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Problems of educational processes development and labor market needs analysis in Russia

Chistyakova Natalia[a]*, Semenova Maria[a], Spitsin Vladislav[a], Philipp Paquet[b]

[a] *Tomsk Polytechnic University, Tomsk, 30, Lenin ave., 634050, Russian Federation*
[b] *Université d'Orléans, 6 Avenue du Parc Floral, 45100 Orléans, France*

Abstract

This article is dedicated to the analysis of the problems of the educational process development and its relation to the labor market. Main problems caused by inconsistency of the education system and labor market needs were revealed. The study of the educational expectations and needs of graduates and students (using questionnaires) was made herein. Labor market analysis wad done to show the main negative and positive aspects of its development. Market industry forecast trends and the education market tendency for the next few years were built to reveal disproportion of the industry needs and educational system outcomes.

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Keywords: *Educational process development, Labor market analysis, Disproportion of the industry needs and educational system outcomes*

1. Introduction

Public interest to the problems of higher education has been increasing in Russia for last decades, concerning the transition to a multi-level system of education. This interest is not accidental. Russia has the third position in the rating of countries with number of specialists with higher education among the active population after USA and Norway. In year of 2011, Russia had 493 students learning in the higher education system (both public and private universities) per 10000 people (Mazin A., & Mazina A., 2011). However, the labor market demonstrated reduced demand for specialists with higher education. According to experts, the number of the specialists with higher education in the labor market in 4.5 times more than the demand for them. At the same time, Michelson I. (2012) claimed that quantity of graduates with secondary vocational education is two times smaller than necessary, the similar situation with specialists with basic vocational education (6-7 times less than that required).

* Chistyakova Natalia Tel.: +7-903-955-3962
E-mail address: chistyakovano@tpu.ru

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The structure of the graduates of the university does not always meet the requirements of the Russian labor market, and the level of education in some higher education organization does not allow graduates be demanded on the international labor market. Mismatch of demand and supply in the modern Russian labor market can lead to many negative consequences in both the economic and the social spheres. The decline of production, increased unemployment (especially youth unemployment), the growing pessimism - are just a few possible consequences of such dissonance between the structure of graduates and labor market demand.

Analysis of the labor market helps to predict changes in demand that will offer applicants to obtain more accurate piece of information in the future. It will reduce the mismatch of supply and demand in the market, which would entail, firstly, the reduction of unemployment, and secondly, increasing level of satisfaction of the employers needs. It also would make more efficient functioning of the system “market of educational services - labor market”.

2. Analysis of the problems caused by lack of the education system and labor market coordination

Problems caused by lack of coordination of the education system and labor market can be identified as the following:

- A high percentage of graduates have specialties that are not in demand in the labor market. At the same time, the most popular professions in the labor market are not in great request among graduates. It is known for a long time that young Russians prefer to study for economists and lawyers, while the economy needs more engineers and welders. Now the list of unnecessary and popular professions is expanding. "Since year of 2000, we have seen a huge number of graduates, who were unable to find a job because of the high competition and the small number of job vacancies in their specialty," - says a partner at Cornerstone (involved in the selection of personnel) Victoria Filippova (Ponomarev, 2011).
- Young professionals cannot find a job in their specialty and have to be hiring in other areas of production, or to join the ranks of the unemployed. In 2009, among 1.5 million universities graduates and secondary specialized educational institutions, only 27% are employed in their specialty, 12% continued their education, about 12% have been called up for military service, others have found a job in another field or have joined the ranks of the unemployed (Mazin A., & Mazina A., 2011).
- University graduates lack the skills needed to work in their chosen industry. While young people cannot find work, employers cannot find workers even at the starting position. According to MGI, medium-sized employers (50 to 500 employees) had 13 unfilled initial positions, large employers - had 27 unfilled initial positions. In the countries involving in survey, almost 40% of employers surveyed the main reason cited the lack of vacancies they need was the skills of the graduates (Milov G, 2012).

The company “HeadHunter” conducted a survey to find out what problems eventually faces HR-managers in the interaction with customers. This survey involved 162 respondents; mainly it was visitors of the internet site “hh.ru”. According to this study, qualified personnel are the most difficult category of the staff for recruitment agencies (Figure 1).

