

**MODERNIZATION OF HIGHER EDUCATION SYSTEMS BASED ON INNOVATION AND CLUSTER APPROACH****Ds. Z. Adilova**

Research center "Scientific bases and issues of Economic development of Uzbekistan" under the Tashkent State University of Economics, Head of the "Science and education integration" sector

Email: [zulfiya\\_adilova@mail.ru](mailto:zulfiya_adilova@mail.ru)

**B. Khonturaev**

Research center "Scientific bases and issues of Economic development of Uzbekistan" under the Tashkent State University of Economics "Science and education integration" sector, Junior research assistant

E-mail: [idmon.88@gmail.com](mailto:idmon.88@gmail.com)

**S. Adilova**

Chief specialist in Department of organization of professional development and internship programs of the "El-yurt umidi" Foundation under the Cabinet of Ministers of the Republic of Uzbekistan

**Annotation:** *The article discusses a promising direction for the development of higher education - the construction of educational clusters. The essence of a private-state partnership is revealed, the possibilities of building an educational cluster, the characteristics of the positioning of the head institution in a cluster, the ways of interaction between educational structures and production are studied.*

**Аннотация:** *В статье рассматривается перспективное направление развития высшего образования - построении образовательных кластеров. Раскрыта сущность частно-государственного партнерства, изучены возможности построения образовательного кластера, особенности позиционирования головного вуза в кластере, способы взаимодействия образовательных структур и производства.*

**Аннотация:** *Мақолада олий таълимни ривожлантириш учун истиқболли йўналиш - таълим кластерларини қуриш масалалари муҳокама қилинади. Хусусий-давлат ҳамкорлигининг моҳияти, таълим кластерини яратиш имкониятлари, бош ташкилотнинг кластердаги жойлашуви, таълим тузилмалари ва ишлаб чиқариш ўртасидаги ўзаро муносабатларнинг йўллари ўрганилади.*

**Калит сўзлар:** *кластер, таълим кластери, олий таълим, концепт, назария*

**Ключевые слова:** *кластер, образовательный кластер, высшее образование, концепт, теория*

**Key words:** *cluster, educational cluster, higher education, concept, theory*

**Introduction**

The changes occurring in society at present influence improvement of the learning process in higher education. Research has identified the main directions of development of higher education. They include: (a) training in a rapidly changing environment, (b) the transition to an information society, expansion of intercultural communication and tolerance

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(c) establishment of current thinking with students, and (d) intensive and accelerated development of higher education, due to the increasing importance of human capital.

The major direction of improvement of higher education is to implement a competency approach to learning. This direction ensures the development of professional competence. Professional competence includes the integral characteristic of an expert and his ability to solve professional problems and common professional problems that arise in real situations, professional work. Professional competence is a set of key, basic and special competencies. Improvement of higher education at the present stage is associated with its modernization. This modernization is aimed at overcoming the stagnation of higher education, and transformation of its content, forms and methods of organization.

The process of modernization helps to create fundamentally new technologies in the educational process. Education is becoming a real resource of development. The conceptual meaning of modernization is poorly developed. The literal translation of the Latin word "modern" means "new". The meaningful applications and semantic interpretations of modernization are rather broad. The most common are the notions of "innovation", "novelty" and "new". Effectiveness of professional instructors in higher education makes it necessary to search for new technologies of modernization.

An effective market for educational services in accordance with the needs of the economy for qualified personnel based on continuous monitoring of the labor market can be formed on the basis of a system of continuing professional education. Continuing education should provide each person with an institutional opportunity to form their own individual educational trajectory and receive the training they need for further professional, career and personal growth. The development of a lifelong education system will allow for greater susceptibility of education to external demands, including from the labor market.

