

Social and economic conditionality of the Secondary Technical Education formation in the Kazan Vicegerency in the XIX-XX centuries

Irina Anatolyevna Talysheva, Gallia Mikhaelovna Ljdokova, Nailya Irkinovna Ismailova

Kazan Federal University. Kazanskaya Street, 23, Yelabuga, 423600, Republic of Tatarstan, Russia

Abstract. This work is aimed at identifying the features and priority directions of the secondary technical education formation in the Kazan Vicegerency at the turn of XIX-XX centuries. We have revealed the interrelation between the secondary technical education formation in the Kazan Vicegerency at the turn of XIX-XX centuries and the all-Russian economy and tendencies development caused by the Industrial Revolution of 30-40-years of XIX century. The social and economic prerequisites of the secondary technical education formation in the Kazan Vicegerency at the turn of XIX-XX centuries are studied and systematized.

[Talysheva I.A., Ljdokova G.M., Ismailova N.I. **Social and economic conditionality of the Secondary Technical Education formation in the Kazan Vicegerency in the XIX-XX centuries.** *Life Sci J* 2014;11(11s):128-132] (ISSN:1097-8135). <http://www.lifesciencesite.com>. 29

Keywords: secondary technical education, professional training, social and economic conditions, technicians, assistant engineer.

Introduction

The Russian education system is going through a very important and crucial period of its development. At the present stage one of the priorities is the Russian education system integration into the World educational system and the general trends of the world, national and regional development accounting within the Russian education modernization process.

In a situation of assigned tasks the question arises before the professional (primary, secondary and higher) education, as the component of the continuous education system, to find the optimal strategies for their implementation. Therefore it seems not only appropriate but also necessary to refer to the historical experience of the professional education system formation in Russia overall and to the specific experience of Vicegerency, acting as the constituent parts of Russia at the turn of the XIX-XX centuries, which reflect both the all-Russian tendencies and the specific, local. It is necessary because refer to the existing heritage will allow us to avoid and to minimize the possible negative consequences and errors, and also to compare the today's decisions to the historical experience and thereby to assess the feasibility and risks of decision making.

In the history of Pedagogy the studies on the secondary technical education formation in the Kazan Vicegerency at the turn of XIX-XX centuries have not been traced yet.

The main task of our historical and pedagogical study is: to explore and systematize the

social and economic prerequisites of the secondary technical education formation in the Kazan Vicegerency at the turn of XIX-XX centuries.

The origination and development of the secondary technical education in the Kazan Vicegerency both in Russia and a whole at the turn of XIX-XX centuries, is directly linked to the factory sector rising, caused by the social and economic processes of the labor market formation.

The results of the study indicate that the main area, where a new production method was formed originally and intensively, has been the industry. For the Kazan Vicegerency during the first half of the XIX century the wide dissemination of light, mostly peasants, industry was characterized. In the manufacturing industry, produced the consumer goods, the small peasant crafts held the predominant position on the entire territory of the Russian Empire. Thus, in the 50-ies of the XIX century the whole manufacturing industry provided the products to 550 million rubles, at that 4/5 of these products fell to the share of the peasant industries [1, pp.10-11]. Many of traditional peasant crafts, which had a centuries-long history (weaving, leatherwork, making of utensils, household utensils, simple peasant labor tools, woodworking and metalworking), began to develop more intensively at the end of XVIII-first half of XIX century, that has been caused by the growth of the social division of labor. The Kazan Vicegerency was famous for its crafts too. Throughout Russia the masters of dressing of table cloth, shawls, canvas and woolen cloth from Alekseevskoe village of Laishevsky County were known, as well the masters of leather-dressing by the entrepreneur L. F.

Krupennikov and the Tatar merchant M. Suirov in the Novo-Tatar Sloboda, city of Kazan, of pottery products from the Voskresenskoe and Pestretsy villages of Tetyushsky County, of felted footwear from the village Kukmor of Mamadysh County, of jewelry from the village Ribnaya Sloboda and others. [2, pp. 195].

In the wealth inequality deepening process the representatives of the future industrial bourgeoisie were allocated among the small manufacturers-handicraftsmen. The dynasty of famous manufacturers - the Azimov, the Aitov, the Alafuzov, the Apanaev, the Apakov, the Gandurin, the Garelin, the Guchkov, the Kazakov, the Morozov, the Krestovnikov, the Sveshnikov, the Utyaganov, the Ushkov, the Khusainov, the Shamov, the Yamanovski and others – have formed just during this period [3].

