Apprenticeship in Secondary Vocational Schools During the Economic Modernization in Late Imperial Russia. Part 1

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Abstract

In his study of the formation of apprenticeship system and analyzing its content, methods and forms in the Russian secondary vocational school described in the materials of the Kazan school district of the late XIX – early XX century, the author relies on the theory of Western modernization and positive bureaucracy, attracting regulatory and educational documentation, scientifically and publicly pedagogical journalism as well as ego documents.

Practical methods of knowledge application were planned in the pre-revolutionary schools in the logical-pedagogical relationship, but their implementation left much to be desired. In the organization of production practice, this was due to the lack of permanent bases and practical managers from the educational institutions, a certain attitude towards the trainee at enterprises as auxiliary personnel engaged in versatile non-system work, as it was openly declared by the advanced pedagogical press and even by the administrative and training personnel in schools.

The article also reveals positive aspects in the organization of practical training, which are still relevant today. These include the introduction of active learning methods, improved reporting documentation, payment for the students, preparing them for the future profession and management.

The rapid development of practical training was due to the need of a qualified young specialist who was prepared for independent production activity in the new conditions of accelerated modernization of the country’s economy.

Keywords: Russian Empire, the history of education, training, practice, internship.

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1. Introduction

The specialist training process in secondary vocational schools included, in addition to the theoretical course, a variety of forms and types of practical training. The internship (which purpose historically was to prepare students for the upcoming independent professional activity) plays the most important role in this. The organization of the practice still has a number of problems, as it is under attention of the bodies carrying out accreditation and supervision of educational organizations. Many of these problems are rooted in the pre-revolutionary period, when practical training was at its formation. The transition from the traditional system of apprenticeship to a complex theoretical and practical training for the modernizing country went through a complex path of transformations, marked by the interaction of the authorities, the public and the teaching community aimed at improving this system. In this regard, the study of the formation of practical training in secondary vocational schools in Russia in the late XIX – early XX century will allow us to understand the transformation mechanisms and the resulting system, with its advantages and disadvantages, characteristic of modern times.

2. Materials and Methods

2.1. The formation of the apprenticeship system as a structural part of the learning process in secondary vocational schools drew attention to its regulations, as well as to the documents reflecting various aspects of the historical dynamics of changing the emphasis on educational policy. They are accompanied by curricula and programs that reveal the amounts, types and, in part, the specific content of the practice. Materials of collective discussions on the reform of certain types of schools, reports of leaders of the social-pedagogical movement and teachers-practitioners who summarized the existing experience and suggested solid measures to improve current problems help us to recreate a dynamic picture of transformations in the organization of practical training. Materials on practical training in the works of high-ranking officials and administrators of the educational sphere became the core of our source base. Taking a more conservative position than representatives of the pedagogical cohort, they also noted the encountered difficulties and made their suggestions for reforming the practical training. Educational office work (correspondence of educational institutions with databases of practices, annual reports of schools and commemorative essays, as well as reporting documentation of the students) allows us to get a more detailed picture of practical training and relate it to the current regulatory framework. Memories of students personalize the study (Litvinova et al., 2017: 176), allowing us to consider the practice in the case of a specific situation and from a perspective of the student.

2.2. The formation of practical training as an element of educational process unit is considered from the standpoint of the modernization theory as it is the most updated process in the educational system. The need of its adequate alignment with the actual practices of production activities is due to the country's economic objectives. This aspect of analytics includes M. Weber's bureaucratic theory. The positive attitude of the higher educational bureaucracy regarding changes in practical training, its interest in achieving this goal and responsible attitude led to the adoption of timely and qualified decisions based on a variety of information, including the proposals of the social-pedagogical movement. The subject of the article allowed the author to combine macro and micro-techniques. Periodic concentration on individual schools and interns in the micro-perspective made it possible to understand the features of the implementation of the educational policy in real practice.

