

## SYSTEM APPROACH TO THE ASPECTS OF APPRENTICESHIP TRAINING BY INDUSTRIAL CORPORATIONS AND VOCATIONAL EDUCATION AND TRAINING SYSTEM

SATDYKOV AYRAT (ORCID 0000-0002-9813-3746)<sup>1</sup>

<sup>1</sup>Financial University under the Government of the Russian Federation

**Abstract.** In market economy the decision whether to start the apprenticeship program in the corporation or not is highly influenced by the commercial factor – the ability to return investments in human capital. The studies of the economic aspects of apprenticeship programs in Germany and Switzerland demonstrate that they can be profitable within the course or after graduation due to young employee's work in company. In Russia the time addressed for practice in companies is very limited, the army withdraws graduates from the labor market and the corporate training skills are largely lost. In that context apprenticeship programs are unprofitable for domestic industrial enterprises and the risk of the investments loss is high

**Keywords:** qualified workers, apprenticeship programs, VET, qualification framework.

Since the early 2000's in the Russian Federation, there was a significant economic upturn against the backdrop of an increase in global demand for commodities, which was accompanied by increased investment, modernization of old and the creation of new enterprises. First of all, there developed industries for the extraction of minerals - oil and gas, as well as related manufacturing industries of chemical industries. Also investment came in metallurgy, energy, construction and agriculture, automotive, power engineering and other industries.

Along with significant achievements in these sectors, in general in the domestic economy and especially in industry, serious problems were not solved. In 2012, Academician of the Russian Academy of Sciences E.M. Primakov noted in his article [1] structural imbalances in the domestic economy. They noted that if the extractive industry is quite comparable with other developed countries, namely 5.7% of GDP, the share of the manufacturing industry is very small - 14%, while trade provides a record 27 % Of GDP. The Russian Federation is very much dependent on imports of foreign equipment and high-tech industries in general.

In the work of well-known domestic researchers S.D. Bodrunov, R.S. Greenberg

and D.E. Sorokin [2, c. 27-29] proposed systemic tools for the development of the domestic economy, including the overcoming of these structural disproportions. And as one of the key factors for the successful implementation of the submitted plans, the scientists singled out the human resources potential of the country. Drawing attention to the outflow of workers from processing industries and the aging of personnel, the researchers conclude that the success of economic policy in general and industrial policy in particular will be determined in large part by the quality of the personnel policy of the state and corporations.

For domestic enterprises, the problem of the lack of qualified specialists (first of all workers, operators, apparatchiks, machinists and machines, and specialists of the highest professional skill level) is among the top three most important constraints to the growth of enterprises, at least, according to the polls of the Russian Union of Industrialists and Entrepreneurs since 2007 [3]. Although, if we compare the statistics of the labor market and education, then the data for 2014 and 2015. and earlier periods (the study is given in the work of V.E. Gimpelson [4]) on the proposal of the system of secondary vocational education (hereinafter - the VET) for working

professionals and specialists more than twice on the aggregated indicators of pre- hides demand from business. In other words, the problem of staffing for economic growth lies also in the quality of training of trainees, the territorial disparity in their distribution, and in the fall in the attractiveness of labor in industry for graduates of the system of secondary vocational education.

The investment of an enterprise in apprenticeship programs is an investment in human capital, rather than a kind of corporate charity or the execution of orders from higher authorities. Like all investments, they require risk assessments, have their own anticipated payback period, after which they should make a profit. It is this approach to the interaction of enterprises with colleges and technical schools in the joint training of personnel is seen most appropriate in a market economy.

S. Muehlmann and S. Walter in their study [5] emphasize the analysis of the costs of apprenticeship programs and the revenue received in this connection by enterprises: will the training result in a net loss or net profit. The fact is that this factor can be decisive for the enterprise. The difference between all the costs incurred by the company during the apprenticeship (in Switzerland and Germany this is 3-4 years

depending on the profession and specialty), and the revenue received gives the value of net losses - NC (Net Costs). If it is negative, then all investments of the enterprise pay off during the time of apprenticeship, and it brings profit. In this case, from the economic point of view, further employment of the student to the enterprise does not play a role. Either it is positive, then to fill these costs the company must hire an employee.

S. Muehlmann and S. Walter singled out the following factors that determine whether training will benefit the enterprise or not. However, some of them are endogenous, and the enterprise can manage them, and some - exogenous. [5. from. 9]:

- state regulation of the system of education and apprenticeship (exogenous);
- competition in the labor market and goods (exogenous);
- structure of labor costs at the enterprise (endogenous);
- the contribution of students to productive activities (endogenous).

