

Intellectual factor of the new economy: Formation features

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Abstract: *The new economy requires the creation of a methodology for training a new type of worker – a “knowledge worker”, whose activities will ensure the innovative development of business entities and social security of workers for a comfortable and safe life. An innovatively receptive specialist with pronounced creative thinking during the formation of a new economy and its subsequent sustainable functioning with a characteristic vector of social development has the intellectual potential for the development and practical use of highly effective innovations that ensure the achievement of strategic goals declared at the state level. To form such a specialist, it is necessary to transform methodological approaches to the intellectual support of educational processes, professional activities and advanced training based on the concept of “lifelong education” (“education through life”).*

The features of the functioning and development of the domestic education system in the context of the requirements of the state strategy for sustainable economic development are considered. The need to improve methodological approaches to the educational process with an increase in research and socio-humanitarian components is shown. Education in all forms of its manifestation like as a target process or self-learning is a systemic process in which professional skills and abilities are an important, but not a determining component of a harmonious member of society, which, through its activities, contributes to its progressive development. The fundamental goal of education is to form a harmonious personality, in which the talents laid down at the gene level are manifested and developed to the full extent in adequate accordance with moral criteria based on universal human values and national mentality.

KEYWORDS: NEW ECONOMY, INNOVATION STRATEGY, EDUCATION, INTELLECT, PERSONAL HARMONY, SCIENTIFIC COMPONENT, ACADEMIC LITERACY

1. Introduction

The practical implementation of the state strategy for sustainable economic and social development for the period up to 2020 and the long-term period [1, 2] involves the expansion of the use of high-level technologies in production and social activities, including convergent technologies (NBIC) [2–10]. This aspect of the innovative functioning and development of industrial and social complexes of various levels, forms of ownership and departmental subordination involves the possession by employees at all stages of the product life cycle of modern methods of managing a new type of economy, positioned as a “knowledge economy”, “intellectual economy”, “digital economy” [11, 12]. The prevailing form of training of professional workers for various areas of the functioning of the economy, the most important factor in the formation and development of which are intellectual products implemented in new materials, designs, management technologies, manufacturing, sale, maintenance and recycling, is the implementation of the educational process in higher educational institutions (HEIs) in accordance with the current regulatory legal documentation governing List of educational programs, their content, forms of control and terms of implementation in accordance with the Educational Code.

The new economy requires the creation of a methodology for training a new type of employee – a “knowledge worker” [13], whose activities will ensure the innovative functioning of a business entity.

An innovatively receptive specialist with pronounced creative thinking [14] during the formation of a new economy and its subsequent sustainable functioning with a characteristic vector of social development has the intellectual potential for the development and practical use of highly effective innovations that ensure the achievement of strategic goals declared at the state level. To form such a specialist, it is necessary to transform methodological approaches to the intellectual support of the processes of training, professional activity and advanced training on the basis of the concept of “education through life”.

In studies devoted to the process of formation of innovation-receptive specialists at the stage of the educational process in basic specialties that determine effective economic and social development, various aspects of its implementation are considered, taking into account the requirements of the knowledge economy [14–19, 26–35]. So in [15] as a “guarantor of the success of society” consider the “dialogization of the educational process”. In [15] it is noted that in the implementation of educational of the process “with the traditional reliance on lectures”, the specialist does not acquire “effective management skills” in full. Shrubenko A. G. believes [16] that it is necessary to move to the “individually-oriented” principle of building the educational process. Some trends in the

transformation of the educational process in the interests of the new economy with an innovative nature of functioning are considered in more detail in [15–19].

An analysis of studies devoted to various aspects of improving the educational process in the interests of the neo-industrial economy clearly indicates its multifactorial nature with the decisive influence of the intellectual component in various forms of manifestation. The trend of simplifying higher education through the preferential formation of students' professional skills, instead of a comprehensive assessment of problems based on the scientific component and a complex of socio-humanitarian disciplines, reducing the duration of training, the increasing role of the economic component in the activities of universities, which has manifested itself in the last decade, requires an integrated approach to the development of a methodology for the functioning of higher education during the formation of a new economy.

It is of significant scientific and practical interest to assess the role of the intellectual factor in the educational process of higher education to determine the directions for the formation of methodological approaches to the systematic training of specialists for the domestic economic complex, taking into account its features.

