

## **URGENT QUESTIONS AND PERSPECTIVES OF SECONDARY PROFESSIONAL EDUCATION DEVELOPMENT**

*Larisa A. Donina*

*A brief analytical symbiosis of problems existing nowadays in the secondary professional education is represented in the article from the point of view of interrelation of professional education and the labor market. The analysis of the market condition of the highly qualified working force according to its professional and qualification balance (the angle of the problem of personnel insufficiency/abundance, satisfaction with the level of employees' professionalism) is given within the framework of this article. Characteristics of the system of secondary professional education is provided and perspective trends of secondary professional education (SPE) development are presented for the purpose of the state educational politics. Initially this article was presented as a report on crucial issues of maritime vocational secondary education at a regional scientific and practical conference "Problems and prospects of vocational secondary education in the Far East of Russia", which was held on May 23-24, 2013 at Maritime college of Admiral Nevelskoy Maritime State University.*

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The theme 'Problems and Perspectives of Secondary Professional Education Development in the Far East' is long-standing, volumetric by the set of problems which exist in the system of SPE of the Russian Federation nowadays.

Quite little time has passed after the government leaders' declaration concerning human capital assets as a resource for modernizing the economics and innovation development of the country. Also the provisions of the governmental 'Strategy 2020' are known whereby the

society based on the knowledge is spoken about. ‘Strategy 2020’ names quality of the working force and professional education, determines the role and place of levels of professional education in the development of productive forces as ‘points of innovation economics growth’.

But the main problem that the system of professional technical education comes across is in the fact that it cannot provide the accelerating of modernization and technological development of economics of Russia under the existing circumstances and in the existing condition. These circumstances themselves form challenges to development of human capital assets, namely, to the modern system of professional education. This is a somewhat duel between economics and professional education. And it is unknown who will win as it is in the duel. One can note five of the most important modern challenges:

- A dynamic nature of technological changes under new economic patterns makes it difficult to issue a distinct order to the education system.

Today nobody is able to state an absolute exact figure of the trained specialists who are demanded for the today’s economy (at all the levels of education). What is to be done? This is a task of the Federal level: to construct a system of perspective forecasting to train personnel meeting the planned structural changes of economics and technologies (including but not limited to an active participation of the educational institutions themselves)

- Insufficiency of workers and specialists everywhere is becoming a factor restraining the economic growth.

It is no secret for anybody that ‘debugging’ of the specialists trained by us up to the level of professional qualification required by the employers has become a norm long before. This witnesses insufficiency of the established system of personnel training. Meanwhile the quality of professional education must conform to requirements (expectations) of the society, a person, the labour market; international criteria; condition of the labor production growth and also mobility of the graduates at the labor market.

- Deficit of highly qualified working force is objectively strengthened by demographic breakdowns due to reduction of birth rate and consequently by the general ageing of the population.

- Integration increase into international economic space: working force reflow increase, raise of international competition for the personnel.

Maritime education, as no one else, feels this integration increase by itself: a majority of graduates work under foreign flags in total. The reason is another Russian disaster in this case: miserly percent composition of the Russian Fleet compared to the World one. There is one way out: to improve the system of training personnel so that Russian graduates could be competitive at the world market and could compete with the world system of professional training. Time dictates that!

A demographic situation has made unavoidable more active inclusion of all the countries into international migration flows and, in particularly, attraction into Russia of migrants from CIS and far-abroad states. Adaptation and socializing programs are required relating to these groups of working population together with the necessary qualification training within the framework of continuous education.

- Modification of a traditional model of professional education institutions as a result of competitive environment development in professional education.

Today the traditional model of professional education has experienced a serious modification. Not always the positive one. Representatives of educational institutions of technical study profile are discouraged with absence of a complex program to modernize engineering and technical education and the strategy of its development.

Challenges to professional education of economics are serious. And everything happens at the background of the unfavorable situation with demographic indexes. Starting from 2002 a number of gradulators with secondary (complete) comprehensive education decreased twice, those with the basic general education decreased in two odd times. By 2015 this number is slowly but continuing to decrease.

In view of the all above mentioned one can formulate main 'intersystem questions' in the form of the following theses:

1. Possibilities of the modern system of professional education do not get ahead of demands of the developing economics.

2. The established network of professional education institutions and the structure of services rendered by them do not have time to react to negative demographic changes.

3. Insufficient tempos of Russian professional education integration into the world education system.

4. «Penetration into wide masses» of higher professional education.

5. Absence of a complex program to modernize engineering education and strategy of its development.

Conclusion: enhancement of the role of training highly qualified workers and specialists of the average section in social and economic development of the Russian society.