In German and Swiss education systems, pupils spend from half to three quarters of their time on the subject in accordance with the curriculum [5, p. 12]. №.). And throughout the whole period of training the productivity of their labor grows, as can be seen in Figure 1.

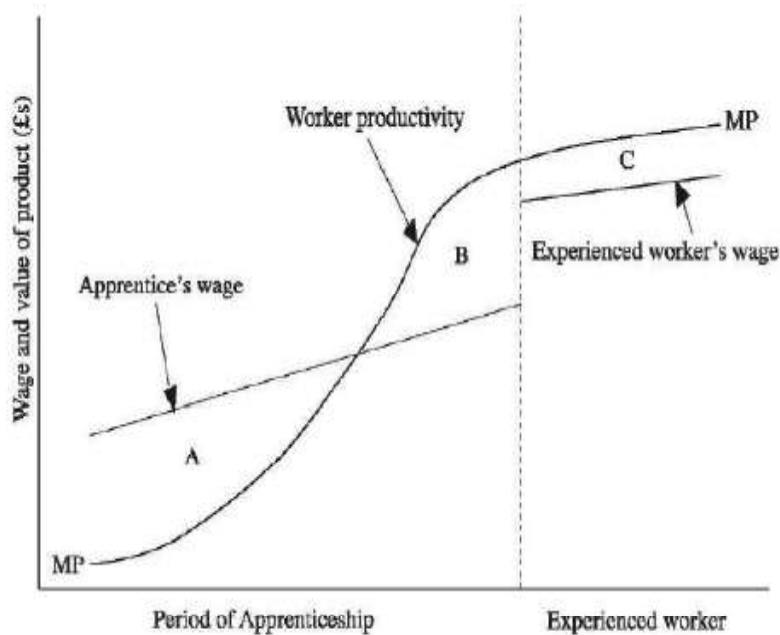


Fig. 1 Figure title Apprenticeship model

Source:[6]

In Russia, the time for practical training at an enterprise provided for by educational standards, unlike the reference situation of Germany and Switzerland, is much smaller, and the training itself begins later - in the second or third year. During this time, the productivity of labor MP increases insignificantly and, coming out of the educational organization, the student has a productivity considerably less than the average worker and needs additional training in the workplace. The Institute of Conscriptio into the Armed Forces seizes a significant part of students in industrial specialties. After its passage, if they return to the enterprise where the practice was held, their productivity level for the year falls. A young worker or specialist, whom an enterprise recruits, goes through a long period of adaptation and training at the workplace before it reaches the necessary performance indicators.

The model of apprenticeship at the domestic enterprise is schematic and is based on the author's analysis of qualitative data and expert opinion, since the necessary quantitative indicators are not available. However, a systematic analysis of the current state of the system of secondary vocational education in Russia allows us to conclude that apprenticeship programs are likely to be unprofitable for enterprises with a high probability. The fact is that the time allocated for production and pre-diploma practice is not long, the army institute withdraws some of the graduates from the labor market, the experience of corporate training is largely lost, and there are a number of other reasons [7. p. 91]. This makes the enterprise investment in apprenticeship programs

risky, and their payback is not obvious. The unresolved nature of this problem hampers the establishment of close relations between enterprises and colleges and technical schools, which in turn exacerbates the problem of the personnel supply of industrial development.

When analyzing the VET systems in foreign countries (USA, England and South Korea), as well as mechanisms and participants in public-private partnerships and promising forms of training, a number of important patterns and examples of best practices were revealed. First of all, in all the countries studied, the introduction of the on-the-job training system (apprenticeship programs) is recognized as the foremost direction of the development of the VET system. Great Britain and South Korea and the USA to a lesser degree have developed and carry out the purposeful policy on attraction of employers to educational processes. Within the framework of this policy, an infrastructure is formed, the components of which are educational organizations, state authorities, employers and their associations, and public organizations. A big role is played by the financial and methodical provision of the rest of the participants by the state bodies. An obligatory element of the introduction of the curriculum is the availability of a national qualifications system and an independent evaluation system. In order to receive feedback on the results of the implemented activities, the programs stipulate scientific research and an independent evaluation of the results achieved. All these systemic provisions, as well as examples of best practices identified, can and should be used in developing proposals for improving the Russian system of training.

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