, as well as in the research of J.B.Guliyev. The situation of the employed population and the unemployed in the labor market was studied in detail by G.A. Azizova.

The problem of employment in the direction of gender equality was investigated by S.R.Agayeva, the issues related to employment policy were studied by R.Sh.Muradov and R.C.Najaf. Problems related to youth employment in Azerbaijan were investigated by G.B.Nasirova.

The listed problems are investigated from different aspects by other researchers: F.F.Mustafayev, N.(Muzaffarli)Imanov, A.H.Nuriyev, T.N.Aliyev, SM Mikayilova, M.H.Meybullayev, A.M.Asadov, S.M.Seyidova, S.T.Shikhaliyeva, P.S.Hasanov, S.S.Mehbaliyev, R.K.Isgandarov and others.

Sociological scientists are also focusing on vocational education, employment and unemployment, since they are socially oriented as a problem affecting mainly young people.

It should be noted that the research of most of our modern Azerbaijani economists emphasizes the importance of technical vocational education among the ways to increase employment, but the impact of vocational education on employment has not been investigated as a separate topic.

In the works of most foreign researchers on the subject, vocational education is approached as the best form of transition from education to employment. Among them, V. Eichhorst, C. Dastman, U. Schonberg, P. Ryan, R. Almeida, J. Behrman, D. Robalino, Q. Kuvintini, S. Martin, Y.S.Sadovaya, V.A.Sautkina, E.A.Pakhomova, L.D.Gerganov, We can give an example of V.S.Grinko and others. G. Ballot, F. Fakhfakh, E. Taymaz, E. Kolombo, L. Stanka; T. Zvik et al. researchers have conducted research based on the use of econometric models to assess the role of education in increasing productivity.

Thus, the issues of improving the vocational education system and improving the quality of employment of the population have been considered in the works of many local and foreign researchers from different perspectives.

Object of research. The object of the research is vocational education and training institutions and the labor market.

The subject of the research is the study of the coverage of youth with vocational education and the factors affecting the development of the vocational education system, as well as the assessment of the impact of vocational education on employment.

Without diminishing the importance of the above-mentioned research, we would like to note that the purpose of our dissertation is to study both important issues in depth from the point of view of both economist and education manager, to identify the advantages and problems of the modern vocational education system in Azerbaijan, to find solutions to problems by analyzing the impact of the development of the vocational education system on employment.

Purpose and tasks of the research. The main goal of the dissertation is to improve the system of vocational education and improve its impact on employment by studying and summarizing the approaches to the vocational education system, best practices and their application in the Republic of Azerbaijan, as well as the organization of youth employment, to develop scientifically substantiated proposals to improve the living standards of the population through the proper and efficient use of its resources.

In order to achieve the goal of the dissertation, the following tasks was planned to be solved:

- study and generalize approaches to vocational education;
- investigate the current state of the system, identify its strengths and explore ways to address its shortcomings;
- study of labor market needs for professionally educated personnel, professions and skills;
- socio-economic assessment of the impact of vocational education on employment in modern conditions;
- study of modern trends, best practices and opportunities for the development of the vocational education system;

- elaboration of scientifically substantiated proposals on the development of the vocational education system in Azerbaijan and the improvement of its impact on employment.

Research methods. The research process used the methods of research of scientific historical facts, chronological sequence, observation, organization of surveys, comparative analysis, statistical analysis, statistical modeling and logical generalization.

Main provisions of the research submitted for defense:

1. It would be more appropriate to approach vocational education in the context of social security and even economic security.

2. Beneficial use of labor resources, labor potential of the able-bodied population, especially the economically active population, is one of the main conditions for effective employment.

3. The basis for the training of competitive vocational education personnel is to take into account the changing needs of the labor market for professions, professional skills and personal abilities. Conducting surveys among employers allows these needs to be studied and met in a timely manner.

4. Vocational education has both direct and indirect effects on employment.

5. The development of the vocational education system should be considered in conjunction with all relevant parties involved in this work.

6. It would be more effective to approach the issue of expanding the scope of vocational education and increasing its impact on employment at the regional level.

7. Improving the impact of vocational education on employment is possible by improving its quality and increasing the number of contingents. There are two conditions for this: the support of employers and the creation of new jobs.

The scientific novelty of the research is as follows:

1. Due to its important role in providing employment, it is justified to approach vocational education in the context of social security at more than one level of education [9; 18].

2. The level of education of the employed population in the labor market is analyzed, the needs of employers for professions and skills are summarized [15].

3. It is explained that vocational education affects employment both directly and indirectly, raising it both quantitatively and qualitatively [2; 17]:

- The correlation-regression relationship between the number of vocational students and employment was calculated [13].

- It was clarified that there is a positive correlation between the increase in the number of vocationally trained staff in the enterprise and labor productivity [17].

4. The important role of lower levels of education and other subjects in the development of vocational education is characterized, their responsibilities are classified [16].

5. Priority areas have been identified for the development of the vocational education system and improving its impact on employment [14; 19].

Theoretical and practical significance of the research. The proposals reflected in the dissertation can be used in the formation of a state strategy for the integration of different levels of the education system, including secondary schools and vocational education institutions, the organization of systematic and results-oriented activities and the provision of quality personnel for sustainable economic development.

It is expedient to use the practical recommendations put forward in the research in determining the purposeful concrete measures taken for the development of the vocational education system.

The results of research can be used in the development of scientific research, teaching and methodological aids.

