

# Historical Aspects of the Emergence of Railway Education in Siberia

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**Abstract—** The article describes the background, the history of the foundation and the principle of teaching the cadets at the First Siberian Technical Railway School named after Emperor Nicholas II.

**Keywords—** Middle - Siberian Railway, education, college, gymnasiums, *сметья* railway professions

## I. INTRODUCTION

At the end of the 19th century, railroad professions were just appearing the life of the country. At the same time, they were very numerous, since this type of transport was developing very actively. The workers and employees of the Siberian Railway were a large division of the rail corporation. And it was their team that grew most dynamically. If on the whole, the number of workers and employees of all categories doubled on the state roads of the country from October 1896 to December 1916, then in Siberia it grew by 9.8 times. Unfortunately, the large number of the Siberian railway workers was not characterized by the high level of their professionalism. Historian B.I. Zemerov from Tomsk wrote: "Despite the lower density of traffic on the roads of Siberia, the number of workers and employees was greater here than on the south-western roads of Russia. The climate, the terrain, the low qualifications of the personnel led to an increase in the number of workers for a mile of the railway track in Siberia." The result was achieved by number, not by abilities, as they say. [1,2]

A low level of general education was the most vulnerable point of the Siberian railroad. In 1899 and 1901 statistical surveys of 11,112 workers and employees, and this number accounted for more than half of the staff, showed very disappointing results. More than half of the respondents either couldn't read and write at all, or could hardly master the text by syllables, having learned at home from some church books. Only one out of twenty-five people finished a gymnasium, and one out of a hundred graduated from an institute or university. One has to agree with the exclamation of the "Siberian Life" magazine that wrote in 1902 about the railway workers: "What a sad picture! The matter of state importance is in the hands of poorly educated people ...". [3]

## II. RESULTS

The increase in the number of primary schools in Siberia from 1881 to 1896 was impressive. During this period, the number of parochial schools increased from 229 to 2,251 (an

increase of 135 new schools annually!). The number of "ministerial schools" in Siberia for the subsequent period of 1894 - 1911. increased from 2,120 to 5,197. And this means that one hundred seventy-one schools a year were opened for the Siberian children! [4]

At the same time, though not so fast, a network of secondary education establishments was being formed in the form of vocational schools, urban gymnasiums for boys and girls, grammar schools, and county-level colleges. The number of vocational and special education institutions — secondary technical, commercial, land surveying and other schools, teacher training schools, medical and obstetric schools, etc. — grew.

Krasnoyarsk was at the forefront of this campaign for knowledge of the educational center of Siberia. The state of education in the city of Krasnoyarsk and the Krasnoyarsk District in 1890 was the following:

-1868 year. The opening of the eight-class classical gymnasium in Krasnoyarsk was an outstanding event in the history of the city. The gymnasium for boys was the first secondary school in the Yenisei province. Due to the absence of cheap means of communications, secondary and higher education became the lot of wealthy people, but for the poor classes it was inaccessible. In 1883, i.e. fifteen years after the opening, there were 180 students in the gymnasium. In addition to the gymnasium for boys, there were other educational institutions: a teacher's seminary with an elementary school, a religious school, the Shchyogolev vocational school, and several parochial schools. [5]

-1878 year. There was opened the eight-year gymnasium for girls. There were not more than 2% of literate women in the city, that is why the opening of the gymnasium was an important event in the life of the region. By 1890, the number of pupils in the gymnasium for girls was 300, in addition, the city had several elementary schools for girls, which were financed by the city, and the Vladimir's orphanage. In the city itself, the need for education was still being met; one cannot say that in the district. Here, per 10,000 inhabitants, taking into account all the population groups, literacy was no more than 2,000 (mostly retired soldiers and settlers). On the whole for the Krasnoyarsk district there were only 11 village schools in 1890. [6,7]

The current situation was critical for the prospects of further economic and technical development of the railway, which directly depended on the educational qualifications and the qualified level of workers and employees. Therefore, from the end of the 19th century, a rule was formed: as soon as another segment of the Trans-Siberian Railway was put into operation, the training of the workers who served it and their children immediately began. An extract from the journals of the Siberian Railway Committee on May 3 and 16, 1894 stated:

“... The Railway Committee took into account that in Siberia there is now a shortage of secondary technical and industrial educational institutions. Meanwhile, not only the construction of the Siberian Railway and the future exploitation of it, but also the forthcoming development of trade along this line, as well as various branches of the manufacturing industry, urgently require technical, commercial and craft education to be spread in the local Siberian population.” [8]

