

Integration of Education, Science and Production as Reflection of Interdependence of Political, Social, Spiritual and Economic Spheres of Social Life

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Abstract: In the study, the researchers share the views of those who believe that the State of Russian education is crisis. The researchers have attempted to classify the causes of home education crisis according to its belonging to one of the main spheres of public life. The study highlights, the necessity of the development of criteria and indices, the attainment of which would make the statement about the elimination of the causes of home education crisis being objective and possible. In the capacity of such criteria and indices, the researchers have suggested to consider aims to be formulated on the basis of perspectives of the Russian education. Interdependence of the main spheres of public life: political, social, spiritual and economic is represented in the context of integration of education, science and production. Such integration has been regarded by the researchers as a form to represent the perspectives of Russian education. The main point of integration of education, science and production is described in the logical review of the conception of interaction of professional education and labour-market, social partnership, conception of higher professional education of workpeople, conception of open education.

Key words: Person, education, integration of education, science and production, the main spheres of public life

INTRODUCTION

Crisis in home education of post-Soviet period has been stated in the researches by Shadrikov (1997), Moiseyev (1998), Novikov (2000), Krayevsky (2005), Zagvyazinsky (2011) and many others whose authoritative opinion in total gives the reason for regarding the state of Russian education in the period from the end of XX to period till the present days as crisis a priori. The polysemy of the notion "education" has predetermined the diversity of problems at their solving today the social resources are directed.

MATERIALS AND METHODS

The object of research is integration of education, science and production. The subject of research is preparation of a man for life in society and his development as the process and result of integration of education, science and production.

The objective of research is to reveal the point of integration of education, science and production from the viewpoint of interdependence of political, social, spiritual and economic spheres of public life.

The research methods: Theoretical; analysis of literary sources, study and generalization of pedagogical experience, abstraction and concretization techniques; empirical: study of curriculum documentation of comprehensive, secondary and high professional school, observation, interview.

Credibility and validity of the research results are provided with variety of information sources, support from complex study of scientific literature on the problem of research; relevance of methods of the research, use of complex of scientific methods that are adequate to object, subject, objective and tasks of the research.

RESULTS AND DISCUSSION

It has been accumulated a considerable number of researches in which the causes of current and future pedagogical problems are discussed directly or indirectly. In spite of distinction in interpretation, these causes are similar in nature and may be generalized into a set by implication. In the present study, this number is classified in accordance with belonging of each of the causes to the main spheres of public life: social, political, economic, spiritual. Thus in social sphere of public life, the causes of

crisis of Russian education are formalism in teaching and educational process, low wages of teachers and lectures. Extensive approach to education, technocratism may be considered to be the causes of political sphere of public life. In economic sphere, one of such causes is poor educational resource base of schools. To the causes of intellectual sphere of the public life, one may refer behind education of scientific and technical advance, spiritual impoverishment of society.

The mentioned causes have been taking place before and nowadays. Consideration of the causes to have remained the same for long years and research and educational society keeps stating the presence of the problem of education quality, suggests the main idea: "One should struggle not against the consequences but against causes" similar to doctor who seeks, the cause of complaints about health in a patient asking for help. It is well-known that a pill for headache only removes, the symptoms for a while but does not eliminate the cause of arisen symptomatology. It is difficult to argue against it and the elimination of mentioned above causes seems at the very least not to allow the appearance of new problems in Russian education and in some cases, it may make for exhaustion of actual educational problems. But, the issue of elimination of the analyzed causes is practically polemical. So for example, solving this problem is impossible without understanding sufficiency of the achieved result. In particular, there is no definite understanding of the fact what state of material and technical base should be considered to be good. Insufficient development of criteria and indices, the achievement of which would make the statement of elimination of the considered causes to be objective and possible, predetermines groundless factor of financial injections more similar to the pill for headache.