Approbation and application of research results. The main provisions of the research, proposals and recommendations were presented in the form of abstracts and articles at international and national conferences and published in scientific journals. In total, 7 articles, including 1 abroad, and 12 theses, 3 abroad, were published.

The proposals and recommendations prepared in accordance with the results of the research were submitted to the State Agency for Vocational Education together with the official letter of the Institute of Economics of ANAS.

Name of the organization where the dissertation is performed: The dissertation was carried out at the Institute of Economics of ANAS.

The structure and scope of the dissertation. The dissertation consists of a total of 244537 characters, including introduction - 15444 characters, Chapter I - 81148 characters, Chapter II - 77000 characters, Chapter III - 60211 characters, result - 10734 characters. The dissertation contains 23 tables, 10 graphs, 4 pictures.

MAIN PROVISIONS PRESENTED FOR DEFENSE

Provision 1. It would be more appropriate to approach vocational education in the context of social security and even economic security.

Vocational education is the easiest and most effective means of transition from education to the labor market. Vocational training for more young people reduces the burden on the state by lowering unemployment, as well as preventing unemployment problems. Therefore, improving the coverage of young people with vocational education is a priority. Unemployed and job-seekers can be provided with jobs more quickly by vocational training if necessary, which affects the number of people receiving unemployment benefits, in other words, the number of people in need of state social protection decreases.

In our opinion, vocational education can even be considered as one of the factors ensuring economic security. This is because the development of the vocational education system (VET) also leads to an increase in living standards, which is one of the key factors of economic security [18].

The first thing to notice in *Table 1* is that the number of vocational education institutions (VEI) in 1997 decreased by 57 compared to 1991. The reason for this was, on the one hand, the end of the planned economy formed in our country over the years, and the arrival of a completely new economic structure - a market economy, on the other hand, the occupation of 20 percent of our lands, the destruction of 12 vocational schools, more than 300,000 jobs. loss of residence and jobs, etc. due to numerous reasons.

During the period under review, the number of students in vocational education institutions declined sharply, from 82,188 in 1991 to the lowest level in 2003 - 20,753. Until 2014, there was a gradual increase. The number of students in these educational institutions decreased by 72.1 percent in 2000 compared to 1991, increased by 12.6 percent in 2010 compared to 2000, and decreased by 9.3 percent in 2020 compared to 2010.

Table 1. Indicators of vocational education institutions (person)

	Number of vocational education institutions	The number of students	Number of admissions	Number of graduates	Number of teachers	Number of female teachers
1991	176	82188	45030	49092	3465	-
1996	160	27689	12205	13461	1994	982
1997	119	25030	13265	13220	2069	1019
2000	108	22696	12946	12052	1939	996
2001	110	22944	12742	13104	1972	1033
2005	110	21563	12935	11095	1853	947
2010	108	25562	15743	13011	1996	1198
2013	108	30664	16066	16708	1794	1186
2014	112	29234	13225	15329	1804	1163
2015	113	25414	15354	15222	1684	1149
2016	113	24482	15856	15135	1673	1180
2017	112	23814	16617	14614	1733	1170
2018	111	24024	17393	15496	1638	1149
2019	111	23965	17124	15516	1635	1139
2020	110	23193	17140	14304	1528	1092
2021	103	22012	15734	-	1501	1091
In 2010 compared to 2000,%	<i>same</i>	<i>112,6</i>	<i>104,8</i>	<i>99,96</i>	<i>102,9</i>	<i>120,3</i>
In 2020 compared to 2010,%	<i>102,8</i>	<i>90,7</i>	<i>108,9</i>	<i>109,9</i>	<i>76,5</i>	<i>91,1</i>

Source: The table is compiled on the basis of the information of the State Statistical Committee of the Republic of Azerbaijan.

Estimates show that about 40,000 young people are left out of vocational education each year. By expanding the network of vocational education, ensuring its accessibility and attractiveness (providing primary vocational education in secondary schools, increasing student scholarships, etc.), some young people who are unable to continue their education after basic or post-secondary education due to financial difficulties it is possible to create conditions for them to acquire professional skills. Otherwise, no one can guarantee that unemployed and unprofessional people will not become members of criminal events.

As can be seen from *Table 2*, although the number of offenders aged 14-17 is about 400-500 per year, the number of educated offenders is 4-5 times lower. It seems that not all young people aged 14-17 are involved in education. So, the number of those who are not involved in vocational education is not small. The highest rates are in the 18-24 age group, which is the age of vocational education. During the period under review, young people aged 14-29 make up an average of 35% of offenders. Unfortunately, it should be noted that women (about 6%) are among the participants in such events, and among them it is possible to meet young girls aged 14-18.

Table 2. Distribution of offenders by socio-demographic characteristics

Years	2010	2013	2014	2015	2016	2017	2018	2019	2020
Total, person	18689	14841	15560	16322	16676	16750	16727	17823	17482
<i>according to age</i>									
14-15 years	79	112	127	115	114	128	104	95	94
16-17 years	360	402	354	362	328	358	367	292	294
14-17 years	439	514	481	477	442	486	471	387	388
<i>by total number, %</i>	2,3	3,5	3,1	2,9	2,7	2,9	2,8	2,2	2,2
18-24 years	3367	2950	3045	2968	2855	2741	2456	2456	2116
25-29 years	3270	2837	2915	2958	3147	3022	2937	3201	3245
14-29 years	7076	6301	6441	6403	6444	6249	5864	6044	5749
<i>by total number, %</i>	37,9	42,5	41,4	39,2	38,6	37,3	35,1	33,9	32,9
30 yers and over	11613	8540	9119	9919	10232	10501	10863	11779	11733
<i>according to occupation</i>									
Workers	523	427	389	395	352	344	341	1160	844
Servants	601	496	424	407	393	410	560	606	487
Students	122	109	117	88	76	108	71	95	81
those of working age who do not work or study	15535	11420	12008	11991	12751	12932	12679	10408	10474
<i>by total number, %</i>	83,1	76,9	77,2	73,5	76,5	77,2	75,8	58,4	59,9

Source: Statistical Bulletin. Crime 2016, 2021. Prepared by the author on the basis of data p. 35, 41, 46.