An indicator of the non-agricultural occupations growth of the peasantry was the expansion of waste. And herein the leading place occupied the Central industrial region, where the field waste took a mass character in the second half of XVIII century, when 10-20% of the male population went to work, and in the 50-ies of the XIX century - already 30-40% [4, p. 38].

The field waste was an important factor at the trained workforce market folding for the industry.

The first half of the XIX century is characterized by the further growth of capitalist manufacture, and the second half - by the beginning of transition from the manufactories to the factory. This transition was caused by the industrial revolution. The structure and content features of the industrial revolution, which most historians and economists [5] referred to the turn of the 30 - 40-ies of the XIX century, originally manifested themselves in the textile (primarily in the cotton) industry, later - in the mining industry.

The new machine technics required the transition to the wage labor, because only the worker, who freely can sell his labor power, more interested in the results of his work and also has a higher professional training, was able to master the complex machinery.

Therefore the use of machinery is the most important factor in increasing the share of wage labor in the industry of the Kazan Vicegerency, which is determining, in its turn, the need for training the specially trained staff for the emerging capitalist production.

Due to the transition to the machinery equipment the labor productivity at the enterprises of the Kazan Vicegerency by the middle of 50s of the

XIX century, compared to the beginning of the century, increased by 3 times, and more than 2/3 of products of big industry had already fallen to the share of machine production.

One of the first major enterprises of the Kazan Vicegerency was the Kokshansky chemical plant of merchant P.K. Ushkov. It was founded in 1850 in the Elabuga County. The ceramic tiles and the chromic were produced in this technically progressive enterprise. Later, the factory started issuing the sulfuric acid, the Iron and copper sulphate, domestic and chemical glassware.

In 1851 cast-brass casting, forge and boiler and mechanical plant of the Kazan merchant A.N. Sveshnikov started working. There were the steam boilers at this enterprise, and more than 100 of civilian workers were employed.

The stearic-soap making, glycerine and chemical plant of the Moscow merchants-factory owners, the Krestovnikov brothers, founded in 1855, was equipped with the newest at that time equipment – the steam machines, presses and other equipment. 400 permanent and seasonal workers from the peasantry of the state and apanage village worked there. This Kazan plant, a draft of which was designed by the Professor of Kazan Imperial University M.Ya.Kittary, was one of the largest in Russia. Many soap-making factories in the region have not even been in competition with it.

The modern equipment has been installed on the flax spinning and weaving factories of I.I. Alafuzov. In 1858, this Factory and Plant Owner Kazan established a joint "Association of Kazan Tannery on Shares." After a while this Tannery became the largest industrial enterprise in the Vicegerency. The total number of Alafuzov's workers, primarily including Russians and Tatars, has reached 300-500 people.

In 1858, the company "Caucasus and Mercury" in the Spassky backwater established the ship repair workshops. Soon they grew into a large plant with the steam machines and hammers, bench machine tools and sawmill. The repair and construction of ships performed thousand workers. The ship repairing works were carried out also in small workshops in the Paratsk, Chistopol and some other backwaters.

The new phenomena on a water transport affected this way in the industry. On two major rivers, flowing through the territory of the Vicegerency, went the first ships during the first half of the XIX century. In 40 years on those rivers went already more than 200 ships. One of the first owners of the tugboat became the Kazan merchant, the bread trader V.I. Romanov. In 1860, the number of those who purchased the steamers exceeded 20 people.

Along the banks of water arteries tens of harbors have grown, including Kozlovka, Tenki, Bogorodsk.

The transformation of existing and the construction of new enterprises, the appearances of the first factories and plants in the Vicegerency had the significant consequences for the intensification of capitalist relations, manifested itself primarily in the enterprise enlargement. This process has demanded the introduction modern equipment into the production. For example, in the 90s the Krestovnikov's plant was equipped with the steam engines, and the well-known chemists of the Kazan University worked in its laboratories. 1.5 thousand of permanent workers worked at the enterprise. In the total Russian production of candles, oleic acid and glycerin the specific weight of the plant accounted for almost 1/3.

The Chemical Enterprises of P. K. Ushkov, the Mechanical Plant of A. N. Sveshnikov, and the Food Industry Enterprises of M. I. Okonishnikov are expanding, the enterprises of the Tatar merchants A. Ya. Saydashev and M.I. Utyamishev are enlarging. The capitalist I. A. Arslanov is opening the Soap Making and Glycerin Plant.