In 1891-1893, Krasnoyarsk became the starting point for the construction of the Middle - Siberian railway. The acute need for qualified personnel led to the decision to open a technical educational institution in Krasnoyarsk, “which would prepare low-level technicians from the Siberian natives, accustomed to the climate and familiar with local conditions for construction and maintenance of the railway.” On March 21, 1894 Mr. Hofmeister A. Krivoshein, Minister of Railways, deigned to enter the Committee of the Siberian Railway with the device on the basis of the current Regulations on Technical Railway Schools:

- in Krasnoyarsk, by the beginning of the 1894 - 1895 academic year,
- in Khabarovsk, by the beginning of the 1895 - 1896 school year,
- in Omsk, by the beginning of the 1897–1898 school year.” [9]

The Sovereign Emperor having heard the note of the Minister of Railways of March 21, 1894, No. 494, “On the Establishment of Technical Railway Schools in Siberia” in Gatchina, on the 13th day of May, 1894, highestly deigned to open the First Siberian Technical School in Krasnoyarsk.

On October 2, 1894, the opening of the First Siberian Technical School took place, the first director N.Ya. Dobrynin notified about it by telegram sent to the educational department of the Ministry of Railways (certificate of educational department of No. 204 dated October 8, 1894 “On the opening of the Krasnoyarsk Technical Railway School”).

The extract from the certificate of the educational institution of December 10, 1894 stated: “The opening of the Krasnoyarsk College took place in the presence of the 1st class with 18 pupils on October 2, 1894”. That day a solemn prayer was held by the Bishop of Yeniseisk and Krasnoyarsk in the presence of the Governor and representatives of the local institutions of all the departments. Classroom studies began on September 20, and classes in training workshops started on October 10th, they were postponed until the instruments were delivered.

For 1894, 6,000 rubles were allotted from the school fund, and 4242 rubles were done for the second half of the year.

Before the separate building for the college was constructed, the room in the old building of the Krasnoyarsk Gymnasium for 2000 rubles per year was rented appropriate to the school needs. To equip the school, the necessary furnishings and tools of the carpentry workshop were purchased, essential equipment for the physics laboratory and other teaching aids were purchased”.

The No. 43 Government Order dated by October 24, 1895 from the No. 94 Order of the Ministry of Communications, dated by October 11, 1895, stated that the Krasnoyarsk Technical School was named as the First Siberian Technical Railway School. (The index of government orders on the Ministry of Railways No. 2 dated by January 19, 1895 and notices from the training department, page 47). [10]

The report for 1896 stated: “The Emperor, according to the most vigorous manager of the Ministry of Railways, declared to the report on the 10th day of February 1895, the Most Highly deigned to nominate the school for the name: “The First Siberian Technical Railway School named after Emperor Nicholas II”. The First Siberian Technical School was attributed to the North-eastern District of Railways of December 18, 1894 by the Ministry of Railways. The employees of the Krasnoyarsk College:

- Chief – Advisor, Mechanical Engineer Dobrynin Nikolai Yakovlevich.
- The Teacher, the priest Father Alexander (Tyushnyakov AK), graduated from the Tyumen Theological Seminary, the religion is Orthodox.
- Vadim Nikolayevich Borozdin, head of the training workshops, training master, a court counselor, graduated from the Komissarovskoe School, a mechanical technician.
- Assistant of the head of the training workshops Gavrilov Nikolai Nikolaevich. Titled Counselor, graduated from the Bologov Technical Railway School.
- Penman teacher, draftsman, graduated from the Samara railway school, Dombrov,
- The teacher of singing, Pavel I. Guychenko, without a rank, graduated from the Vozdvizhenskaya first-grade agricultural school.
- Gymnastics teacher, Second Lieutenant Michelson,
- The warden, Sadlutsky Konstantin Aleksandrovich, the colonel graduated from the Kiev infantry cadet school.
- Physics teacher, college adviser Rastorguev (from the gymnasium for boys),
- College doctor, district doctor of the Central Siberian Railway, Hirschman.

Dobrynin N.Y. was 38 years old, he was full of strength and desires to serve the Fatherland. It was on his shoulders that the enormous work of preparing for the opening practically from scratch on a new educational institution lay. Being a collegiate adviser, Nikolai Yakovlevich was educated in Moscow at the Imperial Technical School (now it is the Bauman Moscow Technical University) and served as a mechanical engineer before being appointed to the post of the head of the school. Of

course, when creating the school much depended on the circumstances, on the attention and help of the Krasnoyarsk authorities, but without like-minded people, Dobrynin would have been tough. His right hand, Vasily Yakovlevich Prokopenkov was an inspector of the school and a teacher of mathematical sciences (32 years old, a native of the same "alma mater"). For a number of years, titular counselor Efim Timofeevich Kolpachi worked as a college doctor, he was a graduate of the Kharkov University.