Importance of such a conclusion is confirmed at the world level. In May 2012 III International Congress in Professional and Technical Education and Training was conducted (Shanghai, China) which about 800 representatives from 117 countries-members of UNESCO and 72 non-governmental organizations participated in. Congress determined a role of professional technical education (PTE) as one of the key factors of development of competitive economics.

According to statistics data at present highly qualified workers and specialists of the average section in the structure of production forces amount to 40 %, and up to 70 % do in the sphere of services. The rest per cents fall on less qualified labor. Nevertheless, despite deficiency of qualified working force, demands to the labor market do not fall but increase: first of all, labor market requirements to the quality of the working force increase. Demands for working personnel and specialists of the average section of various qualifications exceed the offer for not less than 50 % under circumstances of the complex demographic situation. What's the hitch? Who and how makes up for deficient 50% specialists in economics?

### **Characteristics of the System of Elementary Professional Education and Secondary Professional Education: Main Quantitative Indexes.**

As of autumn of the last 2012 the system of professional education gave the following view in Russia in total:

- The system of elementary professional education (EPE) is 2,658 educational institutions (one million people);
- The system of secondary professional education is 2,866 institutions (more than 2 million people);
- The system of higher professional education (HPE) is 1,114 educational institutions (more than 7 million people);
- The system of complementary professional education (CPE) is 1,547 institutions of HPE and CPE (54 thousand people).

How must or can the correlation between these parts be changed? If we take the training structure per 10 000 people, EPE gives 107 people, SPE does 175 people and HPE gives 480 people. Domination of the higher education is obvious. However, the task is not in the fact to lead ‘the struggle’ with the higher education but to struggle for qualitative professional education.

If we compare the number of graduates of the education system with the demands of the labour market we shall get the following scheme:

Number of graduates of the education system	Demands of the labor market
60 % - HPE	35 % - HPE
13 % - SPE	32 % - SPE
18 % - EPE	27 % - EPE
9 % - without qualifications	6 % - not qualified workers

One must not forget about two other important problems available in secondary professional education:

1. 22 % of material and technical resources need replacement or capital repair;
2. provision with dormitories is 65.3%.

### **Characteristics of condition of elementary and secondary professional education**

*Financing* (consolidating budget):

In total has increased for education in 1.5 times or 55.5% (since 2006);

For EPE – by 26%;

For SPE – in 2 times.

<i>Human resources:</i>	EPE	SPE
engaged in total (people)	185,500	342,300
pedagogical human resources	128.6 (9.4%)	148.0 (10%)
level of education (HPE)	87.7%	36%
<i>Age composition:</i>		
up to 30 years old		13.8%
40-59 years old	65%	49.2%
above 60 years old	11,5%	7%

This is a general problem of the whole SPE: great age qualification of teachers (there are 8 people above 45 years old and 10 people older

than 60 years old from 26 staff teachers in Maritime College of Admiral Nevelskoy Maritime State University. The same situation is with time-workers).

Correlation of teacher / student

1/10      1/12

In 2010 average monthly salary of employees compared to wages in economics in RF in total was:

- in average in EPE - 65,1 %
- in average in SPE - 84,3 %

Far Eastern Region is far from such figures. Therefore, if average statistic wages in 2013 in economics in the region have been 27 thousand rubles, then average monthly teacher's salary per one rate is 50% from the average statistic one in Maritime College. Inequality of possibilities exceeds all admitted limits.

Problems of Maritime College:

- Low level of material and technical support.
- Absence of condition in the educational institution to process a number of professional competence practically by students according to new Federal State Educational Standard.
- Low level of teachers' wages.
- High teachers' age limit.
- Not developed mechanism of payment for scientific and methodological work by faculty of SPE.
- Absence of personal motivation among students.

### **Perspective Trends of SPE Development in the context of State Education Policy:**

1. Legislative provision of the training system of the average section working personnel and specialists.
2. Network optimization.
3. Renewal of professional education content.
4. Shaping the professional and qualification structure of personnel training and trainees' targeted support.
5. Shaping the normative legal provision of educational institution activity.
6. Trends of international activity

*Legislative provision of the training system of the average section working personnel and specialists.*

Law ‘Concerning Education’ that comes into force from Sept. 01, 2013 will establish a new system of professional education levels:

Persons who successfully mastered the educational program of SPE will be awarded with the following qualifications:

- according to results of mastering the training program for qualified workers – qualification in correspondent profession of a worker or position of an office employee;

- according to results of mastering the training program of the average section specialist- qualification of the correspondent average section specialist.

Professional training in programs of professional training in professions of workers and positions of office employees, programs of retraining workers and office employees will be carried out on the basis of professional qualification training centers.