The majority of all offenders are able-bodied people with no occupation (up to 60% in recent years). This proves once again that

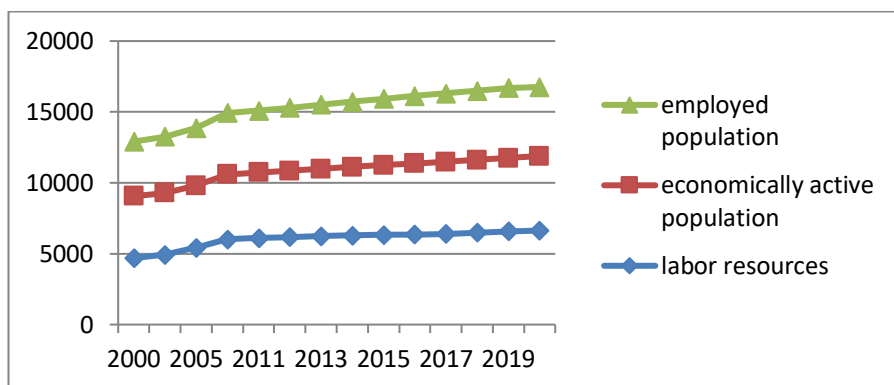
those who are engaged in useful work or education are far from crimes.

It should be noted that most of these young people are thieves, as if they chose this profession. This is due to the fact that they do not have vocational education, find it difficult to find a suitable job, and seek to meet their financial needs in crooked ways. If we look at the statistics of convicts involved in drug trafficking, we see that the vast majority are committed by those who do not work and do not study. In general, more than 70% of offenders are able-bodied people who do not work or study [9].

Although not directly related to the subject of scientific work, I must say that it is very important to include Islamic religious values in the curriculum of secondary schools and to teach them correctly in order to prevent young people from behaving contrary to the laws of society in the future [5].

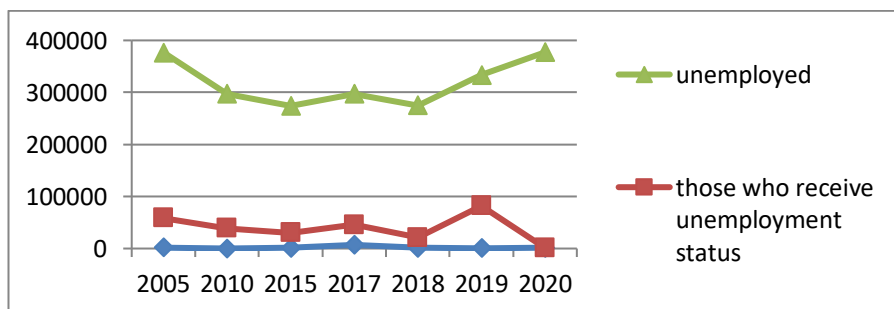
Provision 2. Beneficial use of labor resources, the working age population, as well as the economically active population is one of the main conditions for the effective provision of employment.

It is very important that those working in the labor market and job seekers have a profession and qualification. Labor market research shows that more people start working without vocational training. If we look at the dynamics of key socio-economic indicators, we see that in the period under review (Graph 1.) there is an increase in all three indicators. Thus, in the period under review, labor resources increased by 41.6 percent, economically active population by 20.2 percent, the number of employed population by 26.5 percent. Only in 2020, due to the pandemic, the number of employed people decreased.



Graph 1. Dynamics of socio-economic indicators

According to a study conducted by the International Labor Organization in 1995, the unemployment rate in the country was 17.2 percent, according to the 1999 census, 16.3 percent, in 2003 with the participation of the UN Development Program and the International Labor Organization According to the statistical survey conducted on the level of economic activity of the population in the whole territory, it was 9.7%, in the following years, according to official statistics, it decreased year by year and reached 5%. However, in 2020, the share of unemployed will increase to 7.2 percent. Thus, in 2020, the number of economically active population reached 5252.5 thousand people, of whom 375.9 thousand are unemployed.



Graph 2. Dynamics of unemployment indicators

Analysis of the level of labor education in the labor market. Before analyzing the education structure of the economically active

population, including the employed and unemployed, which are the main components of the labor market, let's look at the dynamics and structure of the annual graduation of specialists in the country.

As can be seen from *Table 3*, during the period under review, the total number of graduates of vocational schools, colleges and universities in our country has increased, and in recent years their number has approached 70,000. However, these figures are lower than the total number of high school graduates. We noted above that more than 40,000 young people are excluded from vocational education each year.

About 60 percent of the released specialists are from higher education institutions. The largest number of graduates of vocational education institutions was in 2013 (16,708 people), and decreased in subsequent years. In 2020, their number decreased by 6 percent, and their share fell by 2.6 percentage points from 2015.