Due to the absence at the time of opening their own premises, the local authorities decided to place a new educational institution in the old building of the gymnasium for boys in the Gymnasium Lane (now Weinbaum Street). The leadership of the school had to solve many economic issues (to provide furniture, textbooks, teaching aids, etc.), to invite experienced, qualified teachers to work, to pick up servants. The allocated premises did not respond to their purpose due to crowding, which was especially evident with the opening of the third class. Therefore, in May 1896, a special two-story building was laid near the railway station.

They took in the school children according to the social classes: only the sons of peasants, burghers, Cossacks, settlers, exiles; by religion: Orthodox, Catholics, Jews, Lutherans. The number of applicants to enroll was usually more than three times than the number of vacancies. So, in 1904, 77 people were admitted to the entrance exams, and only 26 were accepted. Many of the applicants did not pass the examinations, others did not pass due to health reasons.

The technical school had a three-year theoretical term of study, after which a certificate and a referral to a two-year practice at railway workshops and for the construction work of the Central-Siberian Railway in the chosen specialty were given: track maintenance and traction service. Those who successfully passed the practice course were allowed taking final examinations, after passing which qualifications were conferred and a certificate with the title of technician, certificate of graduation from the college was given. The attestation commission consisted of highly qualified specialists chaired by the head of the track service department. The commission also included: the head (or his deputy) of the Krasnoyarsk railway workshops, the head of the traffic department, the mechanic-controller of the telegraph service, the head of the school, etc.

The working hours of the school were as follows: the beginning of classes (theoretical course) from 8 am to 2 pm, a break, and from 3 pm to 6 pm - work in workshops. Before the classes, everyone went out to the common room for prayer, singing prayers in chorus. At the command of the warden, they went to classrooms, and the attendant in class had to stand at the door and wait for the teacher. The duty officer gave the command "quietly", everyone got up, the teacher greeted students and allowed sitting down. In the pre-revolutionary period the graduate of 1914, Sekin Nikolay Georgievich, spoke well about the work of the school in his memoirs:

"... The situation in the school was such that it impressed me that I entered a military-style school with military discipline. By appearance and discipline technology students were in the first place in the city. The uniform was a black shirt with metallic buttons, dark blue trousers for release and boots. Over the shirt

there was wearing a belt with a buckle, where there must have been the letters - "Railway". The outerwear consisted of a simple soldier's overcoat, gray cloth, and a soldierly tailored cut over a belt over a greatcoat. The headdress was a cap of dark blue color with black rim edged with green edging. A badge was fastened on the ring - an ax and an anchor, on which it was depicted - an ax and an anchor. The ax symbolized "work", and an anchor "ho", in other words - "hope for work". To work in the workshops of the school or depot there were given overalls. In winter, wearing felted shoes, the cap was not allowed, on the cold, frosty days they wore towers ... "

The school had a broad profile. The learning process was built as follows. In the first class, general education subjects were taught: arithmetic, geometry, calligraphy, drawing, etc., accounting, etc. With the students of the 3rd class, summer practical workshops on surveying were necessarily conducted. The program of studies consisted of the following: preliminary work in reconciliation and installation of tools and problem solving on the ground, relating to: making a line, measuring the distance between objects and determining the height of those ones. Students had to learn to conduct independent surveys of different types:

1. The survey (with the help of one trunk line and with the help of two trunk lines of approximately 12 sq. acres),
2. The eye survey with a compass of 30 square meters. tithe.
3. Survey of plots with 9 m. tithe.
4. Shooting plots with a 16 square meter goniometer. tithe.
5. Surveying plots with a theodolite of 25 square meters. tithe.
6. The breakdown of the curves in the tables by "Krenke" with  $R = 80$  sazhen and  $R = 800$  sazhen.

The compulsory subjects taught in the school included singing and gymnastics.

The year of 1897 became a landmark for the school. That year, the school moved to its own two-story stone building. The building had the form of a parallelogram and one, a small side, went out to the station square (at the moment it was one of the administrative buildings of the combine equipment plant, the former Vokzalnaya St., № 160). The school was there until 1943, until the evacuation of the plant of agricultural machinery from Zaporoazhe.