### **Literature review**

Analysis of the literature showed that the problem of social partnership in vocational education is considered in studies Tkachenko E.V. (1935-2018), Smirnova I.L. (1915-2007), Mukhametzyanova G. V. (1938-2013), Kostina A. A., Anisimov P. F. (1916-1988), Ibragimov G. I., Schubert F. (1797-1828), Korchagin E. A. (1900-1977), and others. Various aspects of the optimization of the educational institution is revealed in the publications Bespalko V. P. (1930), Boyko V.V., Vinogradova G. A. (1912-1963), Gabdullina G. G., Zagvyazinsky V. I., Zvereva V.I., Karakovsky V. A., Lazarev B. C., Leontieva A.V., Nigmatova Z.G., Potashnik M.M., Pugacheva N.B., Rogers E., Shamova T.N., Yamburg E.A. and other authors. Management of educational institutions of basic vocational education was studied by B. S. Alishev, S. Y. Batyshev, I. A. Bogachek, B. S. Gershunsky, V. M. Loginov, A. M. Novikov, V. N. Smirnov, R. H. Shakurov and other specialists.

The published works discuss various problems related to the subjects of social partnership of educational institutions: employers, representatives of regional and municipal authorities, parents of students, secondary schools, universities, the system of postgraduate education, etc.

However, the works devoted to the interaction of educational institutions with the social partners, is practically not considered the possibility of applying new approaches in the development of professional education, including the cluster approach, which involves mutuality, continuity, cooperation, reciprocal participation, etc. The study of the theory of the subject, not sufficiently studied the production of pedagogical management professional training of students in conditions of social partnership secondary professional schools with socio-economic institutions; the model of educational cluster as a form of social partnership is not developed.

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**Research Methodology**

The theoretical and methodological basis of the study are recognized philosophical, psychological and pedagogical concepts and theories of education, knowledge and personal development:

- system approach to the study of social phenomena (V. G. Afanasyeva, I. V. Blauberg, E. G. Yudin, etc.);
- competence approach in education (V. I. Baidenko, E. F. Zeer, A. M. Novikov, V. V. Serikov, B. Oscarson, I. A. Winter, A. V. Khutorskoy, etc.);
- cluster approach in vocational education (G. V. Mukham Etzenova, E. A. Korchagin, N. B. Pugachev, A. V. Leontiev, and others.);
- activity theory and pedagogical design (V. V. Davydov, A. N. Leontiev, V. P. Bepalko, G. I. Ibragimov, C. B. Lednev, M. I. Makhmutov, V. A. Slastenin);
- the concept of continuous education (B. S. Gershunsky, G. V. mukhametzyanova, A. M. Novikov, etc.).
- studies that reveal the problems of social partnership and the education quality management in vocational school (P. F. Anisimov, Mukhametzyanova G. V., Ibragimova, G. I., Schubert F., Korchagin E. A., V. P. Panasyuk, M. M. Potashnik, S. A. Subetto, and others).

**Analysis and results**

The need for fundamental changes at all levels of education - from general to professional - requires the active involvement of business and the public with the leading role of the state. Characteristic features of the state partnership as a decisive factor, necessary and effective mechanism of development of the regional economy are: the long-term nature of the relationship; pooling resources to achieve specific result; distribution of responsibility and risk between private and public partner (A. Araslanova). A rather promising form of interaction between the state and private go business in the world are regional educational clusters - locales interdisciplinary structures in a certain area, including the whole chain of interrelated activities from production to product, supported by a range of educational services (Arkhangelsk S.I., 1976). It is assumed that the creation of educational clusters will significantly increase the level and quality. The training of skilled workers and specialists will improve the quality staffing corresponding to the needs of employers will contribute to synergistic integration educational structures and production, will open additional sources of financing for renewal material and technical base of educational institutions (Batyshev S. Ya, 1980). The world experience of developed countries in the field of clustering is based on the fact that the educational cluster is an integrative group of related companies, which includes:

- The base enterprise, enterprises - suppliers of equipment, components and specialized services (Gaponyuk P.N., 2011);
- About serving enterprises, infrastructure organizations, transport companies;
- Head (profile) university and a network educator subordinate to it institutions (other universities, colleges, vocational schools, training centers, etc.);
- Research institutes and other organizations modifying each other and enhancing the competitive advantages of both individual participating companies and the cluster as a whole, ensuring the competitiveness of the core industry.

