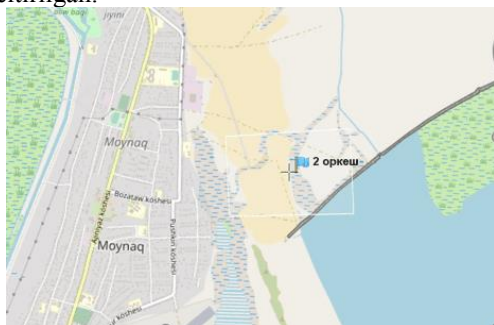


Xatolikni tasvirning shovqin bo'lmagan qismida hisoblab chiqish natijasida filtrlar "toza" rasmni qanchalik buzishi baholandi. Tavsiya etilgan filtr tasvirning vizual ko'rinishini yaxshilash nazaridan ham, tasvirni keyingi tahlil qilish imkoniyati nazaridan ham yaxshi natijalarni ko'rsatdi.

Filtrlangan kosmik tasvirni ERDAS IMAGINE da qayta ishlash natijasida olingan ranglar xususiyati bo'yicha tasvirlar koordinatalarini aniqlashda GAT (geoaxborot tizim) da xaritalar bilan taqqoslash o'z samarasini berishi aniq [6,7]. GAT tizimida belgilangan hudud xaritasi rasm-3 da keltirilgan.



Rasm-3. Hudud GAT xaritasi

Yer osti suvlarini aniqlash, monitoring qilishda kosmik tasvirlarni qayta ishlash natijasi muhim ahamiyat kasb etadi. Tadqiqot olib boriish hududi yer osti suvlarini modellashtirishda yerni masofadan zondlash usulida kiritilgan ma'lumotlar sifatini yaxshilashi natija ishonchligini oshirish imkoniyatini beradi. Yer osti suvlarini modellashtirish uchun kirish manbasi sifatida masofaviy zondlash usuli samarali hisoblanadi [8,9].

Aerokosmik tasvirlarini qayta ishlash bir qancha sohalarida, shu jumladan yer osti suvlarini o'rganishda qaror qabul qilish uchun samarali vosita hisoblanadi. Yer va suv bilan bog'liq bo'lgan mavzular bo'yicha ma'lumotlarni taqdim etishning asosiy manbalaridan biri masofadan turib qabul qilingan ma'lumotlardir. Kosmik tasvirni filtrlash natijasida hosil bo'lgan tasvir spektri ma'lum ikki o'lovli chastota oralig'ida filtrlangan tasvir spektridan eng kichik o'rta darajali og'ishiga egaligi, bu usul kosmik tasvirlarni kichik xato bilan yaxshilashga imkon berishi va keyingi qayta ishlashlarda aniq natijalar olish imkonini oshiradi.

Adabiyotlar

1. Федотов А.А., Акулов С.А., Акулова А.С. Методы компьютерной обработки биомедицинских изображений в среде MATLAB. – Самара: Издательство СГАУ 2015.
 2. Гонсалес Р., Вудс Р. Цифровая обработка изображений. – М.: «Техносфера», 2006.
 3. Кашкин В.Б. Дистанционное зондирование Земли из космоса. Цифровая обработка изображений. / В.Б.Кашкин, А.И.Сухинин. – М.: «Логос», 2008.
 4. Жиликов Е.Г. Оптимальная фильтрация изображений на основе частотных представлений. / Е.Г.Жиликов, А.А.Черноморец. // Вопросы радиоэлектроники. Сер. ЭВТ. 2008. Вып.1. – С.118-132.
 5. Ярославский Л.П. Введение в цифровую обработку изображений. – М.: Сов. радио, 1979. – С. 312.
 6. Гарбук С.В. Космические системы дистанционного зондирования Земли. / С.В.Гарбук, В.Е.Гершензон. – М.: Сканэкс, 1997. – С. 296.
 7. Трифонов Т.А. Геоинформационные системы и дистанционное зондирование в экологических исследованиях. – М.: Академический проект, 2005. – С. 252.
 8. Seitnazarov K.K., Dosimbetov A.M., Aytanov A.K. Strategy for Organization of Computational Experiments of the Functioning of Underground Water Inlets Using a Fuzzy Multiple Approach/ 2020 International Conference on Information Science and Communications Technologies (ICISCT). – Tashkent: «Uzbekistan», 2020.
 9. Seitnazarov K.K., Dosimbetov A.M., Aytanov A.K., Omarova X. Software Principles for Mapping the Relative State of Groundwater // European Journal of Molecular & Clinical Medicine. ISSN 2515-8260. Volume 7, Issue 11, 2020. -P. 319-323
- REZYUME.** Maqolada yerni masofadan zondlash asosida yer osti suvlarining raqamli modelini tuzish maqsadida, asosan aerokosmik tasvirlarini qayta ishlash Qoraqalpog'iston Respublikasi Mo'ynoq tumani misolida keltirilgan. Sun'iy yo'ldoshlardan olingan yerni masofadan zondlash ma'lumotlarini qayta ishlash va tahlil qilish yer osti suvlari bo'yicha ko'pchilik ma'lumotlarni olishga imkon beradi.

