Tatiana Yarkova

NEW MECHANISMS FOR MANAGING EDUCATION RESEARCH IN THE REGION

Abstract: This paper presents the author's position on the mechanisms of management of education research at the regional level the key feature of which is their social nature. In accordance with the processes of globalization, the construction of the European research and education space, the objectives of which are intended to achieve some new quality of education, the author focuses on the holistic research programs as strategies for managing education research, science laboratories as a form of a network research organization, negotiation platforms as a possible form of social planning and research expertise in democratic governance.

Key words: education research, management mechanisms, integrated research program, project, technology platform, science lab, negotiation platforms.

INTRODUCTION

Addressing complex system tasks requires knowledge and consideration of scientific principles of social processes organization. There is always a certain set of "input" conditions (factors) in a society leading to the formation of some mechanism, "a way out" that means a certain social process (processes) or phenomenon that are generated by an appropriate mechanism, and a complex organized system, which is the basis of the mechanism, that is, it "recycles" the prevailing conditions into a particular social process (Klepov 1999).

Traditionally, a mechanism is understood as a specific system, the order of some kind of activity. Social mechanisms are influenced by many factors, their knowledge and consideration allows to build social interaction on the scientific basis. In this regard, priority mechanisms of development and management of social systems are needs of the community, hence social mechanisms appear as "answers" to some situation in the society and forecasts of further development. It can be said that social mechanisms act as means and methods of satisfying social needs.

A research organization is influenced by both education and science as theoretical and practice-oriented systems, the widely represented scientific community and the management system as an executive authority responsible for implementation of the

state and regional policy. In this regard, while studying mechanisms it is necessary to take into account their socially determined specific character:

1) material of elements which make up a social mechanism – social systems and organizations, public relations and communication of teams, groups having their own interests and acting in accordance with them;

2) they are objects with "memory", they add up in the long-term evolution of the forms which existed before and therefore carry information that reflects their previous state;

3) their "designers" that is social subjects of the authorities are included in the same process of social and economic development themselves, they have to adjust and improve it. Therefore, rearranging the social mechanisms they have to change themselves, they have to change their methods of work, forms of interaction (Klepov 1999).

TEXT

The history of education shows that many of the system education problems are solved more efficiently by integrating within the program-target approach, the realization mechanism of which is target integrated programs.

The white paper "The program of Basic Scientific Research of the State Academies of Sciences for 2013–2020 Years" (Moscow 2012), a program development mechanism of scientific research in the Russian Federation is determined to be the most effective because it allows:

- To concentrate resources on the key areas of fundamental research;
- To ensure funding stability of specific scientific research and development;
- To organize research in a given time frame and to ensure the effective control over the federal budget use.

But this mechanism is still not effective at the federal and regional levels. According to D. S. Lvov (1999), it is shown in the following:

- failure of programs on the timing, volume and results (only 10–15% of planned activities are realized on time);
- under-funding of approved programs;
- continuous adjustment of programs during implementation leading to such a change in the composition and content of the program activities that its original plan is lost and the achievement of its objectives gets problematic;
- vague, unspecified formulation of objectives of most programs making it impossible to run programs, they get almost uncontrolled from the standpoint of achieving these objectives;
- lack of effective coordination between separate programs though their tasks are often intertwined, overlapping, etc;

- ineffective responsibility mechanisms of government customers and providers for the implementation of programs tasks;
- lack of mechanisms to control the use of budget funds allocated for the implementation of programs and the compliance of the results to the targets and others.

The consequence of this is the failure of the mechanism to form a set of programs which is adequate to the real structure of the most pressing regional problems and corresponding to real financial capabilities of the state and the regions. Improvement of effectiveness ways of targeted programs as a mechanism for education management and educational research is seen as a system upgrade of technical approaches to this activity. Relying on D. S. Lvov's position in the development of such approaches (1999), we formulate their fundamentally important components:

1. Extremely clear and precise wording of the problems of education in the region on the basis of their analysis: whether the problem is unique or there are some of its analogues (what?): why it can be classified as "the most important" or "specific for the region", what the nature of the problem is (sectoral, cross-sectoral, regional, inter-regional); whether it is generally solved and, if so, to what degree; whether there is some need of its further study at the stage of the problem propounding and, if so, in what aspects, etc.