Table 3. Total number of specialist graduates (person) and structure (%)

	2000	2005	2010	2015	2016	2017	2018	2019	2020	2020 compared to 2015
Total number	47849	59399	58641	65359	69179	68419	64973	65503	69152	105,8
Number of vocational graduates	12052	11095	13011	15222	15135	14614	15496	15516	14304	94,0
<i>In percent</i>	25,2	18,7	22,2	23,3	21,9	21,2	23,8	23,7	20,7	-2,6
Secondary special education graduates	11309	15796	14559	16432	17093	16299	12361	12425	14024	85,3
<i>In percent</i>	23,6	26,6	24,8	25,1	24,7	23,8	1,0	19,0	20,3	-4,8
Higher education graduates	24488	32508	31071	33705	36951	37506	37116	37562	40824	121,1
<i>In percent</i>	51,2	54,7	53,0	51,6	53,4	54,8	57,1	57,3	59,0	7,4

Source: Education, science and culture in Azerbaijan. Statistical bulletins 2017, 2019, 2021. Prepared by the author on the basis of information p. 41, 42, 123.

In 2020, 33,5 percent of the economically active population will have higher, secondary special and vocational education. 16,6% of them have higher education, 11,2% have secondary special education. In 2020, 5,7 percent of the economically active population (301,9 thousand people) have vocational education, of which 18,0 percent are young people aged 15-29.

It is clear from the study that in general, 66,4% of the employed population and 64,4% of employed youth do not have vocational or secondary special and higher education.

As can be seen from *Table 4*, more than 60% of the employed population has completed secondary education. Although the number of people with higher education and secondary special and vocational education in the employed population has gradually increased between 2012 and 2020, there has been no significant change in their share. The share of occupations and specialties in the employed population in 2020 is 33.6%, including 16.9% with higher education; 11.1% with secondary special education; 5.6% have vocational education.

25.1% of the employed population (1223.9 thousand people) are young people aged 15-29. 55.4% of the employed youth are graduates of secondary education, 8.7% of basic education, 3.8% of vocational education, 11.0% of secondary special education and 20.8% of higher education graduates. 0.1% of these young people have primary education.

Analysis of the employed population by education levels and age groups shows that in 2018, the majority of those with higher education are young people aged 20-24, the second priority belongs to the 55-59 age group. The majority of vocational school age groups are 35-39, 45-49, 40-44. The number of employed young people who started working without specialized education is 16-18 times higher than others [13, p. 103].

Table 4. Distribution of the employed population by level of education (thousand persons)

Years	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total number of employed	4445,3	4521,2	4602,9	4671,6	4759,9	4822,1	4879,3	4938,5	4876,6
Number of 15-29 year	1107,1	1116,8	1150,6	1177,5	1219,4	1237,1	1244,4	1250,5	1223,9
in percent, %	24,9	24,7	25,0	25,2	25,6	25,6	25,5	25,3	25,1
Distribution of the employed population by education level, number (thousand persons) and ratio (%)									
university graduates	722,7	732,4	750,1	763,3	781,4	796,9	814,8	829,7	824,3
In percent, %	16,3	16,2	16,3	16,3	16,4	16,5	16,7	16,8	16,9
Secondary special education	457,9	470,3	485,9	497,5	507,6	516,4	536,7	548,2	540,8
In percent, %	10,3	10,4	10,55	10,6	10,7	10,7	11,0	11,1	11,1
Vocational education	238,6	239,6	248,6	256,0	253,2	260,5	268,4	276,5	272,6
In percent, %	5,4	5,3	5,4	5,5	5,3	5,4	5,5	5,6	5,6
Secondary school graduates	2710,5	2776,0	2795,1	2820,5	2876,6	2892,6	2932,5	2949,3	2911,3
In percent, %	60,97	61,4	60,7	60,4	60,4	59,98	60,1	59,7	59,7
Basic education graduates	275,6	271,3	286,1	292,2	298,3	306,6	287,9	296,3	291,6
In percent, %	6,2	6,0	6,2	6,3	6,3	6,4	5,9	5,6	6,0
Primary education	40,0	31,6	37,1	42,1	42,8	49,1	39,0	38,5	36,0
In percent, %	0,9	0,7	0,8	0,9	0,9	1,0	0,8	0,8	0,7

Source: Prepared by the author on the basis of the information of the State Statistical Committee of the Republic of Azerbaijan.

In 2020, 33,3 percent of the unemployed have vocational, secondary special and higher education, including: 12,5 percent with higher education, 13 percent with secondary special education, and 7,8 percent with vocational education. If the total number of unemployed in 2020 is 375,9 thousand persons, 154,1 thousand of them (about 41 percent) are young people aged 15-29, of which 107,8 thousand (73,1%) have no vocational, secondary special or

higher education. Only 26,9% of unemployed youth received vocational, secondary special and higher education (including 10,6% with higher education, 11,9% with secondary special education, 4,4% with vocational education).

The above indicators give grounds to say that the coverage of young people in our country with vocational education is unsatisfactory. Therefore, the existing potential of young people with vocational education should be used as effectively as possible, and purposeful and comprehensive measures should be taken to ensure that young people without vocational education have certain professions and skills and employment.

Provision 3. The basis for the training of competitive vocational education personnel is to take into account the changing needs of the labor market for professions, professional skills and personal abilities. Conducting surveys among employers allows these needs to be studied and met in a timely manner.

According to research, more specialists are needed in agriculture, processing industry, tourism, social services and catering, computer technology, and vehicle repair. Due to the implementation of regional development programs, the demand for specialists in agronomy, crop production, animal husbandry and beekeeping for agriculture may increase.