3. Discussion

Discussions about the organization of practical training in the Russian Empire gave rise to a significant amount of scientific and pedagogical literature on this topic. The works of I.A. Stebut, I.I. Meshchersky, I.M. Maxin and V.V. Vinogradov are characterized by a desire for an objective assessment of the existing realities and rational proposals for correcting the existing shortcomings of practical training. Soviet historiography focused on the shortcomings in the pre-revolutionary school, but nevertheless highlighted the most successful local examples of practical training. Modern Russian historiography repeats studies of previous periods, not making the organization of practical training a subject of independent research, but considering it in the context of general issues of the history of vocational education.
4. Results

4.1. Bases, types and amounts of practices: history inspired by modern times

The initial task in the organization of production practice is the selection of bases for its implementation. In most cases, state educational institutions conducted internships on their own base, with planning and building future schools equipped with its necessary areas, facilities and equipment, as well as staff of managers. The non-state school organized the practice at relevant enterprises and institutions of its region. Such a distribution of bases of practice depended not on the organizational and legal form of the educational institution, as it may seem, but on the economic sphere for which the school prepared its specialists. For some professions, on-the-job training was the only possible and adequate organizational form of practical training. This concerned pupils of commercial schools and schools of sea and river transport, i.e. students of those professions for which it was quite difficult to reproduce work processes and working conditions in the structural units of the organization. However, the lack of funds from a non-state school to create its own practice base still played a significant role in this. “River sailing schools”, for example, did not have the funds to purchase their own training vessels, and students of the Astrakhan Naval School shared a training vessel with other “sailor” students.

Under these conditions, these schools established active relations with the bases of practice, largely contributed by the members of their boards of trustees, who were often representatives of certain bourgeois circles. “River sailing schools”, for example, the Kazan River School sent letters to ship owners with a request to accept students for practical sailing. The whole situation in nautical education can be assessed by such an activity. The Ministry of Commerce and Industry had only three training vessels, designed primarily for the students of the maritime schools. Number of students in nautical schools for the period 1900-1908 ranged from 2 thousand to 1.1 thousand people, while the number of vacancies for them on all three vessels was only 230 people. Therefore, the majority of students looked for places to practice on private ships, despite the fact that shipowners did not willingly accept inexperienced personnel (Vinogradov, 1908: 33, 58, 60). Therefore, sending out papers with a request for cooperation could help find a base of practice and at the same time at least somehow present the student to the possible head of the practice base.

Trying to generalize the types of practices in the pre-revolutionary vocational school, we must recognize that it is quite difficult to carry out a clear, unified and, most importantly, detailed gradation of types of practical training, due to the heterogeneity of definitions and normative acts in this area even for certain types of schools. Nevertheless, two large forms (in the source – “categories”) of classes can be distinguished, as it is done, for example, in the “Rules on the practical training of students of agricultural schools” of 1888:

"a) some serve to master the material better and, along with teachers’ presentations, are a part of the theoretical course; b) others aim to give students the opportunity to acquire sufficient skills for the production of agricultural work and then, as far as possible, practically familiarize them with the design of estates and the process of management” (Sbornik svedenii, 1911: 232).

The importance of practical training in the structure of training in pre-revolutionary vocational school is emphasized by the amount of practice. The largest amount of practical training was in agricultural education. The Charter of Secondary Agricultural Schools of 1912, after long and urgent demands for the reorganization of the practice, for the first time in the history of agricultural education, introduced approximate standards of time not only in theoretical but also in practical training: at least 25 weeks a year for a theoretical course and “for practical classes in the summer period, approximately 15 weeks are allotted (from 10 to 20 weeks in different classes)”. At the same time, the distribution of lessons, practical exercises and work remained under the jurisdiction of the pedagogical councils, but “with the guidance” of the latter, with a requirement to attach the curricula and table of summer practice to the reports (Ustav, 1912: 9). Judging by the Kazan Secondary Agricultural School, the pedagogical councils did not go beyond the recommended amounts (Taneev, 1915: 40).

The Charter of 1912 specified the rationing of all forms of practical training. The curriculum for the winter period assumed 153 weekly hours of theory and 55 practices (envisioned in all subjects, with the exception of the Law of God and history) for the entire course of study, to which the “Table of the number of hours of practical training in the summer period” added 91 more weeks of practice in special subjects. Additionally, the time spent on agricultural work, duties and excursions was normalized: in the winter period it was 18 hours and 176 in the summer period.
These three activities were classified as practical exercises by the Charter (Ustav, 1912: 8, 20-21). Therefore, 153 hours were allocated for 6 years of theoretical training (approx. 25.5 hours in each class), 146 hours for practical exercises in subjects (approx. 24.3 hours in each class) and 194 hours for other forms of practical training during the entire course of study (32.3 hours in each class). According to the Charter of 1912, the amount of practical courses turned out to be slightly less than the amount of the theoretical ones. Taking into account other forms of practice, practical training in secondary agricultural schools in terms of the amount of allocated hours exceeded the theoretical one twice.