2. Forecast of consequences of the program failure: to what negative consequences in the region education it can lead to.

3. Strictly targeted selection of program activities and assignments: suitability of each proposed activity to the goal; rigid allocation of events that fix the beginning and end of each task; the crowning event should best meet the objectives of the program, but not the task itself; variant determination of the amount, sources and financing arrangements that ensure the achievement or adjustment of goals; establishing the direct responsibility for the implementation of tasks and forms of control from the standpoint of program objectives achievement.

4. Mapping of the problem areas of education in the region to identify specific tools for targeted programs realization: financial, logistical, scientific, methodical and staff support of available "points of growth" and "trouble spots" in the system of education in the region.

One reason for effectiveness lack of the organization mechanism is an attempt to solve the problem of education by means of education itself and the science of education that is Pedagogics. It is recognized that the increasingly complex social problems can not be solved, besides, they can not be set correctly by means of any scientific discipline that is within the framework of disciplinary research.

Due to the multi-dimensionality of science and the pedagogical science as well, different types of integration: structural, methodological, conceptual, meta-scientific, complexing, socio-cultural, a management one, etc. are now widely used. Each of

these types of integration can be considered in relation to education research, but we will focus on the management. This type of integration deals with management of education research based on a common system of planning, monitoring, and development of common criteria of their effectiveness.

We assume that at the regional level such integration is possible by means of integrated research and complex inter-departmental programs. Their implementation becomes relevant in the context of modern science orientation to life practice to address the development of education and the region development in general. In connection with this there is some extension of the concept of the research program which is organized not on the disciplinary basis, but on the interdisciplinary one.

Analysis of the sources revealed that in legislation documents and scientific literature such concepts as "research program", "scientific program", "science project", "target program", "holistic program", "framework program", "integrated program", "complex project" (Mezhevich 2007) are used. Limiting the scope of scientific research, we focus on an integrated research program and its implementation instruments (integrated interdepartmental programs, projects).

The logic of education research organization suggests, in our view, some movement from an integrated research program to the complex one and from there to projects.

The methodological basis for defining the essence of an integrated research program is the idea that a research program is a basic and fundamental assertion of the theory which in the course of analysis of some particular empirical material surrounds itself with "protective belts" of additional assumptions (Lakatos 2008), firstly an indication on those aspects of reality that are subject to study, and secondly, on the methods which can be used that is the mechanism of the organization and replication research (Stepin, Rozov, Gorokhov 2004).

Scientific understanding of such a program includes a description of the construction principles, research methods and criteria for quality estimation of the results (instructions that specify how to carry out research, samples of solved problems, descriptions of experiments, etc.). In connection with this, holistic research programs can be defined as a set of regulations on the theoretical justification of approaches to actual problems of pedagogical reality solution presented in the form of samples of cognitive activity and the activity to systematize knowledge, as well as in the form of programs themselves as methods of scientific research.

A integrated interdepartmental research program of education can be defined as a forecast – planning document aimed at implementing of the research program in the field of education including concept, strategic (if necessary), long-term, medium--term and annual research plans to implement the program, an outline of the main steps in the implementation of plan decisions and an algorithm of plans fulfilment to achieve their goals and objectives. Target complex programs are varied and can differ from each other in a number of parameters:

- by status (presidential, governmental);

- by the size of the territory covered (municipal, regional, inter-regional, national, international);
- by the scale of the problems being addressed (global, local);
- by the nature of the problems (complex, narrowly targeted);
- by maturity (long-term, medium-term and short-term);
- by focus on the functional purposefulness (patriotic, environmental, educational, etc.).

For example, one such program is the Research Framework Program of the European Union. Currently, the seventh program is being carried cut but as B. Smith underlines the development of the sixth program brought the transition from epy single to complex project research (Smith 2004).