Most of those who apply to vocational education institutions choose the professions of cook, tailor, computer operator, then the professions of web designer, computer technician, hairdresser, car electrician, wide-profile tractor driver, repairman-locksmith, electrical equipment maintenance and repair specialist. also predominates.

Surveys of employers show the need for specialists in agriculture, industry, tourism and ICT, which are priority areas of the economy. Of course, economic growth in these areas also increases the need for professionals. So, in the coming years, there will be a need for professionally trained personnel in the field of agriculture, tourism, ICT, cultural services. These needs will increase with the

restoration of life in our liberated lands. Therefore, training in the following areas should be in focus:

1. There is a need for staff in the field of ICT and electronics, and it will continue to grow. The pandemic period has shown that the need for digital technology professionals is growing and that there is a need to increase everyone's ability to use these technologies.

2. There are professions that are needed all the time, everywhere, many of which can be taught in secondary schools. For example, a tailor, a hairdresser, a repairman of household appliances, a computer user, etc.

3. It is expedient to establish vocational education institutions and train professional staff in accordance with the profile in the regions with wide tourism opportunities. Given the vast tourism potential of our liberated lands, there is a great need to build such Vocational Training Centers in these areas.

4. Personnel for agro-processing, non-ferrous metallurgy, food and light industry, construction should be trained in Karabakh, Kalbajar-Lachin regions.

5. It is necessary to train an appropriate number of highly qualified technical personnel for the operation and maintenance of agricultural machinery, robotics, machinery and equipment. Vocational schools should be established in several regions under agro-industrial parks. Training of vehicle repair specialists also remains relevant.

6. Training of livestock specialists for agriculture (including veterinarians) should be continued, taking into account the needs of the regions. Specialists should be trained in crop production, beekeeping, environmental protection, as well as in the processing of agricultural fruits, vegetables and livestock products [19].

Provision 4. Vocational education has both direct and indirect effects on employment.

Thus, the increase in the number of people receiving vocational education has a positive impact on the growth of employment. The increase in the number of vocationally trained staff in the enterprise leads to an increase in productivity, which ultimately has a positive impact on employment.

To know the direct impact of vocational education on employment, we will use the following indicators in the construction of economic-mathematical model with the help of correlation-regression analysis.

If we look at the correlation coefficients obtained for the following variables (*Table 5*), we see that the most closely related to the number of employed population is the number of higher education graduates, followed by vocational education graduates.

Table 5. Table of variables for the construction of the regression equation

Variables	Factors	Units of measurement	Correlation coefficients
Y	number of employed population	thousand persons	
X ₁	number of vocational graduates	person	0,804535
X ₂	number of people sent for vocational training by the employment service	person	0,702942
X ₃	number of secondary special education graduates	person	0,488638
X ₄	number of higher education graduates	person	0,848812

Excel calculates the regression relationship between the number of vocational graduates and the number of employed people. The coefficient of determination $R^2=0,647$ shows that there is a 64,7% dependence between the number of graduates of vocational education institutions and the number of employed population.

The formula of the linear relationship equation $\bar{Y}_x = a_0 + a_1x$; parameters $a_0=2417,110$; $a_1=0,142$; we obtain the following regression equation:

$$\bar{Y}_x = 2417,110 + 0,142 \times x \quad (1)$$

$$\text{Elasticity coefficient: } E = a_1 \times \frac{\bar{x}}{\bar{y}} = 0,142 \times \frac{13142}{4278,7} = 0,142 \times 0,00043$$

Thus, if the number of graduates of vocational education increases by 1%, the number of employed population will increase by 0,00043% [15, p. 108].

To measure the indirect impact of vocational education on employment, we assessed the relationship between the level of education and productivity of personnel at the enterprise on the basis of data taken from SOCAR's Ethylene-Polyethylene plant.

As can be seen from *Table 6*. From 2015 to 2018, labor productivity increased steadily. This may be due to an increase in the number of people with higher and vocational education, as in 2015 only 11,1% of employees had a profession, 24,2% had a higher education, and in 2018, 24,1% of employees – 38,65% of them are professionals with higher education.

Table 6. Main personnel indicators of Ethylene-Polyethylene plant (2011-2018)

Factors	Units of meas.	2011	2012	2013	2014	2015	2016	2017	2018
Total number of staff	person	2234	2132	1835	1781	1717	1682	1706	1697
<i>o cümlədən</i>									
with secondary education	person	1112	1046	884	768	615	528	473	496
with vocational education	person	173	125	143	162	190	215	414	409
with secondary special education	person	484	535	372	431	496	483	137	136
with higher education	person	465	426	436	420	416	456	682	656
Average monthly salary per person	manat	400	532	581	624	605	664	697	736
Labor productivity	thous. manat	62,8 5	57,4 7	76,6 3	102, 81	92,4 6	128,24	158,2 4	170, 98

Source: Survey conducted at SOCAR's Ethylene-Polyethylene Plant.

Table 7. Table of variables

Variables	Factors	Units of measurement	Correlation coefficients
Y	labor productivity	thousand manat	
X ₁	with vocational education	person	0,918255
X ₂	with secondary special education	person	-0,83124
X ₃	with higher education	person	0,830411
X ₄	with secondary education	person	-0,90445
X ₅	average monthly salary per person	manat	0,881702

We see from the correlation coefficients that the strongest correlation between labor productivity in terms of educational levels in the enterprise is the number of vocational educators. In accordance with the purpose of our research, we have established a regression equation of the dependence of the number of vocationally trained employees on labor productivity.

The coefficient of determination is $R^2 = 0,843$. Thus, there is a strong correlation (84,3%) between the number of vocationally trained employees and labor productivity.