2. Results and discussion

Trends in the development of the economy at the global, state and regional levels are characterized by an increase in the share of services of various types and its prevalence over the production of material objects that ensure the functioning of basic industries and the system of comfortable and safe life [5, 10, 20, 23]. Therefore, the educational process of higher education should transform the content of educational programs for the training of specialists in all branches of industrial production with taking into account the features of new systems of marketing, service, permanent updating of the product range with changing consumer demand [20–22]. At the same time, the educational process should take into account the peculiarities of the Belarusian economy, which is in the process of transition from IV, V to VI technological order [23].

The characteristic tendencies of the Belarusian economy in transition are inefficient innovative functioning, which predetermines the process of stagnation. Belarus, like most countries of the post-Soviet space, belongs to the “countries with incomplete industrialization” [23], therefore, “... the essence of the technological problem ... consists in the fact that the third and fourth technological modes are a fundamentally different type of production than the fifth and sixth So, in the industry of the Republic of Belarus ... up to 1/3 of all labor is manual, 1/5 is manual labor with a mechanical tool, 1/3 is machine labor and only 1/10 is semi-automated and automated” (emphasis added – O.A.,

V.S., A.A., A.L., X.W.) [23, p. 27]. Further in this work it is noted: "... the main body of the employed population (up to 80%) in Belarus is made up of representatives of mass professions associated with traditional branches of the economy and forming a hierarchy of socio-professional groups similar in occupation (hired labor of a physical and mental nature), property status ..., scope of rights ... and sharing non-market values in the economic and social spheres ... In order for employees to be able to reproduce new social strata, to become effective owners of their labor power, it is necessary to reorganize both external conditions that change the position of workers in society, and internal ones - overcoming paternalistic stereotypes. focus on continuous improvement of professional education, the formation of social responsibility for one's life" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [23, p. 28].

In our opinion, it is obvious that "the focus on continuous improvement of professional education and the formation of social responsibility" occurs at the primary stages of the educational process, focused not on an employee with a set of professional skills (even a high level), but on an employee with harmonious development, whose need for intellectual improvement is not based on the need to ensure comfortable living, but is its basic need to improve oneself as a person with characteristic individual characteristics. The concept of "lifelong learning" is the individual's desire for harmonization, including through the development of professional skills and abilities within the framework of possible competencies.

A characteristic trend in the economic and social development of the post-Soviet states is "globalization - the second stage of urbanization - expressed in the migration of the population of small towns to regional centers, large cities and capitals, which ... Strengthened... negative trends" in the regions, including "... A sustained slowdown in economic growth ... degradation of the material and technical base of enterprises, organizations, institutions and infrastructure" (emphasis added by us – O.A., V.S., A.A., A.L., X.W.) [24, pp. 7–8]. In the same work, it is noted that "... According to the UN, the Republic of Belarus is among the countries with a high level of human development, being in 53rd place in the world out of 173 countries surveyed annually" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [24, p. 9]. At the same time, many effective approaches in economically developed countries to intensify innovative functioning using the latest, including convergent technologies, through the formation of cluster structures and digitalization of the economy, have not been properly developed and their real contribution to the economy of Belarus is insignificant. For example, in [24] it is noted that "Examples of effective digitalization, effective interaction of the Hi-Tech Park (HTP) with enterprises of the real sector are not numerous. For the first time since 2018, revenue from the sale of HTP services reached USD 1.4 billion. USA, of which 380 million are in the domestic market" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [24, p. 11]. A similar situation is typical for the development of the nanoindustry as the main component of NBIC technologies.

A characteristic feature of the development of the industrial complex of Belarus is the phenomenon called in [26] "technological uncertainty": "... Technological uncertainty is characterized by a multiplicity of options for choosing technologies that arise from the inability to assess the probability of potential results from their use. Such uncertainty is a natural limitation of the controllability and stability of the organizational and economic system as a whole and the industrial complex in particular. Currently, a large amount of accumulated knowledge is the foundation for the emergence of new ones, the volume of technologies is constantly increasing, and the speed with which new technologies arise and is being introduced is growing. As the dynamics of technological evolution accelerate, technological uncertainty grows" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [25, p. 53].

In our opinion, it is more reasonable for Belarus to talk about "technological lability", i.e. about the mobility of sectors for the use of high-tech and traditional technologies, depending on the type of innovative products.

This lability is due to the expansion of the range of new technologies for the production of innovative products and their consumption, taking into account the concept of the life cycle.

In the processes of industrial production of commercial products, "technological uncertainty" does not exist, since based on the totality of the parameters of the material, technical, technological, personnel and investment base, the business entity unambiguously determines the set of technologies that will be used in the production of innovative products in accordance with the current regulatory and technical documentation.

The whole question is the level of novelty of the innovative development and the degree of its protection against unauthorized use and production. With a high level of innovation (conceptual, breakthrough), the lability of technologies does not play a predominant role.