However, the main feature of Framework Program VII is the creation of technological platforms (as a new mechanism for research organization) on the basis of certain thematic priorities. A technological platform is a communication tool aimed at strengthening of efforts to create advanced commercial technologies, new products / services, to attract additional resources for research and development through participation of all interested structures (business, science, government, civil society), improvement of the legal framework in the field of science, technology and innovation development (Sendetsky 2009).

The most important feature of all European technological platforms is that the process of their creation is initiated by a «bottom-up» process and all the ETPs are voluntary self-organized associations of interested structures forming something like an extended advisory board. Typically, the largest industrial companies and sectoral associations play roles of the key initiators and coordinators of the subsequent work.

In 2006, having examined the work of technological platforms, the European commission took a decision to establish a new institution that is the United Technological Initiatives. Each initiative combines several technological platforms that have reached such a scale and such a scope that they require special mobilization of public and private investment as well as a large amount of basic research when the framework program of research is not enough.

The mechanism of a technological platform is designed to solve the problem of sources of resources to carry put research and to promote innovation creating a common ground for innovation activity of both the state and the business giving an opportunity to watch the final result of innovators' activity at the same time (Gustap 2012).

This experience can be extended to other countries implementing multi-purpose interdisciplinary projects including education research, its quality greatly influences the success of innovative technological projects.

The integrated program of the national level in the Russian Federation is the state program «Development of Education for 2013–2020». Each region develops its integrated programs that address its specific educational character.

An integral part of integrated programs is a project that contains a description of one or more interrelated models which make up some system strategy (an integrated program) in a suitable for practice form as well as descriptions of how to implement it. Projects are made as a set of documents to be applied in the practice of activity strategy. Projects, as opposed to integrated programs, have certain regulations for practical implementation considering the specific capabilities of resource support of education development strategy of the region (project management plans, action plans for the implementation of projects, business plans, etc.). An example of a national level project is the national priority project «Education».

Thus, holistic research programs determine a research strategy that is defined by the general approach to the study of regional education as a complex social phenomenon which is accepted by the scientific and educational community.

Holistic research programs are still not widespread, they are still developing which is due above all to a certain degree of conservatism of the disciplinary science and its representatives. At the same time the tendency to support such research within the regional educational policy framework will undoubtedly stimulate their further development.

The assumption of the priority of holistic research programs is based on the analysis of foreign and domestic programs that are authoritative when the state and business structures take decisions about their financial support. These include holistic projects targeted to theoretically sound fundamental solutions of really great problems of the social practice (poverty, drug addiction, ethnic and territorial conflicts, illiteracy, etc.) as well as programs aimed at improving of the life quality in particular UNESCO's programs. Appropriate conditions are necessary to make research programs an effective management mechanism. The analysis of foreign and domestic practice of research organization and management, characteristics of research programs allow us to formulate a set of conditions providing the influence of their results on the development of education in the region.

These conditions are: 1) stable, traditional reference points of management activity which objectively affect its performance; 2) positions characterized by a significant potential for further study and analysis. The first groups the following: coordination of research, development of infrastructure based on the model of networking; presence and development of the training and development system for academic staff, teachers, researchers and research managers.

The second group includes the development of social and humanitarian expertise by attracting a wide range of interested people in the region (scientists, teachers, managers, members of the business community, students' parents, public, etc.) to the scientific and educational community; the development of pedagogical universities as centers of support for regional education studies.

Among these conditions a degree of research preparation of both representatives of management and organization of education studies are of fundamental importance. Certification requirements for their qualification and competence are defined by us

as a pedagogical control mechanism. A system of training and skills development has already developed in the country and the regions.