Parameters: $a_0 = 28,975$; $a_1 = 0,337$. The regression model will be as follows:

$$\bar{Y}_x = 28,975 + 0,337 * X_1 \quad (2)$$

Elasticity coefficient:

$$E = a_1 \times \frac{\bar{x}}{\bar{y}} = 0,337 \times \frac{228,875}{106,21} = 0,337 \times 2,155 = 0,72455$$

Thus, if the number of vocationally trained workers in the enterprise increases by 1%, productivity will increase by 0,7% [17].

The increase in the productivity of enterprises operating in the labor market also leads to the expansion of production, as well as the creation of new jobs, resulting in increased employment. Thus, vocational education has an indirect positive effect on the level of employment. That is, through the development of the vocational education system, it is possible to improve the level of employment in both quantitative and qualitative terms.

Provision 5. The development of the vocational education system should be considered in conjunction with all relevant parties.

Because the education system is an open system, there are many influences. It is especially important to start the development of vocational education in secondary schools. The highest goal of the education system as a whole is to train people who are useful to the country and society. It is necessary to move towards this goal, starting from the lowest level of education. If the issues related to improving the quality of secondary education are resolved, measures

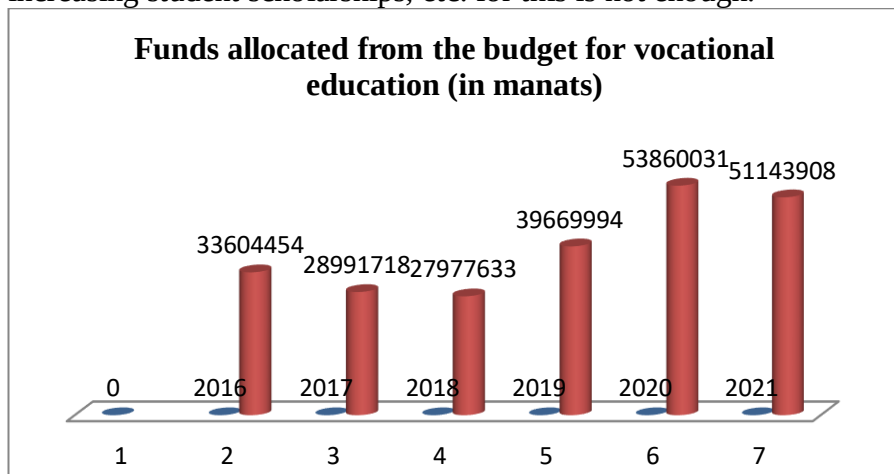
can be taken to develop the vocational education system in accordance with modern requirements. However, different parties also have a role to play here. The main aspects that play a role in the development of vocational education and their main responsibilities can be summarized as follows [16]:

Parties	Liabilities
Government	<i>regulation, coordination, support, control, legislation, incentives in terms of funding</i>
Local executive bodies (municipalities)	<i>to help establish contacts with local employers and sponsors, to support the organization of students' internships in relevant local fields</i>
Secondary schools	<i>to prepare talented, capable, hard-working, broad-minded, patriotic, independent-minded students; to introduce (love) professions to students and guide them to the right career choice (presence of a career counselor)</i>
Vocational education institutions	<i>tend to train personnel in accordance with the needs of the labor market, to legally use additional sources of income, to be proactive, open to innovations, to establish business cooperation</i>
State Agency for Vocational Education	<i>coordination, evaluation of initiatives, regular improvement of human resources, methodological support, quality control, monitoring, objective assessment</i>
Employment service	<i>labor market analysis, surveys, identification of current and future needs of entrepreneurs and data transmission, preparation of forecasts taking into account the needs for professions and skills in cooperation with the Vocational Agency to ensure the balance of supply and demand</i>
Employers	<i>willingness to cooperate, regularly express the needs and requirements of staff, support the training of young people as good staff, gain experience and employment</i>
Parents	<i>to strive for quality education of children, their physical and spiritual development, to communicate with them, to teach them religious and moral values, to instill diligence, to prepare children for future family and work life by interacting with high school, to support career choice</i>

Figure 1. Obligations of the parties who play a key role in the development of vocational education

Source: Based on the author's personal views.

Despite the fact that public expenditures on vocational education in our country increased by 52,2 percent in 2021 compared to 2016, the improvement of material and technical base, construction of new educational buildings and dormitories, increasing student scholarships, etc. for this is not enough.



Graph 3. Dynamics of budget expenditures allocated for vocational education

Source: Budget laws of the Republic of Azerbaijan for 2016-2021 years.

The main part of the annual budget of vocational education institutions covers salaries, student scholarships and insurance payments. However, the main priority of the “Strategic Roadmap for the National Economy and Key Sectors of the Economy” is to increase spending on the vocational education system and attract employers' funds to vocational training. In our opinion, the possible sources of funding for the vocational education system can be given in the form of the following scheme:

