



THE EFFECTIVENESS OF TEACHING TECHNICAL SUBJECTS USING VIRTUAL TECHNOLOGIES.

Yuldasheva Dilorom Xusniddin qizi
Suvonqulova Mohinur Odiljon qizi
Gulistan State University.

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Abstract: In the world, education, as a sector that enters into economic relations through human capital, requires improving the organization of the educational process. The article discusses the effectiveness of teaching technical subjects using virtual technologies.

Keywords: PISA, TIMSS, PIRLS, Action Strategy, virtual, capital, educational clusters.

INTRODUCTION.

In the context of the widespread introduction of international assessment programs (PISA – Programme for International Student Assessment, TIMSS – Trends in International mathematics and science study, PIRLS – Progress in International Reading Literacy Study) into the education system, increasing the competitiveness of educational institutions through the cluster model is considered a new innovative approach in the education system of countries around the world. Increasing the competitiveness of entities providing educational services through the unification of their activities around a specific common goal determines the content of the educational cluster, and its study as a scientific and pedagogical problem is of urgent importance.

In our country, great attention is paid to educating a well-rounded younger generation, consistent work is being carried out to create the necessary conditions for young people to receive modern education, and large-scale measures are being implemented to create a higher education system that meets the priority areas of socio-economic development and the requirements of international standards. “We have set a goal to transform Uzbekistan into a developed country, and we can achieve this only through accelerated reforms, education, and innovation.”[1]

This aspect has gained particular importance in the priority areas set out in the “Action Strategy” for the development of the Republic of Uzbekistan in five priority areas for 2017-2021, adopted at the initiative of our President Shavkat Mirziyoyev, aimed at increasing the competitiveness of the country’s economy.

MAIN PARTS AND RESULTS.

As a result of scientific research in the field, cotton fiber is fully compliant with international standards in terms of color, length, ripeness, and micronaire, which is one of the most important aspects that ensure its demand in the world fiber market. However, as our President noted, what if we processed this fiber ourselves and exported it to the world market in the form of a finished product? It is natural that the income would increase several times. In addition, there are hundreds of other products obtained from the cotton plant, all of which increase the economic efficiency several times.

The scale of achievements in the primary cotton processing industry is expanding as a result of the modernization carried out in the industry in recent years.

In this regard, in the educational process, many leading scientific centers and scientists of the world are conducting scientific research on the creation of models of the educational cluster, the development of its scientific and theoretical foundations and mechanisms for its practical application.

Although the problem of the cluster approach to education is of a general nature, its implementation in practice requires an individual approach in accordance with the specifics of each discipline and cluster area. Because the implementation of educational clusters in accordance with a specific discipline and a specific geographical area ensures its effectiveness.

Indeed, the educational policy in force in each country requires the development of scientific, theoretical, methodological foundations and models of educational clusters that correspond to it, based on existing modern and innovative requirements.

The Decree of the President of the Republic of Uzbekistan No. PF-5285 of December 14, 2017 "On measures for the accelerated development of the textile and garment and knitwear industry" sets out important tasks such as "implementation of a cluster model of development, which involves the integration of production from the cultivation of cotton raw materials, to its primary processing, further processing of products at cotton ginning enterprises and the stage of production of finished textile products with high added value." [3]

As is known, the implementation of the clustering strategy of industrial sectors is a complex process, and the results of clustering are achieved through the mutual integration of enterprises operating within it and the common use of the introduced innovative services, which lead to the development of the commodity market, expansion of export potential, and the development of innovative activities.

Based on the Resolution of the Cabinet of Ministers No. 397 of June 22, 2020, measures have been developed to further develop cotton-textile production. As a result of the consistent reforms carried out in recent years to modernize and diversify agricultural production and develop the product processing industry, a new system of activity in the agricultural sector has been introduced - the cluster method.

In a short period of time, operating in the cluster method has shown its positive aspects, and significant work has been done to introduce resource-saving techniques and technologies into agricultural production, bring industry to rural areas and create new jobs, produce finished products with high added value, and develop infrastructure. However, effective mechanisms have not been created in separate scientific research on coordinating the activities of cotton-textile clusters, eliminating systemic problems arising in their activities, and other aspects.

In order to prepare and produce quality products, specialists in modern technical fields must have a deep understanding of the essence of the following tasks performed in cotton farms and the cotton ginning industry and have practical professional experience:

- cotton seed grown on farms is harvested from the fields and delivered to cotton processing points.
- where, after receiving the cotton seed, it is prepared and stored and sent to the primary processing process.

The technology of primary cotton processing includes the following main processes:

- drying of cotton with seeds;
- cleaning cotton with seeds from small and large impurities;
- ginning of cotton - separating fiber from seeds;

- linting of seeds - separating fluff from seeds;
- cleaning and pressing of fiber, fluff and fibrous waste, shaping into bales;
- preparation of seed seeds.

- To carry out these processes, cotton ginning enterprises and cotton preparation points are equipped with the necessary technological machinery and equipment, a hydropress, transport, mechanization devices, sawmill repair and energy departments.

In such modern enterprises, it is of great importance to organize professional training in higher education technologies and teaching technical sciences in higher educational institutions based on cotton-textile clusters.

In this process, the achievements of foreign and Uzbek scientists who have conducted scientific research in this area in certain areas of science and the experience of advanced enterprises, as well as their techniques and technologies, were used.

In this process, there are improved requirements for the process of professional training in teaching technical sciences.

The implementation of the unified education policy implemented in our country in the regions shows the need for the effective development of innovative components of the higher education system and ensuring competitiveness in the educational services market. In particular, today, the creation of such a new mechanism in the pedagogical education system has become a vital necessity, which will ensure the modern and effective organization of education in higher educational institutions, competition, integration, coherence and continuity, and the satisfaction of interests. Based on this important social importance of continuing education in the sustainable development of society, modern requirements, problems in the system, and the fragmentation between science and education in solving them today determine the need to transfer continuing pedagogical education to a cluster development model.

A cluster is a form of integration of related enterprises, which allows to increase the competitiveness of the regional economy. In terms of organizational form, a cluster can be said to be a vertically integrated structure. "Cotton-textile cluster" is a grandiose project, one of the conditions for economic development. Getting to know it better and understanding its essence more deeply is important not only for industry workers, specialists, economists, but also for the general public. Development requires innovation.

The role of the state in the formation of clusters plays an important role. In developed countries, certain experience has been accumulated in using clusters in the formation and management of an innovative economy.

The issue of forming clusters in the textile and light industry system of Uzbekistan is being implemented not on a national scale, but on the basis of specific economic and social conditions in regions and provinces, based on the essence of cluster theory.

The cotton-textile cluster encompasses not only light industry, but also dozens of other sectors, such as agriculture, food industry, pharmaceuticals, and construction products.

The need to find effective methods for producing cotton raw materials is also explained by the fact that in the conditions of Uzbekistan, the potential of land productivity is not fully utilized.

The main consumer of cotton raw materials in Uzbekistan is the textile industry, which occupies an important place in the industrial complex of the republic. Undoubtedly, the development of textiles is also directly dependent on the state of the cotton sector.

It is known from world experience that a vertically integrated system in the textile industry can be effective and competitive, which includes processes ranging from the cultivation and primary processing of cotton raw materials to their further processing at cotton factories and transformation into finished products (i.e. yarn, knitwear, fabrics, and clothing).

It is impossible to imagine creating competitive products with high added value without introducing new, modern approaches to the economy.

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