The next condition for the implementation of organizational and pedagogical mechanisms is the development of the region's pedagogical research university. Modern teachers training university and science in it perform a range of functions that characterize it as a center of education, science and culture. Researchers consider the following functions:

- understanding of the pedagogical reality, enriching of pedagogical experience, the development of an educational institution, etc.;
- educational (production and acquisition of knowledge, allocation of knowledge, transfer of knowledge, use of knowledge, spreading of knowledge; research (development of methodological approaches to socially significant problems, development of innovative ideas; quest for the best options to solve socially significant problems; development of forecasts, reports, projects); cultural and educational (personal and professional development of students, formation of their culture and morality) (Radionova, Tryapitsyna, etc. 2005);
- research, integrative, socio-cultural;
- provision of conditions for professional development of students, formation of student-centered educational environment that promotes personal and professional development of the teacher – humanist, scientific and methodological functions, design ones, communicative, creative, promotional, expert functions, as well as a remote one (informational and educational support of the teacher and remote education provision) (Belan 2008);
- Analytical, orientation, prognostic, information, innovation, modeling, system making, optimizing, etc.

Expansion of functions of the teachers training university is due to the general strategic directions in the area of integration of science and education. New requirements for the organization of activities require new forms. Such forms as we have pointed out above are integrated scientific and educational structures. The university is able to be the integrator of educational research space in the region but it requires its structural change. The traditional structure of the university can be extended, according to L. I. Lurie (2002), by the following components:

1) institute of modern educational technologies: potential revelation of the science oriented pedagogical education in the "school-university" system;
2) center of strategic studies: development of regional educational policy, organization of joint activities of educational institutions, analytical studies on the instructions of the regional administration; development, introduction and provision of scientific support for the programs of education development in the region, organization of the program--target interdepartmental activity on the regional development by means

of education, introduction of new educational technologies, provision of advisory and methodological assistance to educational institutions in the region;

3) An independent center of expertise and monitoring of educational activity on the basis of the institutional quality department: implementation of licensing, certification and accreditation of educational institutions.

Our position is that there should be a center of network interaction at a pedagogical institution. The purpose of its activity is organization and support of the qualitative change process in the regional, municipal and university education through networking. We assume that the interaction will be based on modern information and communication technologies the choice of which in network organization is defined by its experience in creating and operating of sites, portals, telecommunications network, etc. These benefits include: high-speed retrieval and transmission of information; extension of the information fields; visualization of participation; facilitated access to structured data.

There is not only the spread of innovations during the network interaction, but there is some process of a dialog between the subjects of the educational network and there is also a process of incorporation of each other's experience, too. Innovations in the educational network acquire evolutionary nature due to the continuous exchange of information and experience that do not require compulsory implementation. During the network interaction its members not only get familiar with the available experience but also use network resources as an prospects indicator of their own projects. It contributes to the development of needs in each other while communicating with individuals, institutions and public associations of different status. The expected result of the network organization may be defined with respect to its participants (students, general education institutions, teachers training university) as follows.

Students: acquisition of independent research in the network experience, processing and assimilation of information; understanding of the problem of matching personal resources, living conditions and aspirations while self-determining; alignment of individual educational and professional routes; getting knowledge about the most interesting educational practices in the education system of the city, gaining experience of participation in network research projects, etc.

Institutions of general education: testing of innovative educational activities, creation of new models of teaching and learning materials, training of educational institutions employees, teachers and researchers, their certification; increased involvement of educational institutions in addressing the specific educational problems in the process of coming into the network environment; the quality of work of educational institutions improvement, etc.

Teacher training university: testing of new forms of training, of research activities organization; availability of new teaching materials that are adequate to the current state of education; transition to such types of works as tutors, support, coordination

of network and individual interests and abilities; emergence of new structures of interdepartmental interaction (virtual chair), etc.

Structural changes in the university activities include creation of departments specializing in modern scientific developments in the field of education. Educational institutions that are included in the structure of the university (colleges, lyceums, childcare centers, etc.), will gain science orientated purposefulness in this case. All this will help to build a common research and educational innovation space and regional areas. In fact, here is a research university as a center of educational research space, carrying out organization and management of pedagogical education research.

Going beyond inner educational problems, the university is able to initiate scientific and educational research in temporary research teams; to develop and implement holistic research programs, integrated interdepartmental programs and various projects; to organize scientific research on the region involving students of special schools and university students; to exercise targeted training of researchers for research programs and projects realization together with universities of the region.

On the basis of the pedagogical research university it is possible to create a network of research laboratories which are a modern form of foreign and domestic scholars integration in the organization of scientific research. Moreover, it can be any type of laboratory.