РЕЗЮМЕ. В статье представлен пример Муйнакского района Республики Каракалпакстан с целью создания цифровой модели подземных вод на основе дистанционного зондирования земли, преимущественно обработки аэрофотоснимков. Обработка и анализ данных дистанционного зондирования со спутников позволяет получить большую часть информации о подземных водах.

SUMMARY. The article presents an example of Muiynak district of the Republic of Karakalpakstan in order to create a digital model of groundwater based on remote sensing of the Earth, mainly processing aerial photographs. Processing and analysis of remote sensing data from satellites allows you to get most of the information about groundwater.

DYNAMICS OF CHANGES IN BLOOD PRESSURE DISEASES ON THE TERRITORY OF UZBEKISTAN DUE TO WEATHER CHANGES

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Tayanch so'zlar: O'zbekiston hududi, meteosezuvchanlik, kasalliklar, qon bosimi, ob-havoga ta'sirchanlik, iqlimiy o'zgarishlar.

Ключевые слова: территория Узбекистана, метеочувствительность, болезни, кровяное давление, чувствительность к погоде, климатические изменения.

Key words: the territory of Uzbekistan, weather sensitivity, diseases, blood pressure, sensitivity to weather, climatic changes.

Introduction. Currently, climate change and global air temperature increases are one of the pressing problems. In the same sentence, "does the weather affect blood pressure?", experts answer: "often weather changes increase fatigue, worsen the quality of sleep (some fall

asleep in motion, others, on the contrary, are disturbed by insomnia), lead to an exacerbation of chronic diseases."

Often, people are bothered by headaches or abdominal pain when the weather changes, and sometimes by a slight increase in body temperature for no apparent reason.

However, it should be noted that when the weather changes, people's blood pressure often increases. Sudden changes in weather can become a serious stress for people with cardiovascular disease, as changes in atmospheric pressure and air temperature have been found to cause circulatory disorders, increasing the risk of vascular complications. For patients with diabetes mellitus, vegetative-vascular diseases, the effect of weather changes is also felt. There is evidence that the production of insulin by the pancreas can be impaired in some people, therefore, in patients with diabetes mellitus, the amount of sugar in the blood suddenly increases, and these days it is advisable to have them under control. It has also been observed that a person's blood pressure rises in the heat of the air, if we stop from raising or lowering blood pressure in hot weather. During heat, especially if it comes suddenly, the walls of blood vessels decrease in elasticity, which, together with the fact that a person lacks oxygen, causes a worse flexibility to high air temperatures in a person. In hot weather, the body becomes dehydrated, and this leads to an increase in blood viscosity. As a result of hot weather, often a sharp and sudden rise in blood pressure, throat attacks or simply nausea and dizziness may begin.

O'zbekiston Respublikasi bo'yicha aholi zichligi
2022-yil 1-yanvar holatiga, 1 kv.km.ga to'g'ri keladigan aholi soni, kishi

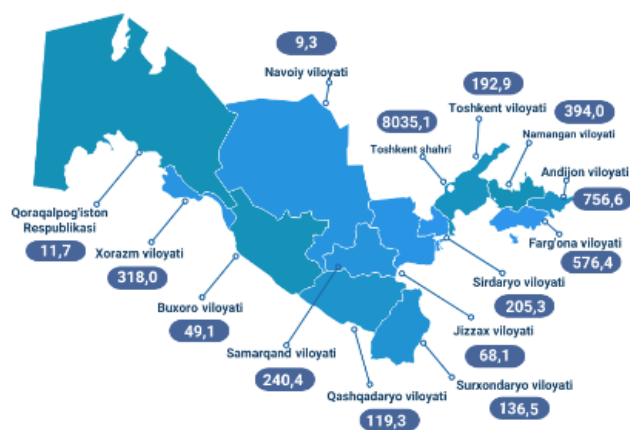


Figure 1. The population density is in the cross-section of the provinces. [8]