Fig. 1 The most difficult category of staff for recruitment agencies

Choosing a future profession, schoolchildren guided a variety of reasons. Given the fact that career guidance in secondary schools is not available, pupils base t heir opinions on rather vague idea about profession. Of course, this approach for choosing of occupation will not be sufficiently effective.

3. The research of the educational expectations and needs of graduates and students

In year of 2013, a survey of needs and expectations of students was conducted involving the visitors of 1-5 courses of technical education of Tomsk Polytechnic University and graduates (more than 300 people). Among the questions asked by the students, there was a question about their expectations of studying outcomes in university. Results of the survey are given in the diagram (Figure 2).

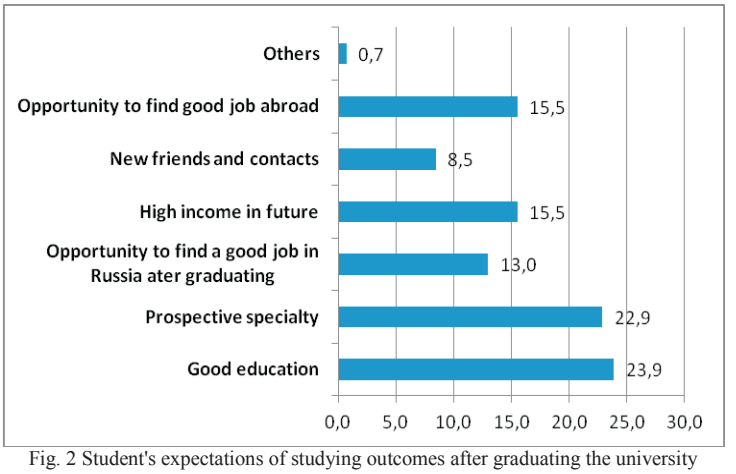


Fig. 2 Student's expectations of studying outcomes after graduating the university

It is clear that the basic expectation of students is getting a good education, as well as getting a promising and popular specialty.

The students were asked to identify factors that influenced their choice of specialty. The main factors were interest in the subject (42%) and the popularity and relevance of a specialty in the labor market (30%) (Figure 3).

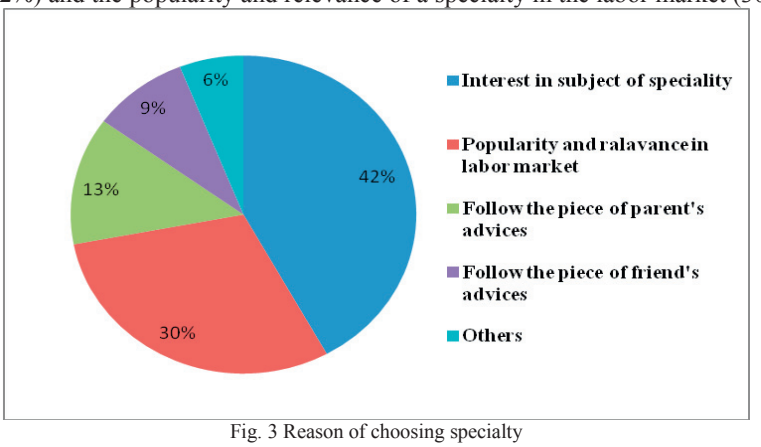


Fig. 3 Reason of choosing specialty

However, graduate students are often unable to find a job in their major. At the same time, 51.4% of the students want to work in chosen specialty, while 46.8% of students prefers not to do it (Figure 4).

Firstly, the time factor influence mostly. Period between student's arrival at the university and graduating the university is four to six years. In modern world, where modernization is fast, six years is a whole era. During this time, any changes may occur in the labor market: earlier demand profession become worthless, and profession which were not previously in demand, would have a leading position in the market. Also during this time there can be new profession caused by the new technology. Therefore, the majority of university graduates have specialties, which are not in demand in modern Russian labor market.