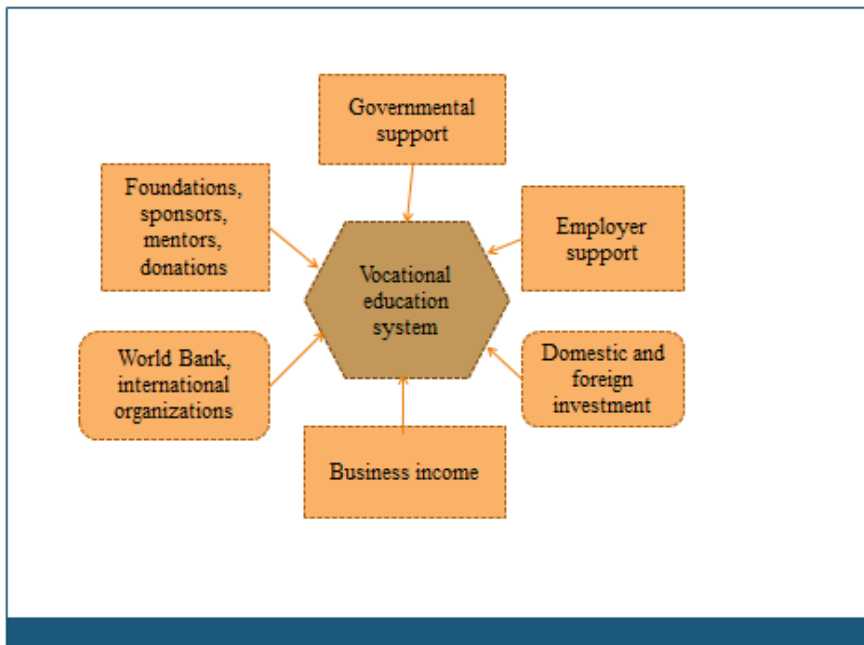


Figure 2. Financial sources of vocational education system
 Source: Compiled by the author.

Provision 6. It would be more effective to approach the issue of expanding the scope of vocational education and increasing its impact on employment at the regional level.

Each region has its own geographical, climatic and economic specialization (different areas of agriculture, tourism, health resorts, etc.). Given the need for professionals in these specialties and the most commonly used masters of repair of household and electronic goods, personnel in the field of cultural services, it is possible to teach professions that do not require much financial resources in secondary schools.

In order to ensure the balanced development of the regions in Azerbaijan, it would be expedient to establish *education clusters* in each economic region, which ensure the interaction of state-business-vocational education institutions. In the world practice, one of the

main directions of involving business representatives in cooperation with vocational education is the creation of education clusters. The activity of clusters in the vocational education system is based on the interaction of all types of vocational education institutions, regional governments, local municipalities and local enterprises.

It is also possible to achieve the development of the regions by increasing the number of Regional Vocational Training Centers under the Employment Service, attracting unemployed and job seekers to vocational training and effectively meeting the needs of the local labor market.

We hope that the restoration of life in our liberated regions will give an impetus to increase the number of jobs, expand the network of vocational education and increase employment in the regions.

Provision 7. In order to increase the impact of vocational education on employment, two issues are necessary: the support of employers and the creation of new jobs.

Increasing the number of vocational students does not mean that employment will increase. For this to happen, two key issues need to be addressed: close collaboration with employers and job creation. If employers are not directly involved in the training of vocational staff, the quality will not be at the desired level, on the other hand, if there are no new jobs, where will these staff work? The number of unemployed with diplomas will simply increase.

If we look at the statistics on the number of new jobs created in recent years by region, we can see that a total of 1312051 jobs were created in the country in 2014-2021. However, more than half of the new jobs are in Baku, including 69.3 percent of new jobs in 2020 and 77.1 percent in 2021. Among the regions, more jobs were created in the Aran zone.

When our lands were occupied, more than 300,000 jobs were lost there. Most of our lands have already been liberated from occupation, and after the restoration of infrastructure, 100,000 jobs will be created. However, in other regions, the organization of new production enterprises, the development of agriculture, the creation of agro-complexes, etc. measures are needed.

The main results of the research on the topic can be summarized as follows:

1. The obsolescence of the material and technical base, the settlement of IDPs in the educational buildings of about 40 vocational schools, the lack of dormitory facilities do not allow to train the necessary level of personnel, as well as to cover more young people with vocational education. In order to train professionally educated personnel in accordance with modern requirements, there is a need to improve the human resources of these educational institutions themselves.

2. Positive steps are taken after the State Agency for Vocational Education under the Ministry of Education starts operating. However, despite the measures taken in recent years, the number of contingents in vocational education has not increased. This is due to the low prestige of vocational education, low student scholarships and lack of employment.

3. Young people's lack of access to vocational education is also due to their lack of knowledge about professions. One of the main reasons is the poor organization of vocational work in secondary schools.

4. The development of the vocational education system depends not only on the positive performance of vocational education institutions, but also on the role of many parties. Much also depends on the training of high school graduates. They are reluctant to learn a profession, which is primarily due to the lack of effective labor training classes and workshops, the lack of formation of basic labor skills.

5. Lack of support from employers. In a market economy, vocational education should be organized mainly on the orders of employers. However, despite the fact that employers in Azerbaijan are looking for experienced, professional and skilled personnel, they are not interested in spending money on training such personnel. However, they must see their responsibilities and accept their obligations.

6. Employers also have poor communication with employment offices, often offering vacancies for the sake of

formality, and neglecting staff sent to them. They can meet staffing needs in a timely and quality manner if they provide timely and detailed information about the professions and skills they need and support the prompt execution of their orders.

7. Only 5,6 percent of those working in the labor market have a vocational education. The number of young people (about 64%) who started working without vocational and vocational education is higher. Important measures need to be taken to attract such young people, both the unemployed and those who have dropped out of school, to vocational education, as well as to expand the network of vocational education and training and ensure accessibility.

8. On the example of the Ethylene-Polyethylene plant, it was proved that a 1,0 percent increase in the number of vocational staff at the enterprise increases labor productivity by 0,7 percent. This, in turn, has a positive effect on employment, expanding production and creating new jobs.