Relevance of the research topic. Global climate change today is not only reflected in the rise in air temperature, but also manifested in the rapid development of Hydrometeorological risks such as scorching hot days, drought, floods and floods, strong winds. Weather and climate-related natural disasters are causing many negative consequences, such as human health, reduced food production, water and environmental pollution. Due to this, the conclusion of the inter-governmental expert

group(IPCC) that global warming in the next hundred years in a wide range can bring many natural and economic problems requires special attention [2]. According to him, the hottest decade observed in our century corresponds to the last 2011-2021 period. In the northern hemisphere, record-breaking (third-hottest) temperatures began to be observed in 2021, after land surface temperatures of 2016 (first-hottest) and 2020 (second-hottest). During these years, temperatures reached 1.51°C above the 20th-century average. [2,3] in the past decades and in the near future, an increase in global temperature can directly affect the hydrological cycle, including changes in precipitation and an increase in extreme events. In our arid region, there are many days and months of heat and high air temperatures, and now its return and duration are stretched due to climate change. After staying in the open sun due to these changes, a person with arterial hypertension may experience headaches, heart palpitations with heart rhythm disturbances, shortness of breath, darkening of the eyes, pain in the heart area. The effect of rainy weather on blood pressure is also not uncommon. With sudden or frequent changes in atmospheric pressure, people who are sensitive to the weather feel bad: they experience headaches, dizziness, joint pain, jumps in blood pressure[4]. With the arrival of the cyclone, that is, with the onset of rainy and cloudy weather, atmospheric pressure decreases and air humidity increases, and this can also affect the work of the cardiovascular system. At worst, such changes are tolerated by people with hypotension, that is, those whose blood pressure indicators usually fluctuate at the level of 100/60 mm. In such weather, blood vessels expand, blood circulation slows down, and the body receives less oxygen. During a cyclone, in bad weather, hypotonic blood pressure decreases even more: they have dizziness and headaches, disorders in the gastrointestinal tract, discomfort when breathing can occur[5].

Objectives and objectives of the study. Taking into account the above scientific research work, a research work has been carried out throughout the territory of Uzbekistan on the change in blood pressure disease of the population over the past 10 years. The main purpose of the work is to assess the trend of change in the blood pressure disease of the population between the 2010-2020 period throughout the territory of Uzbekistan in the conditions of global warming, during the period of climatic changes. The study was conducted on the basis of statistics of the Republic of Uzbekistan.

Results and their discussion. During the study, the population's blood pressure in the cross section of the regions of the Republic of Uzbekistan was observed and compared among the regions. The results of the study show that there is an increase in the population of cassalians with high blood pressure (tables 1.1 and 1.2, Figure 2).

Table 1.1. Table of the population of the Republic of Uzbekistan with high blood pressure diseases

Year	Qoraqalpogiston	Andijon	Buxoro	Jizzax	Qashqadaryo	Navoiy	Namangan
2010	6123	5091	8690	3718	11791	4880	4414
2011	6235	5230	7806	3727	14258	4161	4470
2012	7243	6073	8998	3983	12053	4045	6422
2013	8693	9894	10586	5700	13068	4294	10304
2014	7506	8867	15473	11964	12673	5488	10830
2015	9456	9913	10948	11495	15541	5674	9171
2016	10000	11458	11027	18425	18041	6214	9387
2017	10261	11775	15324	16129	12455	7371	7246
2018	11701	12933	15265	15658	18072	8812	6652
2019	12646	13936	11047	10508	20403	8659	6440
2020	14623	22970	17795	7073	30030	10028	10521

Table 1.2.