On the ground floor of the school there were located workshops, an office and the apartment for watchmen. On the second one - classrooms, drawing room, teacher room, library and physics lab. Thanks to the large volume of classrooms, the recreational room (a room designed for students to relax and play during breaks), a drawing room and workshops, the air quality met sanitary standards, despite the fact that the ventilation was carried out only by vents. The room was heated with ordinary Dutch ovens, so the temperature was the same in severe frosts: it was warm around the ovens and in the middle of the room, even hot, and it was cold near the windows and exterior walls. The workshops were lighted with kerosene - glow lamps. The school had a large library of technical and non-



fiction literature, which was constantly updated with new editions.

Over the years, the number of students has increased to 3 classes, the school building has been expanded through an extension, in order to increase the area of training workshops.

The students remembered the following teachers as Kal Stephen Emelianovich who taught "art of building", Zheltovsky, engineer of the Krasnoyarsk railway workshops, who taught "Locomotives", Yanovitsky Vyacheslav Arsentievich, mechanics, Poradovsky Alexander F., head of the school, who taught electrical engineering and mechanical drawing, Borozdin Vadim Gavrilov, Nikolai Nikolayevich, master of plumbing, was a railway employee and taught singing; Gruzdev, Mikhail Ivanovich, master of the carriage workshop; he was also engaged in student out-classes activities.

With the beginning of the activities of the school teachers' sessions/meetings began their work. The topics included: a discussion of the results of admissions tests, students' success and behavior for a quarter of a year, the results of transfer and final exams, the award of certificates of full course completion, the choice of books and instruments to replenish the library and classrooms. On September 27, 1896, a resolution was adopted at the pedagogical meeting - "to initiate the capital necessary for opening a hostel". To this end, all those present at the meeting pledged to voluntarily, monthly, deduct one percent of their salary. The dormitory was open to the beginning of the school year in 1901 - 1902 and consisted of two wooden houses: one two-storey and the other single-storey, which allowed accommodating up to 45 students. They were located on the estate school. The fee for accommodation in a hostel was 14 rubles per month until August 1, 1905, and from August 1 - 15 rubles. That was great sum of money for that time. However, it is necessary to take into account that this money included not only accommodation, but also meals for students, laundry, bath, heating, lighting, repair of equipment and buildings, and a charge to the warden.

Average tuition was 12 rubles 30 kopecks. However students with good academic performance were given nominal scholarships named after Emperor Nicholas II (Alexander III), for example, in 1913 a 2nd grade student Grintsevich Konstantin received a scholarship named after Emperor Alexander III, and a Kuznetsov Basil apprentice, a 3rd grade student of Petraitis Ignatius - Scholarship named after engineer Pavlovsky. On January 29, 1902, the Regulation on the establishment of the First Siberian Technical School named after Emperor Nicholas II was approved by a scholarship named after the court counselor, railway engineer Pavel Antonovich Shtukenberg, who was the head of the repair service of the railway and buildings of the Central Siberian Railway. The scholarship was intended to be given to the poorest student of the Krasnoyarsk Railway School, mostly from the sons of those who worked in the service of the track. The money went for renting an apartment, getting a dress and school equipment.

Much attention was paid to the discipline and education of adolescents. An educational commission was created, which met weekly on Saturdays to discuss student misconduct. The most frequent offenses were: indecent behavior in the classroom and on the street, unauthorized departure from

school, absenteeism for disrespectful reasons, unwillingness to obey the school rules. A violation of the form of clothing was considered to be non-obeying discipline. The following penalties were used: penalty for behavior, leaving after class, reprimand. Occasionally there was an exceptional measure - dismissal from college.

A significant role in the moral and educational work belonged to the church. The school taught the law of God. Pupils attended all the services in the Alexander Nevsky Military Church (the church was located near the building of the medical institute at 124 Karl Marx Street, it was not preserved.) The choir of students sang during all the services on the right choir. They confessed and received communion with the scribe.

Since the opening the Krasnoyarsk Railway School enjoyed respect among the residents of the city. The authority of the school was also facilitated by the attention and care of the railway officials and local authorities. The school was visited by the Minister of Railways M.I. Khilkov, the Yenisei Governor MA Plets, the lord Evfimy, the head of the Siberian railway V.M. Pavlovsky, the head of the city N.A. Shepetkovsky and others. The head of the Krasnoyarsk railway workshops was the trustee of the school.

Memories of the former students of the First Siberian Technical School stated that the school brought up disciplined, hardy, highly cultured, well-educated specialists, that was also evident from the memories of the old railway workers: "... during the construction of the Bashmyakovo-Filimonovo-Petrushka branch in the village of Moscow there was a spring. The students of the school did the water supply for refueling locomotives on this site, the management of the railway noted the sharp mind of the students. "

### III. CONCLUSION

As a result, the students of the school became well-trained, disciplined railway workers due to highly qualified teachers, strict discipline in the school and proper organization of the educational process.

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