Pointing out, the absence of criteria and indicators of the state of training and material recourses for educational institution of course, we do not mean the accreditation results. Indices of accreditation allow to establish the correspondence of material facilities for educational institutions to the minimum of requirements and cannot be taken into consideration as characteristics of good educational and material basis. It is also certain as if it were not so all the accredited educational institutions could evidence the absence at all times of such crisis cause of home education as "poor material facilities for educational institutions".

The example of training and material recourses for educational institution is given for convenience. One could speak not less well-reasoned about pay for teachers and lecturers and other causes of current and future pedagogical problems in the similar context.

Thus, we have found a contradiction: between the necessity of abolition of the causes of home education crisis that determine the problems in pedagogy and insufficient development of criteria and results achievement of which would make the argument about the abolition of such causes to be objective and possible.

Proceeding with discussion, let us present two scenarios: Material facilities are maintained in the state not lower than the accreditation indices that is "as it usually is" and the problems connected with educational and material basis are still remaining. The scenario is acceptable as it is a prove that educational institutions exist but it is inefficient in leading them to qualitative changes that is why, it is of no interest to our research.

Material and technical basis is developing, leveling the problems but for a time and not all, confirming extensive approach to education development. "For a time and not all" because not all issues will have been settled by obtained degree of development of training and material facilities for educational institutions and the others will be actualized in the short term for example, after upgrading the material and technical equipment for industrial production that will be waiting for graduating students of higher institutions ready to start working. This scenario is cost-based, demanding flexible criteria and indices, achievement of which will provide the effectiveness of prospective investments in the long term that does not appear to be feasible without clear picture of desired Russian education in foreseeable future. In economics such state in respect to companies is called "vision". In the studies of pedagogical character, there are examples of such vision the theories that are quite a few in any subject area: industrywide, disciplinary, general problem, frequent problem.

The drama is that many theories have been remaining the theories and perspective picture of Russian education becomes clear only after formalizing conceptual propositions, defining objectives. According to the principle "smart", the objectives should be clear, measurable, achievable, pragmatic (significant) and determined in time (correlated with term). They should be reviewed in accordance with some new ideas of vision of the future, conditioned by changes in the main spheres of public life: social, economic, political, spiritual. Foreseen, in this way, flexibility in goal-setting makes the objectives to be valid for determining a desirable state of the Russian education in long term perspective. In this study, we suggest considering objectives that formalize the perspective vision of the Russian education in the capacity of criteria and indices, the achievement of which could make the argument of eliminating the crisis of home education objective and feasible.

Thus, the development of criteria and indices, the achievement of which could make the argument of eliminating the crisis of home education objective and feasible should be implemented on the basis of perspective picture of the Russian education, “vision”. The subject matter of such development will consist in formalizing vision that is determining objectives that can be considered further as essential criteria and indices.

A considerable number of works devoting to the development of “perspective vision of the Russian education” demands thorough investigation, generalization and formalization of the conceptual proposition. The stage of generalization will allow to reveal the aspects requiring improvement. We assume that the result of this research should become a comprehensive theory with the attempt of developing criteria and indices, the achievement of which could make the argument of eliminating the crisis of home education objective and feasible.

The theory should disclose an evident interdependence of the main spheres of the public life as elimination of one cause home education crisis can exert straight reverse influence on another cause. So for example in the considered above scenario consolidation of training and material facilities for educational institutions may be interpreted in some instance as extensive approach to the development of education. These causes belong to various spheres of public life. Therefore by eliminating any cause of home education crisis, it is essential to take into account interdependence of political, social, spiritual and economic spheres of public life.

So long as it is not reasonable to consider each constituent part within the scope of pedagogical study in

broad outlines, one should single a certain analogy out of the given interdependence. Its interpretation allows us being mainly within the framework of pedagogical science to determine reserves for eliminating the causes of Russian education crisis. The result of our research on drawing such analogy is in Fig. 1.