As the consequence of the capitalist relations intensification in the industry of the Kazan Vicegerency was the development of cities and trade.

Kazan was the leader among the cities both on the number of inhabitants and the industrial potential. In 1897 herein lived more than 130,000 people, 52,000 of them came from the village. A half of the large industrial enterprises of the Vicegerency were located in Kazan. The important role in the development of Kazan started to play the Moscow-Kazan railway built in the first half of the 90s. In the summer of 1897 the electric illumination appeared. At the end of the XIX century first telephone line started to work. In the 80s the telegraph emerged, it has connected all county towns and the number of large rural settlements: Alekseevskoe, Murzikhu, Ribnaya Sloboda, Narmonka, Bogorodsk [6, pp. 272-277].

The rushing trade routes were Kama and Volga. There the following Steamship Companies acted: "Caucasus and Mercury," "Airplane." The Staheev, the Savin, and the Shamov had a large number of ships and barges. Thus, the steam fleet of the trading house "Grigoriy Staheev and Sons" numbered 5 tugs and 50 barges that transported goods along the Volga, Kama and Vyatka and Belaya rivers. The enterprise led the trade in grain, grain products, colonial goods, grain alcohol, wine and salt.

An active role in trading played the Tatar merchants: the Azimov, the Arslanov, the Aitov, the Burnaev, the Galeev, the Galikeev, the Kushaev, the Usmanov, the Utyaganov, the Utyamishev and

others. They carried on the large commercial operations not only in the domestic markets of Nizhny Novgorod, Samara, Saratov, Rostov-on-Don, Orenburg, Ufa, Vyatka, Perm and other cities. The large batch of goods those merchants imported to the countries of Asia and East [7].

The main industrial potential of the Kazan Vicegerency was concentrated in the hands of the Russian bourgeoisie. But the Tatar national bourgeoisie was gaining its strength, too. Its membership was replenished primarily came from the rich peasants-chapmen. The Burnaev, the Mamatov, the Huzyaseitov, the Bayazitov, and the Vavilov were among them. The owners of handicraft workshops, who used the wage labor, became the Owner of factories and plants. The part of the Tatar nobility, such as A. Aleev, A. Ishmuratov, and I. Deberdeev were engaged in the commerce and industry activities [8, p. 131].

Thus, the social and economic vital activity of the Kazan Vicegerency at the turn of the XIX-XX centuries, as evidenced by the results of the study, is characterized by the progressive tendencies of the industry capitalist development, the formation of the inner and external markets, the development of multinational in its composition bourgeoisie and workers. Such tendencies have actualized the problem to train the specialists for all structures of the industry, trade and agriculture, have put with all acuteness the tasks on the reorganization and expansion of existing network of secondary technical institutions.

A significant amount of foreign experts worked in the Russian industry in the second half of the XIX and the early XX century also contributed to that. Thus, according to the records of the Department of Trade and Manufactures for 1885 [9, pp. 189-190], in the chemical and mechanical productions of 50 Vicegerencies (including the Kazan) in the European part of Russia more than 1330 of foreigners worked only as the Production Manager at the Russian factories and plants. It is obvious that 1724 foreigners were occupied the post of the Directors and the Managers of the factories in 1890 [10, p.77].

The owners of factories and plants invited the foreign masters and technicians for work, in this way they hoped to solve their purely pragmatic problems – quickly and without any expenses to benefit by using the professional skills of foreign specialists.

The presence of numerous foreign managers and specialists was explained largely also by the fact that a number of the most important industries (coal, oil, metallurgical, engineering, chemical and textile)

were directly dependent on the foreign capital exported to Russia in the form of investment.

Thereby, the social and economic conditions, prevailing in Russia at the turn of the XIX-XX centuries, created the objective, caused by the technical progress preconditions of the special educational institutions establishment to train the native staff for the developing industry.

The advanced Russian pedagogues and community leaders actively defended the idea of the need to establish such institutions.

The necessity of this eventually became clear for the government circles, closely related to the management of the production, too. In the introduction to the fullest possible in the pre-revolutionary Russia "Collection of statistical data on the state of the middle and lower professional education in Russia" drawn up by the Training Directorate of the Ministry of Trade and Industry in 1910, was noted that "the spread of professional education in Russia is one of the most powerful means to bring as soon as possible the economic life of the country on the path of independent national development, to raise the productivity of national labor and to open the new sources of prosperity to lift the material and spiritual culture of our motherland" [11, p. 5].