On the other hand, such a significant amount of work for the student (82.1 hours per week or 13.68 hours per day during the six-day week) was excessive, and therefore the actual application of such amounts of work is doubtful, despite the reports. Historical essay of the Kazan Agricultural School described a similar situation in the 1880’s: “winter agriculture classes are performed only by students of the sixth class”. This was explained by the lack of time, because “before the school was transformed there were fewer subjects and therefore fewer daily lessons ... and we could devote from 2 to 5 hours a day for practice in various subjects” (Beletskii, 1889: 108-109).

The significance of the amount of practice in the pre-revolutionary school stands out against the amount of practices of the modern school. Comparison of the current state standard in the specialty “18.02.03 Chemical technology of inorganic substances” and the “Table of the number of hours of studies at an average chemical engineering college” shows a clear prevalence of practice hours in the latter (FGOS, 2014b; Uchebnye plany, 1891: 62). Basic training for modern chemical technologists is 147 weeks, including: 27 – practices, 86 – training in educational cycles, 23 – holidays and 11 – intermediate (5) and final (6) exams. In the pre-revolutionary secondary school of chemistry and technology, the number of weekly hours was 156, as it included: practical classes – 65, graphic classes -- 22 and 69 for the training sessions. We see that practice in a modern school takes 21.7 % of weeks (without holidays), and in pre-revolutionary school – 41.6 % (including graphic classes – 55.7 %) of weekly hours. A smaller difference is observed in the practical training of modern technicians in the specialty “15.02.08 Mechanical Engineering Technology” and pre-revolutionary technicians graduating from secondary engineering schools – respectively 20.1 % and 26 % (52.7 % with graphic classes) (FGOS, 2014: 29).

4.2. “Those who graduate from the course have a rather wide range of activities...”: practical training in a secondary agricultural school

The significance of the role and the amount of practical training in the course of secondary agricultural schools was determined by their very purpose: “to deliver practical, scientifically based education in agriculture and to prepare the students for agricultural activity” (Sbornik svedenii, 1909: 302). The head of the educational department of the Department of Agriculture, I.I. Meshchersky, explaining this regulatory goal, pointed out that: “practice in agricultural educational institutions should be of paramount importance”, specifying that “the higher the level of the institution is, the stronger the scientific part of teaching should be, compared to practical exercises” (Meshchersky, 1911: 3). That was the real embodiment of the idea: if, according to the data for 1909, in secondary agricultural educational institutions of the country practical classes took up to 88.5 days in an academic year, then in lower agricultural schools of the first category – 123 days (Sbornik svedenii, 1911: XXV).

The practice in agricultural schools was divided into winter and summer one, due to the specifics of agricultural education. The normative “to the number of practical classes” (i.e., to the forms of practice) were: “practical and demonstrative classes in educational and auxiliary institutions, agricultural work, duties in practical educational institutions and excursions” (Ustav, 1912: 8).

The program of winter classes included courses in all general education subjects and in those sections of special subjects where it was possible to conduct practice in the winter, namely in animal keeping, agricultural mechanics, agricultural economy and bookkeeping. Due to the distance from the nearest town and the closed nature of agricultural schools, such as the Saratov (Mariinsky) Agricultural School, winter practical classes were held in the evenings “under the direct supervision and guidance of teachers” (Izvlechenie iz Otcheta, 1894: 13).

Summer practical classes for pupils of the first five classes of the institution were as follows: 1) in agricultural mechanics, the practice consisted of assembling, disassembling and repairing...
agricultural machines, mechanisms and tools, studying their details, and also getting acquainted with the methods of their testing; 2) in botany – the study of morphology, the definition of plants, their collection and the compilation of herbaria; 3) in surveying, most of the classes were devoted to working with a theodolite and drawing up plans; 4) in the courses of construction – the preparation of plans and estimates of buildings; 5) on crop production - the performance of all the work necessary for the cultivation of various plants (fertilizing and tillage, planting, caring for plants, cleaning, threshing, sorting and seeds drying, as well as determining the quantity and quality of the crops); 6) in courses of animal keeping, students performed animal care work, took milk, received cream, churned butter, did cheese-making and beekeeping; 7) in courses of geodesy they were engaged in various types of surveying, leveling and drawing up plans (NART. F. 345. Op. 1. D. 1307. L. 33-48).

The initial goal of the general agricultural training was realized in this variety of labor activities during practice. This drew sharp criticism from teachers and educators who sought to streamline and organize this work (Vitezova, 2015: 50). I. A. Stebut repeatedly stated that students should be engaged in all types of agricultural work, “but it is completely aimless to engage students in such a work for a longer time, even with the goal of acquiring the proper skills. Such practical exercises in a useless manner take away the time the student needs to acquire what he can at the educational institution, depriving him of the energy that is necessary for mental work at school; force the student to stay longer at school and in this it way increases the cost of education of the student, and it is all in vain” (Stebut, 1900: 5).

