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AN INNOVATIVE APPROACH TO TEACHING THE SUBJECT "TECHNOLOGY" IN A SECONDARY SCHOOL

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ABSTRACT

The article describes the approach proposed by the author to teaching the subject "Technology" in a secondary school. A feature of the proposed approach is its focus on the formation of innovative behavior of students in the context of continuous technological education, aimed at the continuous creation of new or changing existing technical and social systems, reducing resource costs, and achieving a high commercial effect. The role and place of the subject "Technology" in the psychological preparation of students for entrepreneurial activity, the formation of "habits of success", the opportunity to try on the "role model" of an entrepreneur in the field of industrial production, innovation and agriculture at school age are shown. The possibilities of an innovative approach to teaching the subject "Technology" for productive socialization and social adaptation of graduates of secondary schools are shown.

KEYWORDS: Innovative Approach; Subject "Technology"; Entrepreneurship; Universal Technology.

INTRODUCTION

Among today's youth, the concept of "entrepreneur" is often closely associated with the concept of a leader, a strong personality capable of changing the course of development of human civilization with his talent, his energy.

The subject "Technology", which is primarily responsible for preparing students of general education schools for a conscious and responsible choice of life and professional path, preparing for entrepreneurial activity in the field of material production, today does not meet the tasks assigned to it, it has been assigned the position of a secondary and even a completely superfluous item.

In pedagogical science, there are several approaches to teaching the subject "Technology" in a secondary school. The most well-known and widespread is the modular or modular-technocratic approach, in which the content of the subject area "Technology" is reduced to 10 main technologies: technology for processing structural materials, electrical and radio technology, heat treatment technology, etc. This approach is implemented in most general education schools in our country. The greatest difficulty in developing the subject content of the subject "Technology" within the framework of the modular (modular-technocratic) approach is the lack of clear and unambiguous subject-scientific grounds for it, there is no single basis or basic science, on the

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basis of which content selection can be carried out. In addition, there are no universal production technologies, which can be used to illustrate the main production processes. For each production area, each industry, its own technologies are developed, which are often impossible to reproduce in the conditions of a comprehensive school. Accordingly, the subject content of the subject "Technology" in most cases is based on primitive, and often archaic technologies of manual labor, depending on the material base available at the school. The modular approach practically continues the course towards "career guidance" for low-skilled, and hence, low-paid labor in the future, which does not arouse interest among students in general education schools. Attempts to find new ways of developing and increasing interest in the subject "Technology" led to the development of mono -informational , child- centric -polytechnic and child-centric -integrative approaches to technological education in secondary schools. The monoinformational approach reduces the study of production technologies to the development of personal computers and automatic design systems by students.

The subject "Technology" competes with other school subjects or specialized educational institutions of additional education, specifically dealing with the development of students' creative abilities or the development of computer technology. Having a weaker material base and a general level of teacher training, the subject "Technology" finally "loses its face". Of greater interest is the child- centric- polytechnical (child-centric- integral) approach, which is focused on saturating the humanities and natural sciences studied in the general education school with polytechnic knowledge and skills, skills in practical work with various materials and tools in order to most fully satisfy the need for knowledge. In fact, this approach is aimed at gifted children who have firmly decided to link their future fate with scientific and technical activities in its advanced branches, such as robotics, microelectronics, radiophysics, and shipbuilding. To date, none of the considered approaches fully meets the task of developing small and medium-sized businesses in the Republic, increasing the interest in entrepreneurial activity among graduates of secondary schools.