9. The development of vocational education is in line with the development of the regions. Educational institutions, local people, municipalities, businesses, farmers, employers must work together to establish effective cooperation for the development of their region, so that young people do not go to distant cities in search of work, acquire the necessary professions in their regions and directly participate in regional development, let living standards be high.

10. Lack of financial resources. Reconstruction of vocational education institutions with the financial support of the state alone, it is impossible to develop the system to a level that can cover young people who can not get higher and secondary education. It is necessary to work on attracting various financial sources for the development of the system, taking into account the social security aspects of vocational education, increasing student scholarships, expanding opportunities for graduates to build a career and increase education.

Suggestions and recommendations for the development of the vocational education system:

Modern economic conditions, weak material and technical base of vocational education institutions, numerous requirements of

employers for staff, but low participation in their training, lack of any level of interest in vocational education slow down the development of the system. For the initial period, it is proposed to implement the following issues:

1. Given that the current subject of technology cannot replace the existing labor force, it is necessary to essentially restore *labor training classes* in secondary schools and raise the level of education.

2. In order to effectively organize vocational guidance work and achieve the right career choice of students, it would be expedient to organize a consulting service called "*Career Support Center*", which provides for the activities of vocational counselors in secondary schools.

It is expedient to establish a "*Career and Development Center*" in vocational education institutions. The center organizes meetings of students with professionals and businessmen, investigates vacancies, provides advice and assistance to those who need to work in parallel with education.

3. If students do not go close to the professions, it is necessary to bring the professions closer to them. Providing primary vocational education on the basis of full secondary schools (grades 10-11) can be considered the best option to increase the coverage of young people with vocational education.

4. Given that the majority of those receiving vocational education are children from low-income families, it is advisable to abolish paid education in public vocational education institutions and *increase student scholarships*. Paid education can be provided when companies place a specific order for training and pay for it.

5. Vocational education should be transformed into an effective transition to higher education. The number of contingents can be increased by implementing measures to attract those who cannot be admitted to higher education and secondary special education institutions to vocational education.

6. The application of the right to defer military service may lead to a certain increase in the number of contingents of vocational education institutions.

7. The issue of increasing the prestige of vocational education in our country has been set as one of the priority goals. Therefore, there is a need for propaganda activities to raise the prestige of certain professions among the public.

Suggestions and recommendations to increase the impact of vocational education on employment:

8. In modern times, the development of VET is possible only in close cooperation with employers. Taking this into account, all opportunities should be used for the wide application of such types of education as *dual education, apprenticeship, work based learning*, which have proven themselves in foreign experience. Enterprises can be motivated by tax breaks so that they can open apprenticeships and then provide jobs for these young people.

9. Vocational education institutions should be given some independence based on the principle of distribution of powers. They themselves should take the initiative in establishing close relations with employers. Vocational education institutions have the authority to enter into contracts with workplaces for the acquisition of apprenticeships and for on-the-job training.

10. It would be good to establish a center in the type of *Regional Public Education Service* or *Regional Public Consulting Service*, consisting of experts, to carry out coordination activities in the regions. The center should have expert advisors who are able to provide the necessary support to both vocational education institutions and employers in resolving issues arising in cooperation.

11. It is necessary to work for the development of vocational education at the regional level. For this purpose, it is expedient to create Education clusters in the regions, which provide for the integration of vocational education institutions, government and business structures.

12. The responsibilities and powers of the employment services should be increased. Evaluation of their performance, rewarding, etc. for productive work. The organization of events can give good results. It is important to establish a *Regional Vocational Training Center* in each economic region to increase the coverage of the

service and provide vocational training for the unemployed and job seekers on the ground.

13. It is possible to increase the quality of vocational education and the number of contingents, as well as to improve employment by promoting the investment of local and foreign investments in the vocational education system as a priority area. For this purpose, the state conducts *tenders, grants, tax incentives, obligations*, etc. can use tools.

14. Among the measures taken at the state level to increase financial support for the development of the vocational education system, it is important to involve ministries, large production associations, technology and industrial parks in sponsoring VEİ-s for the reconstruction of VEİ-s, improvement of material and technical base. The state should encourage business representatives to participate more closely in vocational education by all means: strengthening social partnership; encourage the establishment of associations and foundations to support vocational education. It is advisable to establish a *Vocational Education Support Fund*, which will be formed through voluntary donations and taxes levied on entrepreneurs.

The main provisions of the dissertation, obtained results and recommendations are reflected in the following published articles and theses of the author:

1.Gurbanova, İ.M. Ensuring employment in the regions as one of the main factors of economic development // SSU, ASUE. Sustainable development of economy: problems, perspectives. Materials of the international scientific conference. – Sumgayit: April 27-28, 2016, – p.451-453

2.Gurbanova, İ.M. The role of vocational education in increasing employment // Materials of the XX Republican Scientific Conference of Doctoral Students and Young Researchers (Vol. I). – Baku: ASUOI, –May 24-25, 2016, – p. 417-420

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4.Gurbanova, İ.M. The importance of social partnership in the development of the vocational education system in world practice // – Baku: Cooperation scientific-practical journal, – 2017. №3 (46), – p. 242-248

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15. Gurbanova, I.M. The main priorities of vocational education and training in increasing effective employment // Bulletin of the Chelyabinsk State University. Economic sciences. – 2020. Issue 68. No. 2 (436). – p. 102-114

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19. Gurbanova, İ.M. Current state and development prospects of the vocational education system in Azerbaijan // – Baku: News of ANAS, Economics series, – 2021 (4), – p. 109-117

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