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PEDAGOGICAL INNOVATION EDUCATION CLUSTER IN THE DEVELOPMENT OF NATURAL SCIENCE LITERACY: THE CHIRCHIK EXPERIENCE IS IN PRACTICE.

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ANNOTATION: The article is being implemented by Chirchik State Pedagogical Institute as a new innovative approach that ensures continuity, consistency and consistency between the types of education in the field of Education. On the example of Chirchik experience, the cooperation between secondary schools, academic lyceums and Higher Education on the basis of the school laboratory and innovation pedagogical education cluster is presented as a practical basis for increasing the effectiveness of Education.

KEYWORDS:, Chirchik experience, natural science literacy, education system, school laboratory, harmony, innovation project, greenhouse, experiment area, " saw-heard-done"

INTRODUCTION

The UNESCO International Organization has identified the promotion of quality and fair education for all, as well as education throughout its life, as important tasks in the field of sustainable development of education in the period up to 2030 years. According to the decision of the United Nations Organization on education, in accordance with the decree of the president of the Republic of Uzbekistan "on measures for the further development of the pedagogical education sector", ensuring the implementation of the resolution № PP-4623 of February 27, 2020, as well as training of competitive personnel for the pedagogical education sector, improving the quality of, Wide application of Chirchik experience was

aimed by our compatriot. In this regard, the decision of the Cabinet of Ministers of the Republic of Uzbekistan "on measures for further improvement of the activities of the Chirchik State Pedagogical Institute of Tashkent region" № 213 dated 14.04.2021 was determined as an instruction to all universities to implement innovations and innovations in the sphere of education in the cluster system.

Since the creation of mankind, the study of nature, its reformation, has evolved as a very important value. After all, the concepts of nature - naturalness form the basis of the whole universe, existence and the future of society. Over the course of many millennia of human development, the formation of a natural scientific worldview has become a clear evidence that there is no effective means of Education, Science and art in the development of society.

As a result, problems arise that prevent radical changes in nature and humanity from global, regional and even local environmental hazards that undermine the sustainability of the biosphere. Therefore, the environmental, economic, political and cultural assessment of the way of life of countries and the world's population is marked by analytical results obtained with the help of leading institutes of statistical analysis.¹

LITERATURE REVIEW

The development of chemical and Biological Sciences in our country, increasing the quality of education and the effectiveness of Science in these areas were identified among the priority tasks of the state program of Science, Education and digital economy. Zero education, the dissemination of knowledge is a divine profession, an important factor that determines the future of the nation and the state, serves its development. In accordance with the practical implementation of the Presidential Decree" on measures to improve the quality of continuous education and the effectiveness of Science in the areas of chemistry and biology", 14 base specialized schools of chemical and Biological Sciences, specialized 150

¹ Умаров А., Мирзаева Н. ЗНАЧЕНИЕ И АКТУАЛЬНОСТЬ ЭКОЛОГИЧЕСКОГО И ЭКОНОМИЧЕСКОГО СОЗНАНИЯ СТУДЕНТОВ // Международный журнал бизнеса, менеджмента и бухгалтерского учета. - 2021. - Т. 1. - №. 1. <http://ejournals.id/index.php/IJBMA/article/view/63>

schools for deepening and deepening education began to be established gradually in each territory of the Republic.

In particular, on July 27, 2017, the Chirchik State Pedagogical Institute of the Tashkent region, which is one of the Centers of young higher education, initiated by the innovation cluster of pedagogical education, with all types of education in the system of continuing education, scientific research institutes and centers, practice bases, scientific and scientific-methodical structures, launched practical activities.

"After all, the in-depth training of our sons and daughters in chemical and Biological Sciences gives impetus to the rapid development of Pharmaceutical, Oil, Gas, Chemical, Mining, Food Industries, which create high added value, to restore new production enterprises in the regions, and ultimately provides a thorough basis for increasing the living conditions and incomes of our people," said The compatriot.

DISCUSSION

The project "**Chirchik experience in education**" was launched on the issue of providing highly qualified pedagogical personnel of educational institutions in remote districts and rural areas, training of pedagogical personnel with higher education corresponding to the level of international standards, professional skills of teachers in the Department of Sciences and increasing the level of knowledge of students on quality indicators. Innovation cluster of pedagogical education "heard-saw – it is based on the principle of" I have completed my education "and is defined as the main goal of the principle of cooperation of the higher educational institution with secondary schools and academic lyceums specialized in natural sciences, providing methodological assistance, improving the quality of education, continuous professional development of teachers, organization of"electronic platform of continuous professional education" and increasing the coverage

The innovation cluster of pedagogical education (ptik) is an entity that provides for the integration of individual subjects, technologies and labor forces with equal rights in mutually beneficial interoperability with each other in order to

meet the reserve of a particular socio – geographic area for competitive pedagogical personnel[9]. The cluster of pedagogical education affects the structure of the regional education system, uniting all types of educational institutions, regardless of their subordination, around a single goal many years of normative documents on the development of pedagogical education on the scale of the region (program, road map, concept, etc.) to be accepted. Today, the model of the innovation cluster of pedagogical education is based on the fact that the educational system of our country is being developed due to the needs of haute force, such as the development of successful experiments in foreign countries and the creation of an innovative environment in the field.