Year	Samarqand	Surxondaryo	Sirdaryo	Toshkent	Farg'ona	Xorazm	Toshkent shahri
2010	13165	4772	2760	12777	30222	12046	11307
2011	11871	4819	3012	12182	22821	11544	9231
2012	10876	7186	3638	12529	45674	10961	11684
2013	15046	7100	4780	13336	28951	9770	10269
2014	16199	11611	8591	14252	29581	9642	16815
2015	18565	14510	8608	14609	32405	19332	19714
2016	26946	13956	9271	15012	37290	18848	26832
2017	32016	7716	6634	20114	40166	19641	23254
2018	30244	12191	6750	15211	39313	18403	19435
2019	25357	13610	9507	12913	57349	254	22016
2020	35598	15443	11513	23380	45912	26828	54378

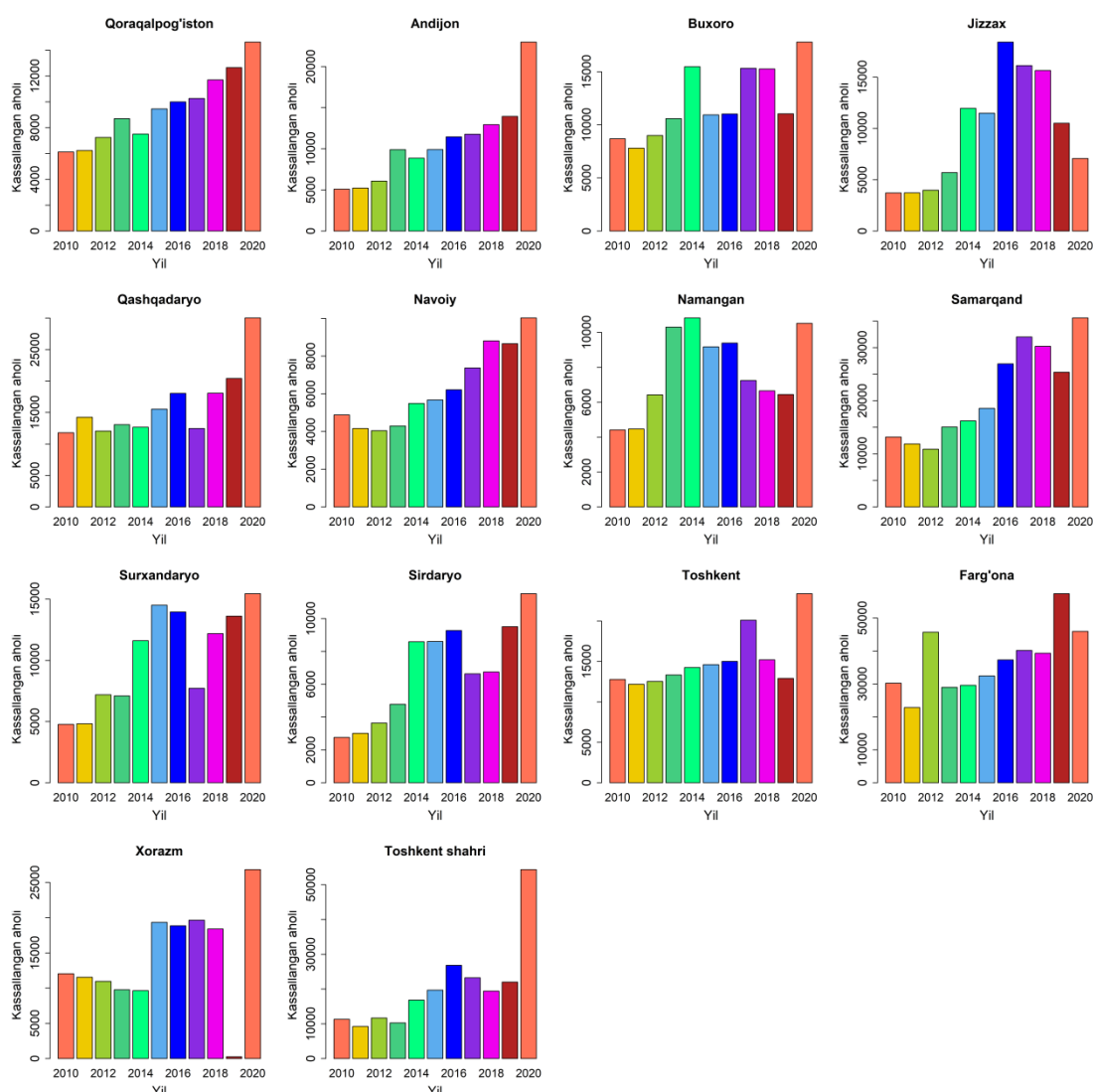


Figure 2. Changes in the cross-section of regions of the population with high blood pressure diseases for the period 2010-2020 in the Republic of Uzbekistan