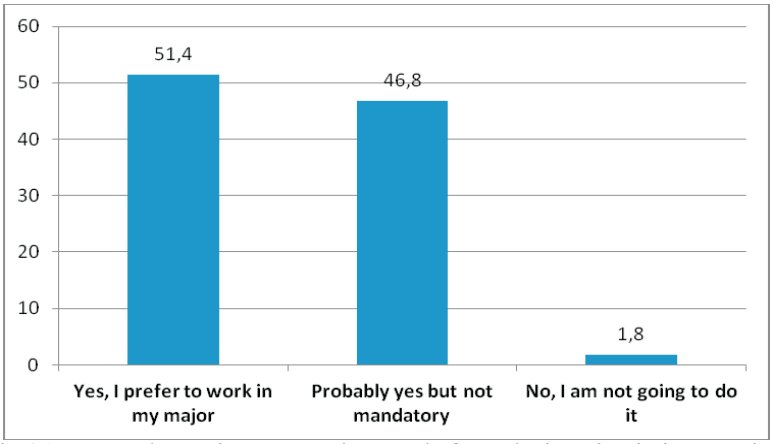


Fig. 4 Answers on the question: are you going to work after graduating university in your major?

Thus, according to the data of Russian Statistic Agency, the unemployment rate is higher than average in groups of specialists in the fields of: humanities, agriculture and fisheries, economics and management (4.5-4.7%). It means that experts in these areas have a slightly higher chance or completely losing their job, or not work in the specialty. Particularly acute problem of discrepancy of the graduates and the demand for labor market for the humanities, as well as economics and management. For example, in 2010, professions, which had not been justified expectations, were managers of hotel and restaurant business, psychologists, specialist in state and municipal management, human resources managers, lawyers in banking and real estate sphere (Sorokina N. & Albitova N, 2004)

Secondly, graduates do not have enough experience that means obviously that they are not competitive in the labor market. Most employers prefer professionals with experience, not realizing advantages of young professionals. These advantages include: desire to acquire new knowledge, a quick training and retraining, full work dedication, considering that the most graduates do not have family and children, they can focus all their attention on the career.

Thirdly, graduates often do not meet the requirements of the employer. Regardless the profession of young specialists, they will not be popular on the labor market, if they do not have the necessary knowledge and competencies, such as knowledge of foreign languages, software or programming languages, as well as the skills to work with a new technically complex equipment. It becomes a problem not only for workers who cannot find a job, but also for employers who cannot find suitable employees.

For these reasons, young professionals cannot get a job in their specialty, or work in areas that have little to do with their profession, or join the ranks of the unemployed. Most young professionals have to work in positions where not even require a secondary education. Working in not their specialty, experts do not bring much benefit to himself or society. Firstly, because they cannot put into practice the knowledge acquired during the years of studying. Secondly, doing uninteresting work, they cannot demonstrate their maximum potential. Third, these workers cannot compensate for the costs of higher education, which, in the end, it turned out for them practically useless.

In 2012, Deputy Head of the Federal State Statistics Service K.Laykam reported that only 40% of the working population of Russia is working in their major (Mazin A.,2011).

Of course, the lack of coordination between labor market and market of educational services has a negative impact not only on the graduates, but also for businesses that cannot develop due to lack of personnel and their incompetence.

Problems of inconsistencies between labor markets and educational services lead to negative consequences for workers and employers. To resolve this problem, it is important that experts issued by universities were in demand in the labor market.

To make students choose only those specialties that will be in demand in the future, it is required make labor market forecasts. Considering the fact that the modern labor market is constantly changing, to determine which industries specialists will be needed in a few years, is extremely difficult. Nevertheless, provide some trends are possible.

4. Forecasting the dynamics of correlation between labor market and education system outcomes

According to expert's forecast, in the nearest future there will be a growing demand for technical professionals such as engineers, system administrators, service, masters, heads of technical departments, mechanics, and power engineers. There are also specialties, which are in demand in any area and in any time, for example, qualified sales managers and procurement managers, IT professionals, engineers and medical staff. Among the representatives of blue-collar occupations, require sellers, cooks, drivers of motor vehicles, representatives of construction specialties, specialists in metal (Sapanidi P., 2011).

According to forecasts for a longer period, after 10 years in the labor market, the most preferable professions will be: pharmacists, geologists, logistics, technology and engineering in the production of specialists in oil on the shelf, advertising managers, experts in business process optimization, bank auditors, IT, psychologists, experts in behavioral analysis, the developers of computers, environmentalists, experts on the extension of life, experts in the field of alternative energy, experts in genetic engineering of plants and hydroponics.