With mass industrial production of innovations with similar parameters of functional (consumer) characteristics, the role of the technological lability factor increases, since it affects the price parameters and production productivity.

At the same time, it should be noted that the noted characteristic features of the development of industry in Belarus, as the main factor determining economic and political sovereignty, require the development of new methodological approaches to the organization of the educational process for the training of engineering and managerial personnel adequate to the requirements of the new economy with a pronounced trend of innovative functioning. A qualified specialist should not only possess the essence ("know-how") of high technologies developed and used in the leading countries, have practical skills to adapt them to the existing industrial production, but also apply them in their original or modernized form in combination with domestic technologies to achieve synergistic effects. This aspect involves obtaining not a highly specialized educational complex sufficient for the implementation of professional competencies, but systemic ideas about the development of technologies in accordance with the requirements of neo-industrialization with the prevalence of reasonable actions that preserve the environment and harmonize society. A highly qualified worker of neo-industrial development is a "knowledge worker", owns the technologies of creative thinking within the scope of his professional activity and development of the social environment.

An analysis of studies devoted to the methodological aspects of the educational process during the formation of a new technological order in Belarus [18, 19, 25–35] allows us to identify characteristic trends in the approaches used in domestic higher education.

In the work of Professor Kirvel Ch.S. it is rightly stated that "... In modern conditions of global competition for resources, territories, financial power, the main goals of information wars are the destruction of the consciousness and self-consciousness of peoples, their life-meaning values, ideals and guidelines" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [18, p. 79].

Gustave Le Bon noted: "... The only important changes from which the renewal of civilizations follows are in ideas, concepts and beliefs. Major historical events are only visible consequences of invisible changes in people's thoughts" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [18, p. 81].

Therefore, "... the more primitive a person's education, the easier it is to lure him into a network and, as such, connect him to one of the global networks or to all networks at once" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [18, p. 85]. A systematic purposeful substitution of the concept of "education" with the concept of "training" is carried out with the help of the so-called "educational services", implemented mainly on a commercial basis.

An educated person is not a "highly specialized" person, but a person with a high professional level in a particular field of activity, who adequately assesses the trends in the development of societies and his position in them.

Therefore, the scientific and socio-humanitarian components of education in all specialties are not only necessary, but also decisive in the formation of a specialist's ability to assess all the

consequences (and not just economic) of the solutions developed by him.

In [19] a well-founded opinion is expressed about the direction, goals and objectives of the transformation of the educational process in the Belarusian higher school: "... To indicate the general orientation of the processes that are unfolding in full swing in the education system and higher education in particular, it is appropriate to use the prefix "de-", indicating decomposition and decay: "defundamentalization", "dehumanization", "deconcretization", "dehumanization" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [19, p. 60].

The authors consider "econocentrism" to be a stable, defining trend in the development of education, noting that: "*The lie of econocentrism lies in the fact that it declares education to be a private interest of individual stakeholders (individual employers and potential employees) and reduces the fullness of the benefits created by the education system to only one thing – narrow professional training*" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [19, p. 63].

The educational process within the framework of econocentrism is replaced by a set of various kinds of flash mobs and smart mobs, startups, etc., imitating scientific research, preparation of essays, course and diploma projects that make up the essence of the educational process within the specialty. The number of participants in this process in the educational environment is rapidly increasing and "... The scale of this phenomenon of steel is substantial, which has made it possible to ... I. Huizinga to declare the emergence of a special type of personality – Homo Ludens – "a person playing" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [19, p. 71].

It is obvious that Homo Ludens are participants in the process of providing educational services, which replaced classical higher education – both students (trainees) and teachers. The observed change of the teaching staff, former graduates of universities who did not receive a full-fledged professional education due to the use of modern forgiven educational programs, forms the prerequisites for the rapid degradation of the educational process. Significant part of the new generation of teaching staff does not have its own idea of the essence of the subject taught, since they have neither the experience, nor the results, nor the desire to carry out systematic scientific research within the framework of their profession, therefore the process of "teaching" is replaced by the process of "reading" lecture courses that are the result of direct or indirect plagiarism and compilation of sources borrowed from information content. Precariat teachers fill in the former an educational space with high requirements for professional training and a directed criterion, displacing from it the very essence of higher education as an elitist, developing person in all aspects of a harmonious personality. Precariat teachers "successfully" train "precarious specialists", for whom the concepts of professional duty, dedication to the cause, enterprise, integrity, patriotism are replaced by the concept of "tolerance", "political correctness", etc.