One of the examples of good practices is a "mirror lab". Under the "mirror lab" we mean a created in Russia laboratory similar to some current foreign laboratory, which is led by our countryman living abroad. Such organization of research has a number of advantages: a possibility of international experience development, participation in international projects implementation, skills development, better access to reagents, the ability to work with modern equipment, the development of international relations (Dezhina, Ponomarev 2013).

We believe that the idea of creating international inter-institutional research laboratories is productive (Kudryavtseva, Henchel 2013). According to the authors, the laboratory can be more effective when it presents a structurally independent unit within a larger organization (of head, public or private ownership) with a separate bank account, the right to enter into contracts at all levels (including international) and performance of works on them, fund search and obtaining and its distribution. Each of the parent organizations (partner countries) is a leader in a single project and each time it is determined by specific conditions of the project.

This kind of university complex can be a "regulator" of professional self – determination of specialists with higher professional education, graduates and post-graduates, a "regulator" of the educational situation in the region due to effective relations with academic schools, the academic science and the modern industry.

Thus, the pedagogical research university is multifunctional educational and research complex which includes all parts of continuous education in the region priority areas of training in particular the educational one. It also presents research structures for development and implementation of integrated, complex

interdepartmental research programs of education research in the region. This approach puts the regional teaching university in the center of scientific and educational activities of the region and determines the extent of its responsibility for the development of education in the region on the basis of the unity of theory and practice.

The most important condition for the implementation of modern management education and consequently educational studies model is to create social structures that can exert an effective influence on the authorities in order to change the situation in the regional education by means of participating in the examination of the situation of education, educational policy directions, relevant research topics and their results. For the last decade some attempts have been made to create negotiation (discussion) sites, specialized civil organizations and other due to the advancement of the idea of a civil society and the real participation of the society in the social and civil government. Negotiation platforms (live and virtual) are intended to structure the dialogue between organizations of the civil society and the authorities and bring it to a meaningful outcome.

The term "negotiation platform" came into use after the Civil Forum in 2001 where the technology of "negotiation platforms" was used for the first time. Describing the negotiation platform, experts point out that, first of all, the essence of negotiation platform is negotiations with the authorities over the existing differences in opinions. Secondly, a negotiation platform is not a local event but a process (Minin 2003).

According to experts, the issues to be negotiated should relate to changes in the existing policies and practices, they should be within the competence of the authorities invited to the negotiations and they should be large enough to affect interests of the population; some public examination of the problem under discussion should be made while preparing questions.

Experts identify the following steps in the negotiation process:

1) preliminary negotiations with a view to determine responsible authorities and individuals with the necessary level of competence and to obtain their consent to further negotiations in a narrower complement; forming a team of "negotiators" on behalf of the expert group and the definition of a mechanism to inform interested individuals and the public on the progress of negotiations;

2) agreeing on the need for reforms and their direction which will necessarily be reflected in the relevant documents. For example, the joint declaration containing an updated list of the issues under discussion, a list of principles of the reform and objectives -indicators;

3) development of a blueprint graphics of certain steps, actions, their sequence and timing.

A very important condition is the presence or development of tools and mechanisms to monitor the situation with the implementation of the decisions taken in the course of negotiation platforms.

There is a practice to hold negotiation platforms when the initiators of the negotiations are social organizations and structures seeking to influence the officials to change the educational policy.

In our case, the initiator of the negotiations may be public structures created at the municipal level, for example, the city parents' committee, the community council on Education problems of the Committee on Education, etc. The second contracting party may be the administration of the municipality or the region. The task of the representatives of public organizations is to convince the opponents in the importance of the discussed problem for the whole society.

Such issues that cannot be solved within the framework of existing or known tools are discussed at the negotiation platforms. Thus, the complexity of educational problems puts the task of combining efforts of the whole community of the region. The considered issues need to be within the purview of the authority structure at the level of which negotiations are prepared. It may well be that a mutually satisfactory solution is not within the competence of both contracting parties. In this case, they should make all the explanations clear and try to find a way out of the situation together, perhaps, consider another option, or get to another level of solving problems.

