ISSN NO: 2770-2367
Date of Publication: 27-12-2021

Innovative cluster approach to teaching computer science and information technology in the general secondary education system

Azimkulov Saykhun Niyozaliyevich
Chirchik State Pedagogical Institute, Chirchik, Uzbekistan
E-mail saykhun_94@mail.ru

Annotation. Work based on the cluster approach provides opportunities for the formation of a regional pedagogical (educational) cluster. Approaches to the formation of the concept of pedagogical (educational) cluster development, the main stages of its formation are described. Mechanisms of interaction of participants of cluster integration, pedagogical (educational) cluster development management system are presented.

Keywords: cluster integration of educational institutions, cluster approach, system of management of pedagogical (educational) cluster participants in the framework of cluster integration.

Introduction.

The comprehensive development of the nation and society in any period depends on the development and improvement of the content of education. Even when we look at the history of civilizations, it becomes clear that the development of science is at a turning point in history. The effectiveness of education is a guarantee of the future development of the country. That is why the focus on education should remain one of the most pressing issues of all time. The Resolution of the President of the Republic of Uzbekistan dated June 5, 2018 PQ-3775 "On additional measures to improve the quality of education in higher education institutions and ensure their active participation in the ongoing comprehensive reforms in the country" is a clear proof of our opinion. The resolution emphasizes that the ongoing reforms in the country to improve the quality of education in the country, a number of problems that hinder the active participation of these institutions in the renewal of social and economic spheres remain.

Literature analysis and methodology.

Hence, it is a requirement of the time to develop new innovative approaches by abandoning ineffective methods and techniques in teaching and learning. Today, a university student will be formed as a specialist in secondary schools tomorrow. Therefore, the integration between pedagogical universities and general secondary education in the field of interdisciplinary, demand-based education management, pedagogical competence is extremely important. The study also includes a scientific and monographic description of foreign sources on the concept of cluster, a comparison of the interdisciplinary relationship of cluster theory, as well as the importance of modern Uzbek pedagogy, including the teaching and learning of "Computer Science and Information Technology".

The scientific-theoretical bases of teaching the subject "Informatics and Information Technologies" in the general secondary education system on the basis of innovative cluster approach and methodological aspects of studying and applying the world experience of the innovative cluster approach to teaching the subject "Informatics and Information Technologies" in general secondary education.

ISSN NO: 2770-2367
Date of Publication: 27-12-2021

Results.

Most of the educational work in schools is carried out in the classroom, so the lesson is the main form of educational work. In the lessons, the teaching material is studied on the basis of the state program, in which the subjects that serve as an important factor in the development of the student as a person are developed according to the age characteristics of students. Improving the effectiveness of the course requires constant improvement of pedagogical skills and levels in achieving effectiveness, the integration of theoretical knowledge into practice, the active use of pedagogical technologies, the provision of students with the latest information technology.

Most of the educational work in schools is carried out in the classroom, so the lesson is the main form of educational work. In the lessons, the teaching material is studied on the basis of the state program, in which the subjects that serve as an important factor in the development of the student as a person are developed according to the age characteristics of students. Improving the effectiveness of the course requires constant improvement of pedagogical skills and levels in achieving effectiveness, the integration of theoretical knowledge into practice, the active use of pedagogical technologies, the provision of students with the latest information technology. In the age of growing globalization, our main task must be to educate the younger generation as the future builders of society. Socio-economic changes in the world community and the rapid development of information and communication technologies undoubtedly require changes in the existing education system. To do this, it is necessary to develop the national education system, to use the latest scientific achievements in education to increase the level of non-standard thinking of students. To this end, the development of new innovative approaches is one of the issues on the agenda. It draws attention to such a topical issue and suggests the introduction of an innovative pedagogical education cluster as an acceptable method. An important task of pedagogy is to train mature professionals based on these educational criteria. Therefore, the training of personnel requires the activation of the educational process on the basis of the education market, the development of new forms and methods of teaching. Within the framework of the studied topic, many foreign sources were acquainted with foreign experience, which were studied in a comparative and analytical aspect. General observations were made on the conditions for the introduction of the cluster model in the national education system.

Discussion.

The methodology of teaching the subject "Informatics and Information Technology" in general secondary schools has been improved by the introduction of modern pedagogical technologies, interactive methods, the introduction of information technology, an innovative cluster methodology. The system also conducts research on cluster methods in the field of science, cluster analysis, online information exchange for information sources and system staff of the cluster object and subjects of education in the science, providing methodological assistance. Technology and curriculum, textbooks are studied comparatively. An electronic platform with intellectual resources in the field of science has been developed as a practical aid to teachers of secondary schools of Tashkent region. In addition, the establishment of school laboratories by the higher education institution in the teaching of science in certain selected secondary schools also demonstrates the practical importance of the work.

An innovative cluster methodology has been developed that activates the teacher, students, ways, methods and techniques that are convenient for himself and the learner, forms of teaching, methods and situations, modern pedagogical technologies, increasing the effectiveness of the teaching process. It should be noted that an important condition for improving the learning process is the informatization of education and the introduction of innovations in the learning process. Textbooks play an important role in the formation of students' theoretical and practical knowledge in the field of science. At all stages of the learning process in the science of information technology, students themselves must be actively active independently. In the course of information technology, first of all, the teacher must be a professional who can use computer

ISSN NO: 2770-2367
Date of Publication: 27-12-2021

technology well, easily introduce the possibilities of new technologies and be able to critically analyze their work. Therefore, it is important to work in the modern education system on the basis of an innovative pedagogical education cluster.

Conclusion.

Information on infrastructure organizations included in the education cluster, analysis and recommendations on measures to form the general secondary education infrastructure, innovative infrastructure, support of educational institutions in the region should reveal the essence of the work. Therefore, the pedagogical conditions for the use of innovative educational clusters in the teaching of the subject "Informatics and Information Technology" and statistical data are reflected in the experimental test sites of the research. Several criteria of the model of innovative education cluster in teaching the subject "Informatics and Information Technology" in the general secondary education system have been developed, which forms the scientific basis of this work. The effective aspects of the introduction of an innovative education cluster are illustrated by the example of secondary schools in Tashkent region.

Literature

1. Азимқулов, С.Н., Боймуродов, А.Х., таълим самарадаорлигига эришишда тизимда инновацион улуллар ACADEMIC RESEARCH IN EDUCATIONAL SCIENCES, 2021 Volume 2 Special ISSUE 2 - pp: 59-67
2. S.N. Azimqulov, hududiy ta’lim sohasida informatika va axborot texnologiyalari fani o‘qitish metodikasini klaster usuli yordamida rivojlantirish, Respublika ilmiy-amaliy konferensiyasi maqolalar to‘plami 2021 Volume 3 Special ISSUE 8 - pp: 191-195
3. Сайхун Ниёзали ўғли Азимқулов, кластерный подход и его использование в научно-педагогических исследованиях, Academic Research in Educational Sciences, 2021 Volume 3 Special ISSUE 2 - pp: 826-831