In order to carry out effective work on the continuity and continuity of education in education, the Educational, Scientific and educational project called "Parkent experience" between the Chirchik State Pedagogical Institute of Tashkent region and the secondary schools under the people's Education Department of Parkent District of Tashkent region began its activity. Starting from the 2019-2020 academic year in the 11th secondary school under the Ministry of internal affairs of Chirchik city, the "innovation cluster of pedagogical education" project "initiative students" on teaching Biological Sciences is being implemented in order to define the institute as the main strategic research direction and introduce it into practice, as well as educational and methodological assistance to school teachers,

Within the framework of the innovation cluster of pedagogical education, issues such as the single goal of the scientific, theoretical, practical, methodological potential of educational types, the rational use of them in eliminating existing problems or increasing the effectiveness of the work of educational institutions in a certain direction were united under the concept of "school-laboratory" innovation experimental platform.

In addition, the "school-laboratory" innovation experimental fields provide for the experimental testing of scientific and pedagogical projects related to the development of scientific, methodological and educational means among the types of education in the process of continuous education, the implementation of the

innovation cluster of pedagogical education. In the experimental-test work, teachers were recommended to abandon the elements of mechanical coherence and authoritarian pedagogy to pedagogy, to look at the lesson more creatively, to use techniques aimed at stimulating the free expression of students' opinions, to analyze the data available in the literature.

RESULTS

During the last 2019-2020 academic year, the study examined the quality indicators of knowledge of this secondary school with 7th grade students on the basis of the use of innovative pedagogical technologies in zoological science. In connection with the onset of the pandemic, at the end of the school year, classes in the experimental class were held in the form of distance learning. At the invitation of parents and students of the experimental class from the beginning of the 2020-2021 academic year, a telegram group "school laboratory" was created for students of this class on distance learning.

In this group, all topics on the subject of "Man and his health" were conducted online, based on innovative approaches, slides on topics, multimedia educational resources, the use of audio and video lessons. "School laboratory" the requirements for the formation of natural-scientific literacy in students on the grounds of innovative experimental fields, the content of Education arising from it, the organization of educational and cognitive activities of students on the basis of a kompetential approach, the combination of teaching methods, tools, forms and the use of innovative technologies in its implementation, rating control tools that allow

As a result of the statistical analysis of pedagogical experience-testing works organized in the Innovation Experimental areas of the "school-laboratory", it was found that the effectiveness of students' interest in Biological Sciences, increasing their theoretical knowledge, striving for the study of modern science and technology, motivating them to creativity, forming the qualification of applying their theoretical knowledge in practice increased by

In order to ensure the continuity of the activities of the higher education institution and the academic Lyceum, the chdpi academic Lyceum continues to

cooperate with the Faculty of Natural Sciences on the basis of the project "biology" and "Genetics and evolutionary biology" and the dean of the faculty. Under the leadership of Rakhimov there are working heads, experienced teachers, masters. In order to provide methodological assistance to the teachers of biology operating in the Lyceum, the teaching and working programs on this subject are studied, analyzed, comments and suggestions are made by the following professors and teachers.

At the same time, the theoretical knowledge gained in the subjects of "fundamentals of Genetics", "Evolution doctrine", passed on to students, heredity and variability, Mendel's law, methods of chatting, obtaining hybrids, they will be able to see the plants recorded as experimental plants listed in the textbooks through experiments carried out in the greenhouse in practical terms. The information given on the heredity of the genetic, morphological signs in them was of great interest to the readers, and today the morphological development of the plant varieties they themselves practically did not differ from those that were planted in the greenhouse: varieties of chickpea, varieties of porcine, hybrid plant triticale, which envelops the best properties of Willow and rye plants, medicinal come to follow. This is the basis for testing the laws of genetics and the science of selection, their theoretical knowledge in practice, the awakening of young research interests. At the same time, under the Department of "biology" students were involved in the course of activities on "entrepreneurship in the organization of the greenhouse economy", aimed at providing additional professions to young people. This, of course, will serve to prevent unemployment in the future by effectively transferring young people's free time, preparing them for life, obtaining income even from small areas with productive use, the formation of entrepreneurial skills.



Picture 3. Greenhouse of Chirchik State Pedagogical Institute-as a factor in the development of natural literacy.

Innovation cluster of pedagogical education along with ensuring the development of secondary schools, academic lyceums on the basis of continuous cooperation with higher education through effective functioning, the principle of "Heard - saw-fulfilled" in the logical development of natural-scientific thinking of students at the stage of Higher Education, the rise of creative and critical thinking will be the basis for achieving effective results. The principle of the project is based on vitagen technologies, which makes a significant contribution to the implementation of the theoretical knowledge possessed by students in practice and the development of human capital.