Despite the obvious and urgent staffing requirements of trained specialists, the opening of educational institutions, where those specialists were trained, was going extremely slow. The secondary technical educational institutions, graduated the technicians - closest assistants engineers, have been developed especially slowly.

The ongoing discussions on ways of training of technicians for the industry in the pre-revolutionary Russia were held. Some industrialists considered it possible and necessary the usual way, formed in the conditions of the initial phase of the industrial revolution – to nominate the technicians from the masters- practitioners who have gained the experience in such production or in this specialty. It's a kind of knowledge transfer to the family members by inheritance. But in the new conditions of the second industrial revolution phase the technicians-practitioners could not keep up with the technological progress, because, even though they knew their business very well, they were not prepared theoretically, could not read and do the drawings, and only a little could contribute to improving the production and the introduction of new rational labor techniques and methods.

Others, more pragmatic and visionary entrepreneurs and the progressive-minded people in the field of technical education, defended the idea of training specialists through the secondary technical

educational institutions, in which both the theoretical knowledge and practical skills required to perform the duties of technicians and assistant engineers, would be developed, as well the personal qualities of the law-abiding, moral citizens.

It was recognized that the technicians, who graduated from the special educational institutions in the first time at the production, cannot possess such confidence in solving the skilled labor practical problems, as the technicians and masters - practitioners. However, the daily work has adjusted the lack of experience and has developed the necessary skills. In addition, the graduates of the secondary technical education institutions were incomparably better prepared for the main work as the closest assistant engineers.

Despite the obvious advantages of the second method of the qualified technicians training, at the turn of the XIX-XX centuries the specialized educational institutions produced a small amount of specialists– the technicians and production managers of such level. Thus, according to the Department of Trade and Manufactures records for 1885 in 50 Vicegerencies, among which is Kazan, only 4.3% people had the special technical education of 20,322 heads of the large and medium enterprises in the mechanical and chemical productions [9, pp. 189-190]. The official materials reported that in Russia only 1724 people were the technicians of 23766 heads of the factory production where 525 of them were the foreigners [12].

Gradually, though very slowly, the number of trained specialists was increasing. In 1895, only 2076 persons of 27132 heads of the factory and plants enterprises had the technical education that is about 8%.

Conclusion

Thus, the needs of the developing along the capitalist path industry have defined and spotted tendencies of training the technicians, the assistant engineers and the production managers in the special educational institutions. At the turn of XIX-XX centuries the Kazan Vicegerency, as a region with a highly developed numerous and multifaceted industrial production, in whose territory one of the great universities was also located, is becoming the educational space, in which you create and develop the multilevel system of the secondary technical education of specialists for the priority industrial sectors.

Corresponding Author:

Dr. Talysheva, Kazan Federal University. Kazanskaya Street, 23, Yelabuga, 423600, Republic of Tatarstan, Russia.

References

1. Rinkle, J. D. 1876. The Russian System of Shop-work instruction for Engineers and Machinists. President Massachusetts, pp: 46.
2. Maxin, I. M. 1909. Essay on the Development of industrial education in Russia in 1888-1908 years. St. Petersburg, pp: 175.
3. Bennett, C. A., 1937. History of Manual and industrial Education 1870 to 1917. The Manual Arts Press. Peoria, Illinois, pp: 336.
4. Druzhinin, N. M. 1956-1958. The state peasants and the reform of P.D. Kiselev. Vol. 1-2. M- L.
5. Sverdlova, L. M. 1998. The Kazan Merchant Class: business and people. Kazan, pp: 148.
6. Devyatikh, L. I. 2002. From the history of Kazan merchant class. Kazan: Printing and Publications Center "Tatul", pp:160.
7. Essays on the economic history of Russia in the first half of the XIX century. Moscow, 1959.
8. Collection of materials on the technical and professional education. 1895. Publication of the industrial training schools of the Ministry of National Education. Edition II. SPb., pp: 249.
9. Summary of the factory and plant industry in Russia during 1890. Vol. IV. The Department of Trade and Manufactures. St. Petersburg, 1893. pp: 236.
10. The Manual Element in Education. 1880-1881. Massachusetts, pp:75.
11. Mather, W., 1884. "Notes on Technical Education in Russia". Second Report of the Royal Commisioners on Tecnical instruction. Vol. III. London, pp: 56.
12. Argyle, M., 1954. Social Interaction. N.Y, pp: 125.

6/27/2014