Education finds its expression in social, spiritual and economic spheres in required sense for each of them. So for example, in social sphere education is oriented on successful social adaptation of a man, prepares him for public relations. In economic sphere, the point of education is in training a man for industrial relations (a man is considered as one belonging to workforce). The industrial relations are built in economic sphere through industry. In spiritual sphere, education provides transmission of cultural heritage to future generations. Culture heritage acquisition, community development occurs in spiritual sphere through universities of sciences. Political sphere appears as integrating factor that determines the vector of education, science and industry progress and also general growth in public prosperity. Correlation and dependence of four spheres of public life in our investigation are treated as integration of education, science and industry.

In home and Foreign practice a meaningful experience of integration of education, science and industry has been accumulated, it is widely represented in research and educational literature (Yu. V. Shagina, Z.S. Sazonova, Yu. V. Levitskiy and others).

In a number of studies (A.Ye. Upshinskaya, A.M. Koptyaev, V.B. Supyan and others) appropriateness of science and education integration is marked. In Federal Statute “About science and government scientific and technical policy” integration of science and education is

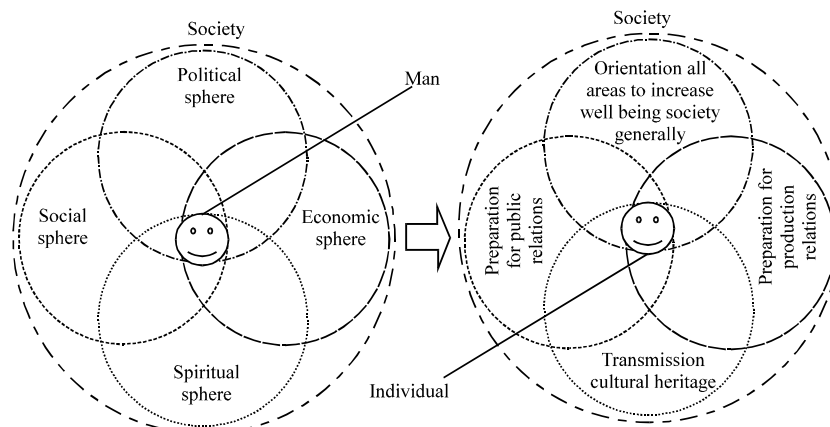


Fig. 1: Pedagogical sense of interdependence of the main spheres of public life

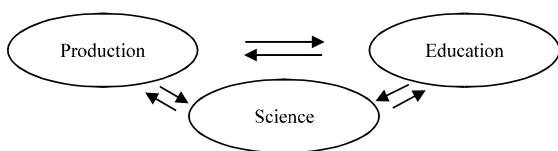


Fig. 2: Directed graph “interdependence of education, science and industry”

separated out as one of the objectives of this policy. This objective is achieved “basing on various forms of participation of workers, postgraduates and students of educational institutions of higher professional education in scientific researches and experimental development via establishing scientific and educational complexes, laboratories on the basis of educational institutions of higher professional education, chairs on the basis of scientific organizations, state academies of sciences and also scientific organizations of federal executive authority” (Anonymous, 1996).

Integration of science and industry in the works of researchers (Ye.M. Korostyshevskaya, I.A. Khaliullin and others) is one of the factors of development of industrial sector, economics productivity. In the researches dealing with integration of education and industry there are arguments of its efficiency for man and society on the whole (A.R. Shaidullina, N.K. Chapayev, M.G. Kokorev, V.V. Moiseyenko, I.P. Smirnov and others). Not consolidated by law as in the case of integration of science and education, integration of education and industry, science and industry, nevertheless has become widespread in practice.

Survey of studies leaves little doubt about reasonableness of assumption of ternary integration appropriateness. It is resumed also from the survey that education and industry are required to be studied not as successive phenomena but as interrelated and interdependent processes. Schematically such interdependence is presented in the form of directed graph with three apices and six differently directed arcs (Fig. 2).

In correlation, these processes determine the progress of each other. Human capital from education and material from industry provide intellectual capital gain in science.