Unfortunately, these predictions could not be accurate enough, since the state does not have special structures that would be engaged in the monitoring of the labor market.

However, considering growing importance of human resources in the modern world, it would be advisable to prepare the professionals who need industry. Under the current circumstances, when more than half of professionals work in industries that do not meet their profession and qualifications to speak about the efficient use of labor resources is not possible.

To forecast future needs for specialists of certain occupation one can draw trends, comparing the development of a particular industry and the number of graduates specializing in this field.

For trending used equation of the line, i.e., equation of the first degree:

$$Y=A_0+A_1*t$$

Where: A_0 and A_1 is calculated using the equations:

$$N* A_0+ A_1* \Sigma t= \Sigma Y$$

$$A_0* \Sigma t+ A_1* \Sigma t_2= \Sigma t*Y$$

Where:

N - number of periods, which is constructed according to the trend;

Σt - is determined by centering and is considered zero.

For making trend, it is used data of Federal Service of State Statistics considering the number of graduates of the universities and turnover of products made by industry or the number of organization in the industry.

Using the method of extrapolation, it is possible to predict growth of specialists with higher education in the industry, as well as the development of the industry. In research, it was taken different industries for analyze the trends for the future. In this article, it is presented only three of them to illustrate our results.

Below are the trends in several industries: geology, exploration and development of mineral resources; health care system; information technology, radio, communication. Forecast made until 2016 for all sectors. The number of years for which the calculated coefficients are ranged from eight to seventeen, depends on branches.

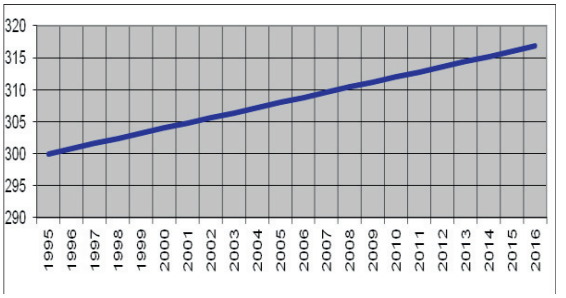
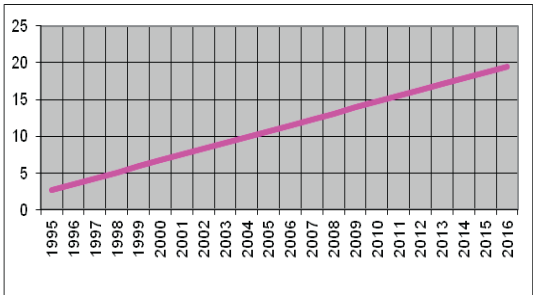


Fig.5 a) Number of graduates with major in geology per year (thousands people)



b) Turnover in geology, exploration and development of mineral resources per year (mill. rub)

Comparing the number of graduates and the growth rate of the industry, we can say that the increase in industry output has a positive correlation with number of graduates in this area. From this issue we can conclude that the level of employment in the sector will not have the strong variations, if this trend will continue.

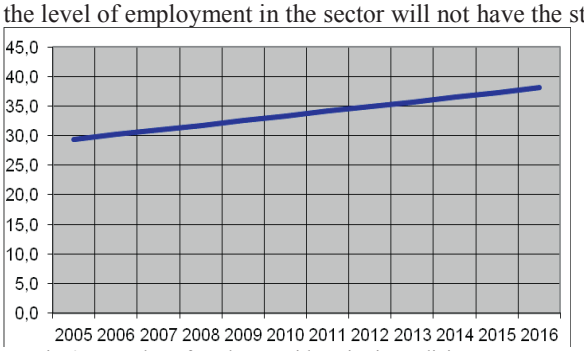
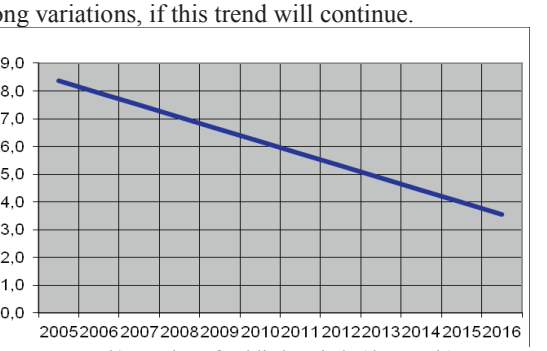