Each of the participants in the educational cluster realizes their interest in the field of education, so a clash of interests makes it inevitable the occurrence of conflicts and at the same time contributes to the search for a consensus of these interests. The practice of the

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functioning of educational clusters of foreign countries before considers the entry into the cluster of the head university in the form of state cars nominal institution (Gnatyshyn, E. A., 2011).

The main goal of transforming the existing budgetary organizations into state autonomous institutions is to increase their financial freedom and, as a result, increase the salaries of employees. An important advantage of the educational cluster is the financing of autonomous educational institutions from three sources - budgetary, corporate and private: education will be funded on the basis of regulatory-per capita financing with the attraction of budgetary resources (Gromyko Yu. V., 2007).

So, the state will form a state order for the provision of services to the population within the framework of state guarantees, in accordance with which the budget subsidies are formed; The base enterprise is an order for the training of workers and specialists demanded by the cluster, supported by relevant corporate (private) financing. In this case, a personal contract is concluded with each student, in accordance with which the obligations on the financing of his education by the employers and the budget are determined, and the student undertakes to work out certain time at the enterprise. This contract includes the guarantee of the minimum wage in the process of training and subsequent employment, social conditions of work, and other conditions as agreed by the parties. In case of non-fulfillment of obligations (low progress, non-compliance with the required level of qualification, employment after studying at another place of work), the student must return the funds invested in his training. The most important feature of the educational cluster with the current sustainable technology network based on advanced shoe technology is the continuity of education, in which the student is a priority working profession in secondary specialized educational institutions and can continue his professional education at an institution of higher education.

Obviously, the greater independence of state institutions causes an increased responsibility of their leaders. Therefore, a specially created supervisory board of the institution of representatives of the public, government and business structures cooperating with an autonomous institution will control the expenditure of funds. Thus, employers, regional authorities and public organizations are involved in managing an autonomous institution, and the educational process will be under the control of all cluster members, which will allow the educational institution to become a full subject of market relations.

The priority areas for the modernization of higher professional education in the region can be considered: the creation of an innovative educational environment that provides training for specialists of the new formation, integration with academic science, production and systemic transformation of university complexes into regional economic development centers, the social sphere, the implementation of a system of continuous professional education.

The acute problems of the present stage include:

- the lack of formation of the system of state order for the training of qualified personnel for the regional economy;
- lack of quality monitoring of the labor market on a solid permanent basis;
- presence of an imperfect educator standards, forms, technologies and teaching aids; a timeless vocational education and retraining system frame shots.

The development of regional education systems that are adequate to the peculiarities of the educational needs and interests of students and the specifics of the region represents a step forward in the development of education, its movement towards democratization and modernization. It is known that the education system, which is oriented towards the educational needs of the citizens of the region, is the most promising.

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This necessitates the timely resolution of a number of problems in the system of vocational education at the regional level, including pedagogical. Moreover, the need to improve the quality of training future teachers is now acquiring the status of a global problem of professional pedagogy, therefore, new approaches to the training of future specialists are required from modern pedagogical science.

The concept of modernization of education involves the provision of adaptation of educational structures to the new system of socio-economic relations, the creation of conditions for the distribution of responsibility in vocational education between the state, employers, civil society, which is directly related to the expansion of opportunities to use the cluster approach in education. In this regard, the main priorities for the formation of educational clusters today are recognized as the quality of education, its continuity, accessibility, competitiveness.

From the point of view of organization of activities, an educational cluster is understood as a set of interrelated vocational education institutions united by industry and partnerships with enterprises of the industry.

### **Discussion**

From the point of view of the content of the activity, the educational cluster is considered as a system of learning, mutual learning and self-learning tools in the innovation chain science - technology - business, based mainly on horizontal links within the chain.

The ultimate goal is to create cluster is an organic fusion of all interested organizations into a single complex of continuous pedagogical education.