The greenhouse, which is located at the Faculty of Natural Sciences, served as the main practice site for the transmission of theoretical knowledge to students on the principle of "Heard-saw-fulfilled" as part of the innovation education cluster, developing the skills of independent, creative work of students. On the example of microbial science, materials on the topic "the role and importance of azotobacteria in the circulation of nitrogen in nature" are placed on the platform of distance learning. The first acquaintance with science in correspondence and second higher education students passes through the educational platform. Students studying in daytime education will be aware of academic information through lecture sessions. This stage corresponds to the "Heard" corner of the project.

nitrogen-forming bacteria, students independently perform practical experiments without the supervision of a teacher. The results obtained are determined in the registry of the Recording control of the experiment. And the process of carrying out the experiment is illustrated by the students in the form of videolavha and placed on the distance learning platform. Laboratory training conducted in the educational process will serve the formation of both educational and information - communicative competences of the student.

The pedagogical-innovation project is organized in three stages, giving the opportunity to connect the theory with practice. If it is determined that at the 1st Stage students have mastered 40-50% of the knowledge that should be mastered, and at the 2nd stage students have mastered 60-70% of the knowledge, then at the last stage the indicator of the effectiveness of education is projected to reach 80-100%. The coefficient of knowledge gained by the students participating in the project is proved on the basis of statistical data.

CONCLUSION

"To make progress, it is essential and imperative that we possess digital knowledge and modern information technology. This gives us the opportunity to go through the shortest path of Ascension. Today, information technologies are entering all spheres of the world in depth" and the project of the program "digital Uzbekistan — 2030" is being prepared. This project performs the priority task of improving the quality of education in the Republic, modernization of education in experimental and innovative activities, creation of new educational technologies, information resources of modern education. The staff of the Chirchik State Pedagogical Institute is considered to be the main criterion for increasing the prestige of the higher educational institution and training of competitive personnel. After all, the deeper and branched the root of the tree, the stronger it is, the longer its life, the more abundant its harvest will be.

References

1. Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 213 of 14.04.2021 "On measures to further improve the activities of the Chirchik State Pedagogical Institute of Tashkent region"
2. Atanazar Karimovich Rakhimov, Dilnavoz Bakturdievna Saidova, Oygul Odil Qizi Rasulova Experimental site "School Laboratory" - the introduction of an innovative cluster project in pedagogical education // Academic research in educational sciences. 2021. №1. URL: <https://cyberleninka.ru/article/n/maktab-laboratoriya-tazhriba-maydonchasi-pedagogik-talimda-innovatsion-klaster-loyi-asini-zhoriy-etish> (data obrashcheniya: 26.04.2021).
3. Mirzaeva, Nodira (2019) "THEORY AND PRACTICE OF ECOLOGICAL COMPETENCE IN STUDENTS," Central Asian Journal of Education: Vol. 3, Article3.
4. Mirzaeva, Nodira, Ecological Competence - Foundation of "Sustainable Development" and Modern World, Eastern European Scientific Journal, 19-22 4.Uzbek Council, MVTV and Mkkning 2005yil 7-november242/33/79-Chernihiv 2add-on.
- 5.Mirzaeva.N AKSHIOLOGICAL SOLUTION OF NATURE AND HUMAN PROBLEMS, - Internauka, 2017
- 6.Abduxamidovna, M.N. (2020). ACTUALITY AND DEVELOPMENT OF PEDAGOGICAL FUNDAMENTALS ECOLOGICAL COMPETENCE IN STUDENTS. Electronic Journal of Biology and Ecology, 4 (2). Dilbar Abdikayumovna Shayzakova, The use of personal-human technology in the teaching of chemistry, ACADEMIC RESEARCH IN EDUCATIONAL SCIENCES VOLUME 2 | ISSUE 4 | 2021, ISSN: 2181-1385, Scientific Journal Impact Factor (SJIF) 2021: 5.723, Academic Research, Uzbekistan 603 www.ares.uz
7. <https://www.adolat.uz/uzbekiston/talimda-chirchiq-tazhribasi-lojijhasiga-start-berildi>. 03.12.2020.
8. Education 2030<https://ru.unesco.org/themes/vedushchaya-rol-yunesko-v-realizacii-globalnoy-povestki-dnya-obrazovanie-2030>.
9. Умаров А., Мирзаева Н. ЗНАЧЕНИЕ И АКТУАЛЬНОСТЬ ЭКОЛОГИЧЕСКОГО И ЭКОНОМИЧЕСКОГО СОЗНАНИЯ СТУДЕНТОВ // Международный журнал бизнеса, менеджмента и бухгалтерского учета. - 2021. - Т. 1. - №. 1. <http://ejournals.id/index.php/IJBMA/article/view/63>

10. Саодат Тоштемирова, ACADEMIC RESEARCH IN EDUCATIONAL SCIENCES VOLUME 1 | ISSUE 3 | 2020 ISSN: 2181-1385 Scientific Journal Impact Factor (SJIF) 2020: 4.804 Academic Research, Uzbekistan 445 www.ares.uz ТАЪЛИМДА ЧИРЧИҚ ТАЖРИБАСИ