- Their purpose is to provide branches of economics with working personnel taking into account demands of regional (local) labor market.

*Network Optimization.*

Highlighting educational institutions of two kinds according to forms of foundation and financial sources:

- Entering branch clusters and providing the personnel training for enterprises of atom, aviation, transport and other branches (40% from the students under SPE programs);

- Providing functioning and development of regional labor markets preparing personnel for small and medium businesses, municipal enterprises, etc. (60% from the students under SPE programs).

We are interested in the territorial and branch embrace to modernize FE programs: atom, aviation industry, mining and energetics are in priority.

*Renewal of Professional Education Content*

Transfer to Federal State Educational Standard: 327 for EPE, 237 for SPE . There are in them:

- Stress to describe results of educational activity. Requirements are established to results of mastering basic educational programs of

educational programs of training workers and specialists of various categories in competent form;

- Essential expansion of academic freedom of educational institutions that allows educational institutions of professional education to realize innovation educational programs, to ensure the applied, practical direction of educational process, to react operatively to employers' demands.

*Shaping the professional and qualification structure of personnel training.*

Current state of the personnel training structure is as follows:

People who have been trained in technical trends:

- in EPE in 210 professions 478,000 (46,2%);

- in SPE in 138 specialties 689,600 (34%) in 13 enlarged groups of specialties (EGS).

The most massive preparation in the section of EGS:

- transport vehicles (29.2%),

- informatics and Computing Technique (17.2%),

- metallurgy, machine building and metal processing (14.9%).

Promising Positive Tasks are Prescribed in Perspective within the Framework of Federal Target Program:

- Formation of the system of forecasting volumes and the structure of the personnel training.

- Annual conduct of monitoring graduates' employment.

- Improvement of state order system (including new approaches to establish complex target program (competitions), transfer to differentiated normative financing in training trends or EGS.

- Orientation training of senior high-school students and trainees of educational institutions of professional education.

Planned institution changes will allow:

- to correct disproportion in personnel training;

- to increase training volumes in programs of professional training and secondary professional education (approximately, up to 35% from the number of graduates of comprehensive institutions).

But knowing that the education is a capital intensive branch there is a danger that these tasks will turn out to be declarative, as always.

*Trainees' targeted support*

- A program to form dormitories must be developed in each region to ensure access of professional education for inhabitants of villages and towns.

- Bringing level of providing scholarship into conformity with the level of the scholarship provision in federal institutions.

Shaping the normative legal provision of educational institution activity:

- Articles of Associations.
- A basic list of state educational services.
- Transfer to finance state orders in SPE.
- Competitive distribution of complex target programs for SPE institutions.

*International activity*

The nearest tasks in the sphere of SPE development:

- Development of internationalization strategy using mechanisms of project activity, conferences, seminars, thematic network organizations.
- Conduct of international conferences in urgent questions in the world.
- Activation of cooperation with CIS-countries, monitoring development of the world systems, conducting symposiums on the basis of comparative analysis.

Analyzing the above mentioned one can formulate the basic concepts in secondary professional education:

First, the demand of Russian industry considerably gets ahead of our offers by volumes, structure and content of training the average section specialists. It is sufficient to say in this connection that so far only 15 per cents of students have been trained in trends of knowledge-consumptive and highly technological specialties.

Second, an urgent question of renewal and development of main assets. Its solution slows down insufficient investments and volumes of budget financing (compared to other levels of education) and absence of economic stimuli for employers; investments into institutions of EPE and SPE. If the situation is not changed, academic buildings and dormitories construction and reconstruction programs at the Federal level can be curtailed. A considerable part of the equipment used in

academic institutions does not correspond to the modern level by technical, production and scientific aspects. The remained resource is not sufficient to ensure a necessary level of professional education quality, and that means that the country will not get a necessary quantity of personnel demanded by economics in the long-term perspective. Study books and aids in technical specialities do not correspond to the economic modernization tasks in full.

Third, economics and the system of taxation of academic institutions require improvement. The level of labor payment and scholarship provision at the average section are the lowest and that fact serves as brakes to motivate the collectives to innovation development and modernization of the academic and pedagogical process. From our point of view, a new system of the labour payment must be better adapted to the needs of SPE system.

Fourth, quality of human resources, the level of scientific provision and a share of scientific research, working for development of the system, grow slower and sometimes stay at the same level in colleges and secondary technical schools.

One cannot solve the modern tasks of training highly qualified workers and specialists of the average section without the above mentioned matters, especially for highly technological branches of economics.

The education system must be modernized to the changed world. And modernization must get ahead. Simultaneously, time dictates innovation oriented education that supposes bringing qualitative and quantitative preparation indexes in accordance with labor market demands.