Conclusion. According to the results of the study, the trend of blood pressure disorders among the population is growing in the Republic of Karakalpakstan, Andijan, Navoi regions. In this case, in Andijan, 5091ming people were affected by this disease, in the Republic of Karakalpakstan in 2010 it is 6123 thousand people, and in Navoi it is 4880

people. The smallest blood pressure disease incidence was observed in Jizzakh in 2010, in which only 3,718 were affected. But in Jizzakh as of 2016 it was 18,425 people, in Karakalpak Republic by 2016 the population affected was 10,000 people and in Andijan 11,458 people. In Namangan, Surkhandarya and Syrdarya regions, the

number of people suffering from blood pressure disorders doubled in 2020 compared to 2010, but in these regions, the total blood pressure in the Republic was found to be lower than the incidence rates. In the Tashkent region, it is possible to observe the constancy of the growth rate of the cash register. 2010 in Tashkent City. – 11307 people, 2020. – 54378 people are infected with high rates similar to it only in Fergana (2010 y. – 30222kishi, 2020. – 45912 people) as well as Samarkand (2010. – 13,165 people, 2020. – 35598 people) were observed in the regions. In general, it can be noted that an increase in the number of people affected by this disease is observed throughout the Republic.

Health experts point out that patients with arterial hypertension should always remember that hot weather is a period of increased risk of hypertensive crisis and cardiovascular complications, reporting the following for patients with arterial hypertension and hypotension:

✓ In the period of instability of the weather, the simplest recommendations will help to overcome discomfort: light physical activity, healthy eating, giving up bad habits. Even if a person gives up coffee and strong tea for a while, it has been established that the effect of the weather on blood pressure can be reduced, the body reacts less painfully to meteorological factors;

✓ Vitamin-rich food, a sufficient amount of vegetables and fruits make the body better prepared for weather changes;

✓ If unusual hot weather has been observed for a long time, in this case, patients with arterial hypertension and hypotension should be very careful about their well-being;

✓ In hot weather with hypotension, doctors should drink a glass of still water every half to two hours;

✓ If it is necessary to go outside in hot weather, drink lemon water;

✓ To improve well-being by taking a contrast shower; this procedure increases vascular tone and the pressure normalizes;

✓ Light loads; (any physical force in the heat forces the heart and blood vessels to work intensively);

✓ A person should avoid poorly ventilated rooms;

✓ Also, people with hypotension should not starve themselves (light food helps to maintain health);

✓ Since blood pressure rises in hot weather, patients should not be in the open sun from 11.00 to 16.00;

✓ If possible, it is necessary to limit spicy and fatty foods, minimize the use of salt;

✓ Before leaving the house, of course, it is necessary to check the presence of drugs prescribed by the doctor to quickly lower blood pressure.

References

1. Kolpakova A. F., Sharipov R. N., Volkova O. A. O svyazi saxarnogo diabeta 2-go tipa s zagryazneniyem vozduxa vzveshennymi chastitsami // Problemy endokrinologii. – 2018. – 64 (5): 329–335. URL: www.probl-endojournals.ru
2. IPCC Sixth Assessment Report, Climate Change 2022: Impacts, Adaptation and Vulnerability <https://www.ipcc.ch/report/ar6/wg2/>
3. World Meteorological Organization (WMO) <https://public.wmo.int/en>
4. Hoppe P. Aspects of human biometeorology in past, present and future //Int J Biometeorol. – 1997. – Feb; 40 (1): 19–23.: pubmed.ncbi.nlm.nih.gov.
5. Tedeeva M. Ye. Meteozavisimost: kak ona vliyayet na zdorovye cheloveka. URL: foodandhealth.ru.
6. Meteozavisimost: simptomy, prichiny, kommentarii eksperta.: style.rbc.ru.
7. <https://ifyoucare.ru/arterialnaya-gipertoniya/vliyanie-pogody-na-arterialnoe-davlenie-cheloveka>
8. <https://kun.uz/uz/15318535>

REZYUME. Hozirgi kunda aholini ob-havoga ta'sirchanligini va sezgirlik darajasini o'rganish muhim masalalardan biri sanalib, ushbu masalada aholi qon bosimi kasalliklari yuzasidan O'zbekiston Respublikasi bo'ylab so'nggi 10 yil ichida, aholining qon bosimi kasalligining o'zgarishi o'rganilgan. Natijalarga ko'ra, O'zbekiston hududi bo'yicha aholini qon bosimi kasalliklari viloyatlar orasida turlicha bo'lib, ularning ko'rsatkichlari o'sayotgani qayd etilmoqda.