We believe it is necessary to consider not education on the whole at this stage of discussion but professional education in particular as it is to a considerable degree conditioned by demands of industry and science. Necessity of consistency of content and structure of professional education with needs of labour-market is registered in the Federal special-purpose program of development for the period of the years 2011-2015. One of the criteria of the effectiveness of professional education in society is qualification of graduating students. The

grade estimation of such specialists training depends on the level of training satisfaction with experienced personnel. Existing stereotype however does not exclude the idea of humanization of education accepted by the educational institutions as a doctrine. At legislative level as principle of state policy it is determined “humanitarian character of education, priority of universal values, human life and health, free development of an individual, education of civicism, diligence, respect for the rights and freedoms of a man, love for nature, motherland, family”.

More generally considered in this way integration of science and industry is interaction of these processes aimed at acquiring scientific knowledge, independent and all-round development of an individual and also demand for experienced personnel in the job market.

At the same time in practice, demand of employers for personnel is absolutized in understanding of the objective of professional education and job market, social participation, conception of interaction of professional education and job market, social participation, conception of higher professional education of working people (Chapayev and Veinstein, 2009). It can be explained by long tendency of decline in government activism in its desire for realizing ultra liberal model of education financing to maximum allowable extent. The job market being major user and making order to education, sets quality standards of training proceeding from the necessity of solving concrete problems in production without relying understanding of importance of development of the personality, society on the whole.

There are the examples of economic researches of rather formalized approach to the analysis of interaction of professional education and job market to the analysis of economic value of education as a form of investment. The scientists consider such methods of valuation of economic benefit from investments in education as: algebraic method, payoff function method, analysis of economic investment of education depending on aggregate function, method of prospective profit calculation on individual investments in education from the point of view of corporate effect (Andreyev and Gretchenko, 1998). Such approaches to determining efficiency of education entrench beliefs about professional competences as choiceless value for society.

Enlightened approaches to assessment of investments in education being market per se should be revised like approaches to environmental economics concerning valuation of nature. By analogy, one can suggest considering total economic value of education result for labour market as application value (this value can be calculated via one of the mentioned above methods) and non-application value, reflecting social aspects of significance of education results for society, not connected directly or indirectly with benefits for

production. In this case, the method of effect calculation of investments in education will conform to comprehension of directional integration of science, professional education and production of knowledge, development of the personality, satisfaction of demand for personnel in job market (Leontyev and Sedov, 2012).

Among up-to-date conceptions of integration of education and production the conception of transparency in education is directed more at personality development. But in logic of realization of this conception, the production may remain dissatisfied.

Thus, each of the conceptions individually (the conception of interaction of professional education and job market, social partnership, the conception of higher professional education of working people, transparency in education) does not conform to overall comprehension of integration as condition of interdependent development of its components. Therefore, we are disposed to consider them as conceptual propositions that are to be realized in interconnection. It is necessary, the directional conceptions at production to be connected with the conception directed at total development of society, personality. Such interconnection is for example, consolidation of the conceptions of social partnership and transparency in education. Since, each of these conceptions supposes to have a definite strategy of its realization, it is obvious that in the capacity of propositions of a new conception they in considerable degree predetermine the principles of integration of education and production, conditions, patterns, mechanisms, requirements, procedures and others.

In this way, the results of investigations of mentioned above researchers and many other works to considerable extent have contributed to solving the problem of integration of science, professional education and production but have not exhausted it.

CONCLUSION

Elimination of the causes of home education crisis identifying the problems in education should be implemented on the basis of perspective picture of Russian education, "vision". The subject matter of such development is in formalization of vision that is determination of objectives (criteria and indices, achievement of which would make the statement about abolition of causes of education crisis objective and feasible). The result of such research work is to be a comprehensive theory according to which it should be considered an obvious interdependence of the main spheres of social life. In logic of pedagogical investigation interdependence of the main spheres of social life is

treated as integration of education, science and production. Integration of science, education and production is presented in the study as interaction of these processes aimed at human preparation for public and industrial relations to future generation and also acquisition of up-to-date scientific knowledge, production development and general growth in public prosperity.

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