In order to achieve the set goals for the development of small and medium-sized businesses in the areas of innovation, industrial production, handicrafts and agriculture in the Republic, we must, within the framework of the subject "Technology", move on to the formation of innovative behavior of students in the context of continuous technological education. By innovative behavior, we mean an initiative type of individual behavior associated with the systematic development by social subjects of new ways of activity in various spheres of public life or the creation of new objects of material and spiritual culture. Under the conditions of the full functioning of the socio-economic laws of the development of society, innovative behavior should become a natural, massively demanded, strategic type of behavior that provides its bearers with a wide range of opportunities for legal development in accordance with the efforts invested. Innovative behavior is aimed at the continuous creation of new or change in existing systems: technical, technological, informational, social, economic, organizational, and the achievement, as a result of reducing the cost of production and financial resources, a radical improvement in the quality of products, the provision of services, and, as a result, achieving a high commercial effect. The proposed "innovative" approach to the study of the subject "Technology" is based on a system of didactically substantiated pragmatic goals and pursues the pedagogical goal of teaching students to identify problems in the creation and distribution of consumer values, finding technological ways, optimal methods and means to achieve the goals, predict results and possible consequences of different options for applying methods and means of

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solving the problem, establish cause-and-effect relationships between objects and phenomena of nature, society, technosphere included in creative activity, evaluate the results of creative and transformative activity and determine ways to improve the design and creation of consumer values (material products and intangible services). The main provisions of the "innovative" approach to teaching the subject "Technology" are as follows:

1. The basis of modern civilization is material production, i.e. production of goods for sale for profit. To teach the student to produce a product, to determine the price of a product at which this product is guaranteed to be sold, to be able to reduce the cost of a product based on knowledge of its manufacturing technology, i.e. the study of technology from the point of view of the production of goods (performance of work, provision of services), and not items for personal consumption - this should be the main goal of the subject "Technology".

2. The most important characteristic of any product produced by students, work performed, service provided, is its price, expressed in monetary units, i.e. rubles and kopecks. All other characteristics are secondary. The price of the produced "goods" should be determined before the start of its production and be the initial parameter for the technology of its production.

3. The universal technology of material production is the technology of production of the surplus value of the product of labor. All applied technologies: the technology of processing structural materials, electrical and radio technology, the technology of heat treatment, etc., are a special case of the technology for the production of surplus value of the product of labor.

4. The study of the technology of production of the surplus value of the product of labor must be carried out in a materialized form. Only on the basis of well-learned external, practical actions with material objects, the student can proceed to actions with models and only after that - with their descriptions, while each of the basic stages must be organized with the necessary degree of detail. Actions with material objects must be carried out by the student himself, with his own hands and for a sufficient time. The technology of production of the surplus value of the product of labor must be entirely based on the transformative activity of the students themselves.

5. The subject "Technology" should be presented as an integrated field of knowledge in a single educational space of a general education school. When studying applied technologies, the production of goods, the performance of work and the provision of services, it is necessary to actively draw on knowledge from other subjects studied in a secondary school, showing their necessity and importance for achieving the ultimate goal of the production process, improving technologies, and reducing the cost of the final product.

6. The subject "Technology" should ensure the psychological preparation of students of general education schools for entrepreneurial activity, the formation of their "habit of success", the desire for self-education, thereby guaranteeing the successful socialization of graduates of general education schools.

In the modern world, all the material goods necessary for life, and in a specific form, the person himself, is a commodity that has a certain price. Each person, as a commodity, has certain characteristics, expressed in quantitative or qualitative values. Age, weight, height are characteristics that have quantitative values measured in years, kilograms or meters. Smart, beautiful, experienced - these are characteristics that have qualitative values, such as "smart" or "stupid", "handsome" or "very beautiful", "experienced" or "inexperienced". Graduating from secondary school and entering the labor market, we strive to sell ourselves at the highest price,

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emphasizing our best characteristics. It is clear that in different areas of human activity, different characteristics are evaluated differently. For certain areas of human activity, for example, for military service, quantitative indicators are primarily important: height, weight, lung capacity, running speed. And when choosing military service for ourselves, we know our price in advance: the monetary maintenance of a serviceman, which is paid by the state.