The position of I.A. Stebut was first widely voiced in 1895 (Balashev, 1966: 139). In the practice of secondary agricultural education the same idea was proposed by I.I. Meshchersky, who, by distributing agricultural training to three levels (knowledge (“familiarization”), ability and skill), believed that the first two levels were sufficient for the students who were preparing to become “managers of estates”, since they were unlikely to have to compete with agricultural workers. Though, in order to prepare for public agronomy, they must possess skills in their specialty, otherwise they would not be able to gain the peasants’ trust (Meshchersky, 1911: 36). Thus, the educational authorities only partially transformed their views on the diverse nature of practical work and the degree of their learning. With a clear concentration of secondary agricultural schools as general agricultural schools in the Chernozemye region and rapid development of special agricultural educational institutions, such a long deep agronomic training could not but seem to the government a logical and optimal solution for agricultural regions in the context of agrarian modernization.

At the same time, there were other equally important problems in organizing the practice of students, not only for agricultural, but also for other schools that trained personnel. Among them were the following: lack of consistency of the theoretical course with practical exercises; a large number of students in one classroom, some of whom had no interest in classes; the mismatch of the amount of practical training in different schools and even in each individual school in different years (in relation to each student); the use of students’ labor in additional school-related activities (Maksin, 1909: 113; Stebut, 1906: 65).

The summer agricultural practice at the Vyatka Secondary Agricultural and Technical School was significantly smaller in comparison with the average agricultural schools due to the more technical nature of the school itself (it was an industrial school). The second-year students practiced on the school educational farm up to 60 working days. The limited farm space and the duration of the practice resulted in the students doing shift work (five hours each) and assigning several people to one type of work. However, the latter made it possible for the teacher to increase the time for consultations and detailed explanations. In addition, students performed individual research assignments, and talks on agricultural topics were held in the evening (Kosarev, 1911: 77-78).

Practical work in agricultural schools gave the students the necessary skills and a general idea of the order and content of agricultural work, but it was not enough to form a specialist who could run a successful farm after the graduation. A long-term, off-the-job, practical training was carried out to accomplish this task. Students of the last (sixth) year who passed the final examinations finished practical classes at the school or were assigned to practice outside the school approximately from February to the end of field work.

Referring to the objectives of this type of practice, the farm manager of the Kazan Agricultural School N.V. Utekhin, who had more than 20 years of experience in agricultural
schools, in a report at a meeting at the Department of Agriculture in August 1905, said that a secondary agricultural educational institution “should have as its goal the ability to train people capable of arranging and running a commercial enterprise, in general and principal terms” (Utekhin, 1906: 1). For this, the student had to have sufficient theoretical training, technical awareness and practical skills in organizing the economy and its administrative management. The speaker emphasized that secondary agricultural schools should train good organizers and administrators, and not farm laborers and workers – this was the job of lower agricultural schools.

The distribution of students to practice was carried out by the principal of the school by mutual agreement with the owners of the estates to which the trainees were sent. Students of the Kazan Agricultural School did not receive money for their work, but the owners of the estates paid the travelling fares and took the students under their care (provided them with a place to stay and meals) (Beletskii, 1889: 136).

The situation with payment and the practice itself changed dramatically with the beginning of the agrarian reforms of P. A. Stolypin. The demand of zemstvos for the students from agricultural schools increased sharply. Thus, the correspondence on the national Agricultural Technical University for 1907 showed that students were invited to practice (mainly – assistants to agronomists), and were provided not only with money for travelling in both directions, but also with a reward for their work (12-30 rubles per month), although there were also applications for students without payment for their labor “due to lack of funds”. Some zemstvos, at the end of the official terms of the practice, requested from the school administration the possibility of extending it to complete the agricultural work with preservation of their payment (GAKO. F. 219. Op. 1д. D. 4. L. 1, 5-50б., 7-8, 11-13, 44). It seems that this demand was due to the increased amount of work with a personnel shortage, although it is impossible to deny the possibility of a good quality of work for trainees, especially since at first the schools had to send their best graduates to practice without any payment for their work.