Fig.6 a) Number of graduates with major in medicine per year (thousands people)



b) Number of public hospitals (thousands)

Number of hospitals reduced, while increasing the number of graduates of the medical specialties. It could be explained by different factors. First one is the reforming of health care system (when many hospitals in village were closed and combined together). Second one is the fact that a lot of qualified medicine personnel do not work at public medical clinics prefer to be hiring at private ones. This will lead to higher unemployment in the industry, which will increase with each passing year, maintaining this trend.

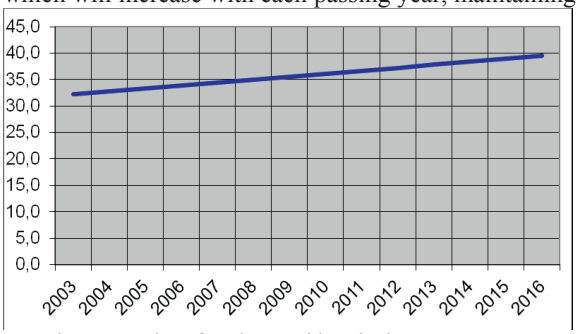
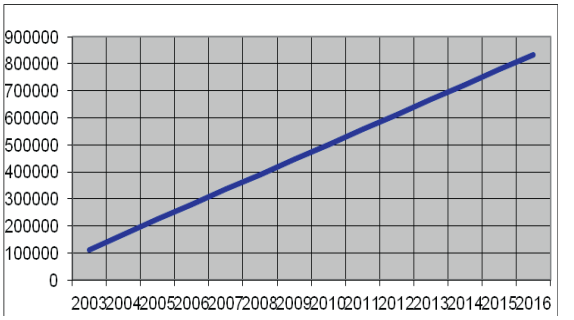


Fig.7 a) Number of graduates with major in IT sector per year (thousands people)



b) Expenditures for IT in companies (thousands rub.)

Comparing the rate of growth of information and communication technologies and the number of graduates from these specialties, one can propose that the growth of the industry is more intense than the increase in the number of graduates. This may lead to a shortage of specialists in the industry. However, at present time, the industry is

considered to be the most promising, the likely increasing number of students entering the relevant specialty, and a corresponding increase in the number of qualified professionals in this field.

5. Conclusion

These trends prove the fact that most promising of these industries and popular now (and the next 3 years) is the sphere of information and communication technologies. The rest of the areas will develop less intensive or would reduce the turnover that could lead to an increase in unemployment.

In order to solve the problems in the system "education service market - labor market" a variety of measures can be offered:

- The introduction of labor market monitoring. Creation of state structures, which will carry out periodic monitoring of the labor market, will allow applicants to have accurate guidelines for the profession, which will be in demand for the future as it implemented in many European countries involve Great Britain (Gorard, 1999).
- Changing the curriculum in universities. The introduction of items that will be rather practical than theoretical orientation will help graduates more easily absorb the labor process, which will increase their competitiveness in the labor market.
- The improvement of direct order specialists system dealing with large enterprises. Cooperation of large enterprises with higher education institutions will increase not only the graduates' chances of employment, but also to decide the problem of lack of graduates work experience as required by the company, students will be able to take internship in the enterprise. Besides, this way can solve the problem of financing universities, at least partially as it implemented, for example, in Cardiff University (Harvey, 2001).
- State support for enterprises that provide jobs to graduates and young professionals without experience. This will make graduates more popular in the labor market. (Holmes, 2001)
- State sponsorship of retraining employees for companies in the areas of priority for the Russian economy development. In the first place, this measure will allow these companies to grow and eliminate one of the main constraints - lack of qualified personnel.
- Changes in the structure of admission to universities. Changing the number of training places in accordance with the predictions of the labor market in the future will reduce the amount of unclaimed specialists in the labor market.

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