# THE ROLE OF CLUSTER TECHNOLOGIES IN PROVIDING MEMBERSHIP IN THE SYSTEM OF PROFESSIONAL AND HIGHER EDUCATION

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#### ABSTRACT

The new reforms being implemented in the Republic of Uzbekistan have created favorable conditions for the formation of a system of continuing education that meets international standards, based on the choice of a specific path of social and economic development in society, the adoption of the Law on Education. The Law on Education serves to ensure the continuity and continuity of all types of education. In particular, state educational standards and curricula for general subjects taught in vocational and higher education institutions are created on the basis of this law and are gradually introduced into the educational process. However, in the process of professional and higher education there is insufficient continuity of the content of professional and higher education, the presence of repetitions and interruptions, inconsistencies in the purpose, methods, forms and means of education in the formation of professional knowledge, skills and competencies. These shortcomings include the need to modernize the process of continuous and integrated training of future professionals in the process of professional and higher education, standards and programs of general vocational education in the field of mechanical engineering, lack of consistency in the activities of teachers and public organizations and teachers, insufficient pedagogical and professional competence., as a result of the lack of scientific and methodological bases for diagnosing the quality of education on the basis of its continuity and continuity, the lack of a unified system of assessment of mastery in the process of professional and higher education.

Keywords: Professional education, higher education, continuity, technologies cluster.

#### INTRODUCTION

One of the most important problems is to ensure continuity and continuity in the system of "professional and higher education", which is an important component of the law on education introduced in the country. After all, these education systems are new types of continuing education for the country, and so far the problems of ensuring their content and organizational and methodological coherence have not been studied as a separate research topic.

We believe that the following tasks should be solved in order to solve the problems in this area: 1. Based on the study of the theoretical and practical state of the problem, substantiate that the problem of training specialists in the system of professional and higher education is a topical pedagogical problem of ensuring continuity and continuity.

2. Determining the role and mutual weight of personal and professional qualities of future professionals in ensuring continuity of education.

3. Development of cluster technologies to ensure the continuity and continuity of the system of professional and higher education.

In education, membership is used in two senses. First, the continuity between types of education. In this case, the content of the next type of education should not only continue the previous one, but also continue it in the next type of education, with partial repetition and

inextricably linked in terms of content. Second, the continuity between academic disciplines. This is usually an interdisciplinary or interdisciplinary connection.

Continuity is understood to mean that there is no gap in the content of education between general secondary education and vocational education or between vocational education and higher education, i.e. the content of the next type of education is to continue the previous one continuously.

Continuity in teaching is a didactic principle, which requires that curricula, programs, textbooks, which represent the content of education, are logically related to each other, prepare for the next based on previously acquired knowledge, develop a certain level of knowledge, skills and competencies at each stage of education. does.

Nowadays, in order to fully solve the problem of continuity and continuity, it is important to pay attention not only to the types of education and interdisciplinary, interdisciplinary continuity and continuity, but also to ensure continuity and continuity in teaching technology in describing educational content. At the same time, the need for cluster technologies is evident in the development and implementation of goals and objectives in the process of continuing education. In such activities, of course, it is necessary to form the professional knowledge, skills and abilities of future professionals only through the use of various innovative technologies.

## LITERATURE REVIEW

In Russia, more precisely in Tatarstan, a program and concept for the reform of vocational education based on cluster technology has been developed.

Clusters as a means of ensuring the competitiveness of economic development of regions, the idea has been developing in recent years in all countries of the world, including: Eastern Europe, South America, Africa, EU countries, USA and Russia.

The theoretical foundations of cluster technology were developed by A. Marshall in the late 19th century, and the concept of cluster was introduced to science in the early 1980s by Michael Porter, a leading Harvard business school professor. According to Porter, the cluster is an organizational form of combining stakeholder efforts to gain a competitive advantage in the recovery period of the post-industrial economy. The practitioner developed the theoretical foundations of cluster technology, as well as a methodology for monitoring the competitiveness of systems.

The development of cluster technologies as a promising form of organization of productive forces has been studied by foreign and domestic researchers. M.Porter, L.Yang, V.Price, D.Jacobe, L.De.Man, S.Rozenfeld, M.Voynarenko, M.Gaushkina, L.Voronov, A.Buryak with the method of cluster formation; L.Abalkin, A.Aganbenyan, S.Anfinogenov, S.Glazev, G.Bandurin, V.Kapelyushnikov, A.Polidi, E.Yasin to study the problems of clustering of the Russian economy and improving its institutional structure; and S.A.Rosenfeld, D.W.Maquire, T.Andersson, M.J.Enright, E.Feser made significant contributions. To date, the theoretical aspects of cluster technologies have been covered in more detail. There is a lot of information and articles on this topic in research and literature, unfortunately, most of them are descriptive in nature and are characterized by a lack of experience in implementing cluster projects.