The change in the professional content of the teacher due to the absence or insufficiency of their own scientific base within the framework of the disciplines taught necessitates the search for new parameters to maintain their status in the educational society. So, Prokhorova L.V. [30] believes that "... To achieve ... a harmonious set of qualities requires the teacher to be conscious of actions, which in turn is impossible without reflection: the teacher needs to know what requirements the student audience and colleagues impose on him" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [30, p. 18]. The author [30] believes that "... A university teacher is a person who, by the nature of his activity, must have a number of universal qualities: the abilities of a psychologist, organizer, analyst, speaker, – to master the methods of teaching and education, to be not only a competent specialist in his field, but also a polymath in other fields of knowledge" [30, p. 18].

In the studies of L.Y. Donskoy, the image of a teacher of higher education is determined by a dynamic model that includes three levels [31]. Primary attention is paid to the natural component (external data, physical and psychophysiological characteristics, temperament, gender, age), the internal component (communicative

qualities, charm, professional knowledge, individual style, etc.), symbolic characteristics (visual, auditory, kinesthetic, olfactory components) [30].

All the actions of the teacher, according to the author of the work [30], should be aimed at *pleasing students*, since, in particular, Socrates noted that "they learn from someone they like" [30, p. 19]. In our opinion, this is a simplified understanding of the meaning of the Socratic statement, since it refers not only to the ability to communicate and charm, but to the intellectual level of teaching, which students "like" with its depth professional knowledge, versatility, scientific potential, realized in significant achievements – textbooks, monographs, patents, scientific school, effectiveness of practical innovation, etc.

Therefore, the concept of "educational violence", proposed by us in the works [14, 17], does not reduce the ability of the teacher to "like", since adequate (professionally oriented) students understand the need to expend a large amount of effort to achieve a high level (and not formalized) professional level.

According to the concept of D. Bell, the university is presented as an "axial social institution" [28] of post-industrial society: "*The university is increasingly becoming the main social institution of post-industrial society, which has assumed the functions of fundamental research, training of highly qualified personnel, and the development of general education*" (emphasis added – O.A., V.S., A.A., A.L., X.W.) [28, p. 37].

For higher education in Belarus, D. Bell's concept requires transformation due to the relatively low level of research work, especially characteristic of regional and non-state universities, and their scientific status. Therefore, the formation of the modern status of the university is impossible without integration interaction with academic science with mutual diffusion (percolation) of personnel and convergence of research, educational and applied innovation projects based on the concept of intellectual support with a certain infrastructural embodiment.

Only the permanent generation of high-level knowledge in the integration cluster "Higher educational institution – Academy of Sciences – Industrial enterprise" will ensure the development of educational and methodological complexes adequate to the post-industrial economy for training specialists in strategic programs for innovative development of high-tech sectors of the economic complex, ensuring its sustainable development [14, 17]. This will preserve the basic functions of the classical university, in which the permanent updating of the content of educational and methodological materials will be carried out on the basis of scientific fundamental and applied knowledge with a high level of novelty and relevance.

In the economy of the transition period, with the formation of new relationships between producers of goods and services and consumers, universities of the classical type mainly provide support for existing industries and management organizations, administration of research institutions of various departmental subordination by training personnel in a wide range of specialties. With an increase in the share of knowledge-intensive, including convergent, technologies in the real sector of the economy and social security, the role of the university should be proactive, ensuring the adequacy of specialists to the requirements of the labor market with a predominant intellectual component. Achieving this state is possible only with a change in the share of the research component in the educational process through the convergence of research and educational technologies taking into account the changing range of specialties demanded by innovative enterprises specializing in the field of nanomaterials science, information technology, development of biological objects and cognitive systems. In the presence of their own developments in the field of high, including convergent, technologies carried out within the framework of large state and interstate projects, universities will have an effective original scientific base for the development of educational and methodological support for popular specialties, while maintaining their leading position in the global educational space, characterized by the free exchange of information flows and developed communicativeness.

3. Conclusion

An analysis of studies devoted to the consideration of various aspects of the educational process in the national higher education indicates the lack of a systematic approach to assessing its effectiveness in the implementation of the State Strategy for Sustainable Socio-Economic Development for the period up to 2020 and the long term. The emerging trend of reducing the share of the scientific component with a reduction in the cycle of socio-humanitarian disciplines and the total duration of training leads to the formation of specialists with certain professional skills without understanding the multifactorial nature of the development of the world society with pronounced consumer guidelines.

The expediency of developing a research component in the educational process of higher education and intensifying the interaction of the faculty and students in the framework of high-level scientific programs is shown.

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