РЕЗЮМЕ. На сегодняшний день одним из важных вопросов является изучение чувствительности населения к погодным условиям, в данном исследовании было изучено, изменение заболеваемости артериальным давлением населения по всей Республике Узбекистан за последние 10 лет. Согласно полученным результатам, по территории Узбекистана население имеет различные нарушения артериального давления в разных регионах, показатели которых регистрируются как повышающиеся.

SUMMARY. To date, one of the important issues is the study of the sensitivity of the population to weather conditions, in this study, the change in the incidence of blood pressure of the population throughout the Republic of Uzbekistan in the past 10 years was studied. According to the obtained results, the population in Uzbekistan has various blood pressure disorders in different regions, the indicators of which are registered as increasing.

DASTURLASH ASOSLARINI O'RGANISHDA O'ZARO BAHOLASH USULIDAN FOYDALANISH VA QO'LLASHNING ASOSIY MEZONLARI

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Termiz davlat universiteti

Tayanch so'zlar: talabalar, algoritmik tillar, dasturlash asoslari, innovatsiya, fanni o'qitishdagi o'ziga xos xususiyatlar, yangilanish.

Ключевые слова: студенты, алгоритмические языки, основы программирования, инновация, особенности научного образования.

Key words: students, algorithmic languages, fundamentals of programming, innovation, specific features in science education.

Kirish. Mamlakatimizda amalga oshirilayotgan ijtimoiy, iqtisodiy, siyosiy, mafkuraviy islohotlar, fan-texnika va texnologiyalarning yuqori sur'atlarda o'sib borishi kabi ko'plab omillar uzluksiz ta'lim tizimini, jumladan, oliy ta'lim muassasalari talabalariga ta'lim-tarbiya berishda zamon talablari asosida ilg'or zamonaviy pedagogik va axborot texnologiyalaridan foydalangan holda mashg'ulotlarni tashkil etishni taqozo etmoqda. Bunday yondashuvlar, ayniqsa algoritmik tillar va dasturlash asoslari kabi zamonaviy fanlarni o'qitishda juda muhim rol o'ynaydi. Ta'kidlash joizki, dasturlash texnologiyalari fanini o'qitishda yangi usul, vositalarni ishlab chiqish, takomillashtirish birinchi navbatda o'rganilayotgan muammoning mazmun mohiyatini nazariy-metodologik tahlil qilishni talab qiladi.

Tahlil va natijalar. Tadqiqotchilar E.S.Semenkin va A.A.Shabalovning ta'kidlashicha, o'zaro ko'rib chiqish va

jamoaviy loyihalash usulidan foydalanish barcha talabalarining bir-birining ishiga kirishini va o'qituvchining bir guruh talabalar ishini boshqarish qobiliyatini ta'minlashni nazarda tutadi. Bunda ishlab chiqilgan dasturiy mahsulotlarga keyingi kirish uchun ularni joylashtirish zarurati paydo bo'ladi [1:89]. Shu bilan birga, ma'lum bir doiradagi shaxslar uchun kirish faqat tahrirlash yoki ko'rish imkoniyati bilan ta'minlanishi mumkin. Talabalarga dasturlashni o'rgatishni tashkil etish tabaqalashtirilgan kirishni ta'minlash orqali dasturiy mahsulotni yaratish, tahrirlash va nashr etish, uni saqlash, baholash va tarqatish imkoniyatini ta'minlashi kerak. Shuni ta'kidlash kerakki, o'qitishning bunday tashkil etilishi talabalarga o'quv materialini bilan birga jamoaviy loyihada ham auditoriya yoki tashqarida ham ishlashga imkon beradi, o'qituvchi esa talabalarining jamoaviy ishini va umuman o'quv faoliyatini boshqarib boradi [1:70-73].