In all other areas of human activity, it is possible to obtain the material goods or funds necessary for life in only one way - to produce and sell a product (perform work, provide a service), hereinafter referred to as a "product", in demand on the market and receive payment for it. The price of any product (work performed, service provided), measured in monetary units, for example, in rubles, consists of two components: the cost of production of goods and the surplus value produced, which includes wages, taxes and profits. In the following presentation, for simplicity, we will use the generalized terms "commodity" and "surplus value" without detailing them. The classical interpretation of the pricing process of goods according to the formula: cost + profit = price of goods worked only at the beginning of the era of development of material production, based on the classical scheme of commodity circulation "goods - money - goods".

Since the second half of the 20th century, due to the saturation of the consumer market with goods and services, money has come to the fore, realizing the function of a specific product. Money as a commodity has two features: very low cost and maximum liquidity. It was the maximum liquidity of money that led to the fact that money became the most demanded commodity, and, accordingly, the commodity-money-commodity turnover scheme changed to money-commodity-money. Thus, the ultimate goal of the process of material production was not the production of a "good", but its sale to the consumer in order to receive money. The pricing formula has also changed: profit \u003d product price - cost. At present, the main problem of any entrepreneur is to determine the price for the product he produces, the service he provides, or the work performed, for which it can be guaranteed to be sold, and the determination of the monthly volume of its production in order to prevent overproduction of the "commodity" or its shortage. Only by balancing on the fine line of saturation of the market with his "product", the entrepreneur can set the maximum price for his "product" and receive the maximum profit from their implementation.

The studied technological process and the "goods" produced in the classroom are models for the production of real "goods", but by no means the end in itself of the subject "Technology". Relatively speaking, building a birdhouse is a simplified material model of building a huge residential building, and baking pies is a simplified material model of a bakery. The transition to actions with economic models, and then to economic theory, is possible only if students master the basic logical operations (comparison, classification, generalization, etc.). But no logical operation can be reliably formed in the absence of the necessary base - sensory experience. It is possible to compare, classify and generalize, bring under the concept only on the basis of the ability to see and highlight the properties and signs of objects or phenomena. Actions with material objects, including money, must be carried out by students themselves, with their own hands, for sufficient time and with the maximum degree of detail. Only in such conditions do students develop a stable skill in applying the technology of production of the surplus value of the product of labor in various fields of human activity.

The American psychologist R. Hisrich argues that "there is no such thing as a typical entrepreneurial profile ... Entrepreneurs are not born: they develop" [20]. R. Hisrich among the

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factors that significantly distinguish an entrepreneur from the rest of the population, highlights: family environment in childhood, education, work experience, age and personal values. Shifting the emphasis from the study of psychological traits to socio-psychological and socio -economic factors, R. Hisrich believes that the key moment in the formation of an entrepreneurial orientation of a person is social learning through the assimilation of role models of entrepreneurial behavior in childhood. The basic mechanism for the assimilation of these role models is social comparison, when in the process of observing real cases of entrepreneurship, a potential entrepreneur tries on the role: "If this person can do this, then I can do the same." According to R. Hisrich, in interviews, entrepreneurs always pointed to some real "role model" with which they "made themselves". It is the functioning of the mechanism of social comparison that can explain the presence of real entrepreneurs in the environment of an entrepreneur in the person of parents, relatives, friends, acquaintances, peers, etc. As part of the proposed innovative approach to teaching the subject "Technology" in a secondary school, we enable students from the 5th grade to try on the "role model" of an entrepreneur. The constant and repeated use in the educational process of a single universal technology for the production of surplus value of the product of labor in various fields of human activity gives students self-confidence, forms their "habit of success", helps to acquire both positive and negative experience in entrepreneurial activity, forms students sustainable universal learning activities for the production and sale of the products of their labor, as well as the need for self-development and self-improvement through the conscious and active appropriation of new social experience.

A huge number of social problems of young people are connected, in particular, with the fact that many of them, after graduating from a comprehensive school, simply do not know how to do anything with their hands. The reasons for this are different: from the position of parents to universal verbalism in teaching subjects in a comprehensive school. The prevailing point of view today that the preparation for entrepreneurial activity of schoolchildren should be reduced to the study of economic theory by them in the senior classes of a comprehensive school is a vivid confirmation of this.

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