METHODOLOGY OF DEVELOPING STUDENTS' PRACTICAL KNOWLEDGE ON THE BASIS OF CLUSTER APPROACH IN THE PROCESS OF TEACHING BUILDING MATERIALS AND PRODUCTS

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Abstract: *In the education system, clusters play a central role, uniting the educational situation and educational institutions around them. The methodology of developing students' practical knowledge on the basis of a cluster approach in the process of teaching building materials and products is to strengthen the science and synthesize it with practice.*

The article: *deals with the application of methods of developing students' practical knowledge on the basis of a cluster approach to the educational process in the process of teaching building materials and products.*

Keywords: *education cluster, science, higher education institution, production, vocational education, technical, industrial, information, innovative project.*

The reforms promoted by the President of the Republic of Uzbekistan will further enhance the prestige and status of teachers in the New Uzbekistan society. It strengthens their love and devotion to their profession and creates conditions for them to engage in professional activities at the educational institution where they work. The main goal of the reforms in the field of education is to train spiritually rich and well-rounded, modern-minded, independent-minded personnel [1].

As stated in the Decree of the President of the Republic of Uzbekistan on the Action Strategy for the further development of the Republic of Uzbekistan, "Our main goal should be to further improve the system of continuing education, increase access to quality education services, continue the policy of training highly qualified personnel[63].

Analysis of the problem of didactic design in the system of personal and social experience of a harmoniously developed person in continuing education allows to anticipate and distinguish the following difficulties:

- In the field of pedagogy, the concept of a harmoniously developed person has not yet been thoroughly analyzed, and its content and scope have not been determined;

- The importance of social experience in the development of a harmoniously developed personality, their interrelationship is not studied pedagogically.

[63] Decree of the President of the Republic of Uzbekistan "On the Strategy of further development of the Republic of Uzbekistan". // Towards rapid development and renewal based on action strategy. - T .: Ghafur Ghulam Publishing House, 2017.

In order to develop students' practical knowledge on the basis of a cluster approach in the process of teaching building materials and products, it is necessary to first define the concept of educational cluster.

The concept of "education cluster" is associated with the chain "science-higher education institution-production" and is associated with ensuring the quality of higher education and the creation of innovative projects and structures of technical, industrial, information. In this sense, "an education cluster is a set of vocational education institutions integrated by industry and interconnected in cooperation with industrial enterprises"[64].

Education cluster is sometimes understood as “a system of learning, peer learning and independent learning tools in a science-technology-business innovation chain based on horizontal connections within a chain”. Creating clusters in the process of training building materials and products "is associated with the need to integrate modern systems for business projects, fundamental developments and new technologies, methodologies, design of intellectual products and preparation for production of these products within a single (territorial, functional) zone" [2].

A cluster is an open education system in which a high degree of organizational integration of the activities of the subjects of the pedagogical process is ensured as a result of the vertical integration of the stages of continuous education and the horizontal coordination of structures.

The education cluster allows students to continuously "integrate" into the field of future professional activity, to study, summarize and accumulate best practices, to quickly test scientific achievements, to organize professional training and to update and summarize the content. Under its conditions, promising specialties will be opened, new disciplines and modern educational technologies will be introduced, and the choice of higher education systems will be created. The advantages of an education cluster are its quality, continuity, continuity, coherence, and competitiveness [4].

In the process of training building materials and products, the sustainable development of clusters implies taking into account what key points of growth exist in the country and how different stakeholders can contribute to their development.

The higher education institution occupies a central position in the cluster, which unites the educational situation and educational institutions around it. This leads to the strengthening of science and its synthesis with practice. Pedagogical teams of higher education institutions and secondary special vocational education institutions are conducting topical research on the theory and practice of educational activities and the application of the results in the educational process.

The organization of interaction of social partners within the education cluster allows:

[64] М.Михайлова, А.Салаева. Кластерный подход в управлении образованием и культурой: положительный опыт российских регионов/Материалы научно-практической конференции 19 декабря 2014 года. Ч. С 74-80.

• organization of continuous and multi-level vocational education;

• improving the material and technical base of colleges;

• selection and development of the content of pedagogical education, taking into account the interests of all subjects of the education cluster;

• stimulation of professional development of pedagogical staff of educational institutions;

• ensuring employment, formation and improvement of professional competence of graduates of secondary special vocational education institutions with a clear professional growth prospects in their chosen specialty.

For one reason or another, the aggregation of clusters forms a certain system of dissemination of new knowledge, production and educational technologies, rather than the concentration of various scientific, technological and educational innovations.