With the assistance of the Samara provincial zemstvo, since 1908, students of the fifth class of the Samara (Alekseevsky) Agricultural School were invited by assistants of local agronomists as leaders of improved farming techniques in peasant farms. In this regard, the school paid special attention to field crop practice in the fourth year: the students “carried out the entire cycle of work from spring to sowing time” (Plodovskii, 1911: 11-12). The reason for this is, in our opinion, in the wide variety of possible labor functions of the students in agronomic sites. For the same reason, the practice was not regulated, and its methodology was not developed. It was carried out for 1.5-2 months in spring and in another 2-3 weeks during the harvest. By 1910 its territorial base spread to 11 provinces and regions of the empire (Plodovskii, 1911: 13). We believe that the value of agronomical practice consisted of the preparation for practical training in the 6th year. But it was the introduction of two industrial practices implemented outside the school and the actual conditions of future work that improved the quality of training for professional labor.

In order to streamline the organization of the practice in vocational schools, some of its aspects were given regulatory standards at national level by the orders of State property and Education Ministers, respectively, for agricultural and industrial schools (Srednie tekhnicheskie uchilishcha, 1909: 265-271; Sbornik svedenii, 1911: 232-250). The educational institutions published parts of these documents in brochures (NART. F. 121. Op. 1. D. 166. L. 1-2). The information in them was usually concentrated on two aspects: 1) deciphering the goals of the practices and the scope of work, and 2) the system of relationships and behavior. For example, the “Instruction for trainees of agricultural schools going to private estates”, consisting of 13 points, was represented by four points on the first aspect, and by nine points on the second. The disciplinary nature of the document cannot be regarded only as an expression of the official educational doctrine, although it had relevant materials, for example, prohibiting the student from leaving the farm without the prior permission of the principal of the school. However, the educational goal itself – the training of managers – assumed the formation of relevant qualities, including professional communication. Therefore, we can understand the need for the “instructions” on following the order established in the household, pedantically precise fulfillment of the instructions of the owners of estates and, most importantly, being modest and providing a good treatment to the workers, as well as the requirement to execute reasonable orders from subordinates, relying on the reasonableness of the orders or on higher competence and the competence of the student. Finally, recommendations to students to temper their excessive pride...
when dealing with the owner of the estate, the need to refrain from criticizing the methods adopted in the household and expressing their opinions when clarifying the motives of the orders or plans of the owner of the estate, emphasized the familiarity of the authors of the document with the realities of industrial training and were aimed at preventing conflict situations with the inexperienced trainees. Rules for trainees of agricultural schools were subsequently supplemented by the Department of Agriculture. There were no particular innovations and the emphasis for the trainees was put on three points:

“Trainee students should: 1) take a personal part in all agricultural activities, performing them in good faith and carefully ...; 2) the constant questioning of people experienced in the management, to enrich themselves with information on the management of a particular sector of the economy; 3) after the expiration of the term, the trainee must provide a report on his classes, with a description of the whole estate or one of its most developed parts” (Sbornik svedenii, 1911: 414).

At the end of their graduation practice, the student was obliged to submit to the pedagogical council of the school a report on his work, which was compiled under a special program. In the Kazan Agricultural School, for example, this report included a topographical description of the district where the student had his practice, soil characteristics, descriptions of districts, economic systems, land tenure and land use in the district, disclosure of techniques for grain culture, state of cattle breeding and district occupation. A description of the activities of the student was the half of the report. Theoretically, the absence of a diary (journal) of practice could lead to an irregular and inferior collection of materials. The practice took about seven months, and for this reason the reports were large in amount and quite thorough. For example, the report of a student of N. Kudryavtsev, who was an intern at the agricultural warehouse of the small loan office of the Ekaterinburg district zemstvo in 1910, amounted to 19 bilateral sheets typed on a typewriter (NART. F. 345. Op. 1. D. 1260. L. 57-75).

Those students who did their internship outside the school were required to provide, in addition to the report, a feedback on their activities from landowners or their managers, attested by the local district council (the leader of the nobility, the district police officer). The reviews we studied were compiled in an arbitrary form and testified, as a rule, about diligence, conscientiousness, love for the cause and impeccable behavior of the student (NART. F. 345. Op. 1. D. 659. L. 4, 6, 14, 20, 26). Only after consideration of the report and its review by the pedagogical council the student could receive a graduation certificate.

It should be noted that the reviews did not correlate with the structure and most of the content of the “Instruction for trainees of agricultural schools ...”, which is often inherent in modern times. There may be various explanations for this. However, the inconsistency of the document on the results (review) with the document on the requirements and content (manuals, rules, etc.) of practice may indicate not just the fact that managers did not know the goals of the practice and the need to form certain competences and / or labor functions, but the absence of knowledge of practical activity.

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