Currently, there are seven basic cluster strategies:

- Geographical, suggesting the construction of spatial clusters, ranging from purely local to truly global;
- Horizontal, when several clusters are combined into cluster-type megastructures;
- Vertical, uniting, in case, separate levels of education;
- Lateral, when different structures are combined in a cluster that can provide savings due to the scale effect, leading to new combinations;
- Technological, appearing as a set of structures using one same technology;
- Focus, when a cluster of organizations centers around a single center (for example, a university);
- Qualitative, under which there is no question of how the organization - cooperation.

To positive conditions this development of clusters, including educational ones, includes:

- the existence of appropriate technological and scientific infrastructures ;
- psychological readiness of participants for cooperation;
- availability of a sustainable regional cluster development strategy;
- possibility of successful use project management method;
- sustainable development information technologies that ensure the exchange of information between the cluster members.

The factors constraining the development of clusters include the low level of development of associative structures that fail to cope with the task of developing and promoting regional development priorities, a short-term planning horizon because real benefits from cluster development only appears after several years. It is well known that the greatest scientific and theoretical potential and highly qualified personnel today are concentrated in the basic universities. It is these educational organizations that have the



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opportunity to carry out diagnostics of educational needs in the region, to build multifunctional links with various educational organizations and educational authorities. In the modern educational cluster, it is the university that occupies a central place, uniting around itself the educational situation and the organization of the education system. This allows you to influence the pace of development of the university science itself on the basis of its synthesis with teaching practice, joint development of basic research organizations on the theory and practice of teaching education and the implementation of the results of scientific activity in the educational process with teaching teams.

### **Conclusion/Recommendations**

The educational cluster provides the possibility of continuous "immersion" of students in the scope of their future professional activity, allows you to study, synthesize and accumulate innovative experience, quickly test the achievements of pedagogical science, update and generalize the organization and content of professional pedagogical training, including by attracting experienced teachers in high school.

The following strategies for the development of an educational cluster in the framework of continuing professional education can be distinguished:

- *economic*, ensuring the creation of effective education services, timely satisfaction demand for training pedagogical short frames;
- *social*, related to provide employment guarantees for the issuance of screenshots of professional teacher education organizations through contracts with employers;
- *marketing*, generalizing and disseminating innovative products new technologies are possible the organization of educational work in specialized and pre-profile classes of secondary schools;
- *legal*, securing partner regulatory framework relations in a cluster, including in the conditions of changing the type of educational organizations (transition to autonomy);
- *pedagogical*, aimed at joint design educator activities in a continuous environment training teachers in the "school" system - "university", providing the content and technological side of the relationship between all participants of educational cluster.

The organization of cooperation between partners in this case involves providing multi-level vocational education, improving the material and technical base of the school, college and university, promoting the selection and structuring of the content of teacher education, taking into account the interests of all subjects of the educational cluster, stimulating the professional growth of the teaching staff of educational organizations; guarantying graduates of vocational education institutions employment in their chosen specialty with a clear career prospects, contributing to the formation and improvement of their professional competence.

The organization of the educational cluster also provides a solution to the most important task of modern teacher professional training - the transition from mass-reproductive production of specialists to their individual and creative preparation, to the formation of a creative competitive personality of the teacher. In the cluster, it becomes possible to solve the problem of the variability of vocational training, the discovery of new promising specialties, the introduction of new disciplines, modern learning technologies. Thus, the educational cluster as a backbone component and the most important condition for the functioning of the regional model of continuous teacher training is a holistic education, including organizational, managerial, technological, informative levels, allowing to provide a targeted process of development of continuous pedagogical education.

The developed organizational and pedagogical conditions for building a model of educational cluster as a form of social partnership can be used by the heads of both state

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and non-state institutions of secondary vocational education in order to optimize the quality of training of the future specialist that meets the modern requirements of employers. The mechanisms of activity of the educational cluster developed in the study can be used in the preparation of: a package of local normative documentation between secondary and higher professional education institutions and enterprises; manuals and recommendations for the heads of vocational education institutions on the organization of social partnership on the basis of the cluster approach.

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