The development of the "green economy" in our country plays a leading role in ensuring sustainable economic development, rational use of limited, non-renewable economic resources and increasing energy efficiency. The strategy of the Republic of Uzbekistan for the transition to a "green economy" in 2019-2030 provides for the long-term priority of our country's entry into the developed world in the context of limited, non-renewable economic resources to increase energy efficiency and rational use of natural resources [4].

To achieve this strategic goal, it is necessary to modernize the technologies used in the training of building materials and products, improve financial mechanisms, achieve gross domestic product, develop practical knowledge on the basis of a cluster approach.

LIST OF REFERENCES:

1. Mavlonov R. A., Numanova S. E. Effectiveness of seismic base isolation in reinforced concrete multi-storey buildings //Journal of Tashkent Institute of Railway Engineers. – 2020. – T. 16. – №. 4. – C. 100-105.

2. Mavlonov R. A., Numanova S. E., Umarov I. I. Seismic insulation of the foundation // EPRA International Journal of Multidisciplinary Research (IJMR) -Peer Reviewed Journal. Volume: 6 | Issue: 10 | October 2020 || Journal DOI: 10.36713/epra2013 || SJIF Impact Factor: 7.032||ISI Value: 1.188

3. Mavlonov R. A. et al. Development and application of ultrahigh performance concrete //Инновационная наука. – 2016. – №. 5-2. – С. 130-132.

4. Mavlonov R. A., Vakkasov K. S. Influence of wind loading //Символ науки. – 2015. – №. 6. – С. 36-38.

5. Razzakov S. J., Akhmedov P. S., Chulponov O. G., & Mavlonov R. A. (2017). Stretching curved wooden frame-type elements “Sinch”. European science review, (1-2), 223-225.

6. Mavlonov R. A., Ergasheva N. E. Strengthening reinforced concrete members //Символ науки. – 2015. – №. 3.

7. Ризаев Б. Ш., Мавлонов Р. А., Нуманова С. Э. Деформации усадки и ползучести бетона в условиях сухого жаркого климата //Символ науки. – 2016. – №. 5-2.

8. Мавлонов Р. А., Ортиков И. А. Cold weather masonry construction //Материалы сборника международной НПК «Перспективы развития науки. – 2014. – С. 49-51.

9. Ризаев Б. Ш., Мавлонов Р. А. Деформативные характеристики тяжелого бетона в условиях сухого жаркого климата //Вестник Науки и Творчества. – 2017. – №. 3. – С. 114-118.

10. Холбоев З. Х., Мавлонов Р. А. Исследование напряженно-деформированного состояния Резаксайской плотины с учетом физически нелинейных свойств грунтов //Science Time. – 2017. – №. 3 (39). – С. 464-468.

11. Мавлонов Р. А., Ортиков И. А. Sound-insulating materials //Актуальные проблемы научной мысли. – 2014. – С. 31-33.

12. Ризаев Б. Ш., Мавлонов Р. А., Мартазаев А. Ш. Физико-механические свойства бетона в условиях сухого жаркого климата //Инновационная наука. – 2015. – №. 7-1.

13. Абдурахмонов С. Э., Мартазаев А. Ш., Мавлонов Р. А. Трещинастойкость железобетонных элементов при одностороннем воздействии воды и температуры //Символ науки. – 2016. – №. 1-2.

14. Mavlonov R. A. Qurilish konstruksiyasi fanini fanlararo integratsion o'qitish asosida talabalarni kasbiy kompetentligini rivojlantirish metodikasi //Oriental renaissance: Innovative, educational, natural and social sciences. – 2021. – Т. 1. – №. 9. – С. 600-604.

15. Abdujabborovich M. R. Qurilish konstruksiyasi fanini fanlararo integratsion o'qitish asosida talabalarni kasbiy kompetentligini rivojlantirish metodikasi //Eurasian Journal of Academic Research. – 2021. – Т. 1. – №. 9. – С. 73-75.

16. Numanova S. E. Energy-efficient modern constructions of external walls //Экономика и социум. – 2021. – №. 1-1. – С. 193-195.

17. Хамидов А. И., Нуманова С. Э., Жураев Д. П. У. Прочность бетона на основе безобжиговых щёлочных вяжущих, твердеющего в условиях сухого и жаркого климата //Символ науки. – 2016. – №. 1-2.

18. No‘Manova S. E. Ta’lim jarayonida talabalarning amaliy bilimlarini rivojlantirish metodikasi //Oriental renaissance: Innovative, educational, natural and social sciences. – 2021. – Т. 1. – №. 9. – С. 585-589.

19. No‘Manova S. E. Qurilish materiallari, buyumlari va konstruksiyalarini ishlab chiqarish //Oriental renaissance: Innovative, educational, natural and social sciences. – 2021. – Т. 1. – №. 9. – С. 605-608.