## METHODOLOGY

Research for the implementation of the process of economic and statistical analysis, monograph abstract thinking, observation methods used.

#### RESULTS

One of the important tasks of specialists in this field, ie pedagogical engineers, is to improve the skills (competence) of future specialists studying in experimental fields (in the field of mechanical engineering education) in the process of educational technology. This, in turn, eliminates the problem of involving professors and specialists in research activities and personal growth in the process of professional development (in the process of acquiring professional knowledge, skills and competencies).

Such an approach can also be used to develop existing education, increase its effectiveness, and further enhance the competitiveness in the quality of education. It is advisable to use cluster technology in the proper organization of the process.

In our country, cluster technology is considered by many to be ephemeral, a technology used only abroad, but the possibility of educational institutions (professional and higher education institutions) to participate in innovative projects using cluster technology and use it in the education system is almost not covered.

First, let's give a general description of cluster technology. In studying these problems, we rely on data from various sources and adapted to education:

Cluster - the English word "cluster" - means head, collection, assembly. Cluster is one of the technologies that allows to present (imagine) a large amount of information in a structured and structured form, to determine the main content of the topic.

Cluster-link (link of education, economics, sociology, natural sciences, etc.).

Cluster - a combination of future professionals at all stages (continuing education system) of subjects in scientific, experimental and practical processes.

The purpose of cluster technology is to ensure the solution of scientific and practical problems of education by simultaneously combining interrelated areas in improving the quality of education.

Cluster features:

- the existence of an institute that defines the innovative strategy of the entire education system;

- Territorial localization of the main mass of subjects of professional activity;

- stability of integrative communication of cluster system participants;

- Unified program, innovation processes, management systems, quality control, etc. of system subjects. long-term coordination of interactions within;

-mandatory participation of administrative structures in the cluster;

- Orientation of cluster technologies for use by other education systems.

Advantages of the cluster:

- Cluster technology allows to identify problems in education and strengths of the relevant direction. The information obtained is analyzed and serves as an extremely important basis for the subsequent correct selection of tools for the development of education by education structures. Importantly, information about the state of affairs in the context of cluster technology is increasingly objective due to the reflection of activity and the results of each of its clusters;

- The participation of administrative structures in the work of the coordinating bodies of cluster technologies allows educational institutions to make organizational and economic decisions;

- With the help of cluster technologies, governments can use research experience and results more effectively to develop education in the region, ie cluster technologies provide

governments with clear elements for effective interaction within education systems, deeper understanding of the problem, science-based planning of education development in the country.

## DISCUSSION

The following steps should be taken when implementing cluster technology:

Table 1	
Organizing the structure of cluster technology	
Identify the problem in the learning process	Justify the urgency of the problem
Identify the structural units of cluster technology	
Identify a specific problem for each of the	Defining and analyzing problem-solving
participants in cluster technology	tasks by each entity
The results of the study are the choice of methods and forms of determining indicators for	
assessing the quality and effectiveness of education	

So, we can see how important this technology is in the process of teaching and educating the educational system on the basis of didactic principles, planned, organized, implemented by the future specialist himself and have some results. The integration of cluster technology implementation leads to the training of competitive personnel based on the overall set of educational processes in a secure and integrated education system.



Table 2

## CONCLUSIONS

Cluster technologies in the system of professional and higher education - the most important way to increase the competitiveness of future professionals, because:

- development of a specific problem in cluster technologies is distributed among cluster participants;

- relies on the development of the potential of each participant in the program of professional and higher education through the integration of the efforts of all on the basis of mutual cooperation;

- The high competitiveness of education can be ensured not by individual (even if it has achieved a high level of education) professional and higher education institutions, but by entities involved in education that are interconnected by solving a particular aspect of the problem.

Cluster technologies used in the teaching of general and professional sciences are one of the most effective ways to form the information-communicative and professional competence of future professionals.

In conclusion, the innovative nature of cluster technology in the system of professional and higher education is primarily a process of mutual and self-development based on the implementation of sustainable cooperation, ie the formation of professional knowledge, skills and competencies of future professionals. In this process, for the successful practical use of cluster technologies in the professional and higher education system, it will be necessary to develop its methodology and create clear cluster technologies. As a result, we can see that cluster technologies differ from other technologies in that they develop human thinking at a high level.

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