I must say that this form of social control is still not widespread and that does not ensure the democratic character of governance. Activities for the development of such structures through grants, social orders for non-governmental organizations should be one of the objectives of the Departments of Education and Science.

In any case, considering mechanisms of interaction in organization of scientific and educational research it is necessary to focus on the best practices of such interaction in the democratic society.

CONCLUSION

In a decentralized management the role of regional education strategies is increasing. The organization of education system management on the basis of its science-based regulation within the regional territorial borders is currently a significant problem of the regional educational and scientific policy. In this regard, the main objective of the paper was to determine the circumstances that directly and indirectly justify the activities directions on scientific research management and teaching in the regional scientific and educational space. Goal-oriented scientific research allowed to come to the following conclusions:

- the structure of the process of education research management determines its corresponding mechanisms as tools to transform the external environment into some definite result to achieve a new quality of education: socio--political (educational and scientific policy of the region); organizational (holistic research and integrated inter-departmental programs); teaching

(a training system for teachers, researchers, research managers and the availability of certification requirements for them);

- external and internal conditions of realization of the regional system of education research (coordination of research, infrastructure, the system of training and professional development of the academic staff, teachers, researchers and research managers, the system of social and humanitarian expertise; the teacher training university as a reference center for regional educational research, etc.) constitute the environment in which ongoing research plays the role of education development factor in the region.

It can be concluded that the concept of mechanism of education research management does not reflect the management of people; it supposes the creation of conditions for free development of scientific potential of researchers, increase of the level of management system organization, promotion of activities not with orders and instructions, but with its creative content, material and moral factors.

LITERATURE

Belan E. (2008). *Strategic management of the development of regional university as a research--oriented university. Author. diss…. Doctor. ped. Science. Rostov-on-Don.*

Gustap N. (2012). *European Technology Platforms: definition, history of response.* The journal "Proceedings of the Tomsk Polytechnic University." T. 321. Number 6, C56–59.

Dezhina I. Ponomarev, A. (2013). *1,000 laboratories, new principles for the organization of scientific work in Russia.* Journal " Problems of Economics." Number 3, 70–82.

Klepov A. (1997). *College and university science parks: the social mechanism innovation.* Saratov University, Saratov.

Kudryavtseva E., Henchel T. (2013) *International scientific laboratories as support for research and project development (R&D) activities //The Expert Community Organization in the field of Education, Science and Technologies: International scientific-practical conference.* Trieste, Italy, 138–142.

Competence approach in teacher education: The collective monograph (2005). Herzen State Pedagogical University. Herzen, St. Petersburg.

Lakatos I. (2008), *Selected Works on the philosophy and methodology of science.* Moscow: Academic Project.

Luksha O. (2010). *European Technology Platforms: the possibility of using the European experience to create a new tool to support the development of innovative.*

Lurie L. I. (2002). *Research university and the modernization of education in Russia.* Magazine «Pedagogy». Number 8, 97–105.

Lions D. S. (1999). *The path in the XXI Century: Strategic Challenges and Prospects of the Russian economy.* Moscow: Economics.

Mezhevich N. (2007). *The main directions of the regional policy of the Russian Federation.* Saint -Petersburg State University of Telecommunications. prof. MA Bonch – Saint – Petersburg.

Minin P. *(2003). Intercoms parallel // Bee. – 4 (41).* http://www.pchela.ru/podshiv/41/discuss.htm

The program of basic scientific research of the state academies of sciences for 2013–2020 years (approved by the Decree of the Government of the Russian Federation of December 3, 2012 № 2237 – p).

Russian economy. Magazine «Innovation». Number 9 (143), 43–46.

Sendetsky V. (2009). *Russian and European Technology Platforms. EU: an international organization or a superpower ?* The magazine «LesPromInform» Number 2 (60), 3–9.

Smith B. (2004). *The research activities of the European Union in the field of cultural heritage.* http://www.minervaplus.ru/publish/p01-r.htm

Stepin V. S., Horochow V., Rozov M. A. (2004). *Philosophy of science and technology.* Moscow.