МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РК
ЕВРАЗИЙСКИЙ НАЦИОНАЛЬНЫЙ УНИВЕРСИТЕТ ИМ. Л.Н. ГУМИЛЕВА
ФАКУЛЬТЕТ СОЦИАЛЬНЫХ НАУК
КАФЕДРА ПЕДАГОГИКИ
КАФЕДРА ПСИХОЛОГИИ

СБОРНИК МАТЕРИАЛОВ

Международного научно-методического семинара:
«АНАЛИЗ УЧЕБНЫХ ПРОГРАММ В КОНТЕКСТЕ РАЗВИТИЯ «ЗЕЛЕНЫХ» УЧЕБНЫХ ЗАВЕДЕНИЙ»

В рамках проекта ИРН AP14869631 «Модель «зеленая школа – зеленый колледж - зеленый университет» как система развития экологизации образования»

28 ОКТЯБРЯ 2022 Г.
АСТАНА, РЕСПУБЛИКА КАЗАХСТАН

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ОБЩЕСТВЕННЫЙ СОВЕТ БАЗОВОЙ ОРГАНИЗАЦИИ ПО ЭКОЛОГИЧЕСКОМУ ОБРАЗОВАНИЮ СТРАН СНГ

КЫЗЫЛОРДИНСКИЙ УНИВЕРСИТЕТ ИМЕНИ КОРКЫТ АТА

НЕПРАВИТЕЛЬСТВЕННЫЙ ЭКОЛОГИЧЕСКИЙ ФОНД ИМЕНИ В.И. ВЕРНАДСКОГО

ШКОЛА-ЛИЦЕЙ N101 ИМ.А. МУСЛИМОВА «ЗЕЛЕНАЯ ШКОЛА»,
(Г.КЫЗЫЛОРДА. РЕСПУБЛИКА КАЗАХСТАН)

СБОРНИК МАТЕРИАЛОВ

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28 октября

г. Астана – 2022

УДК 378(08)
ББК 74.48я431
А 64

Выполнено в рамках научного проекта ИРН AP14869631
«Модель «зеленая школа – зеленый колледж –
зеленый университет» как система развития экологизации образования»

А 64 «Анализ учебных программ в контексте развития «зеленых» учебных заведений»: Сборник матер. Межд. науч.-метод. семин. /– Астана, 28 октября, 2022 г. – Астана: типография ИП «Булатов А.Ж.»., 2022. - 278 с.

ISBN 978-601-337-781-0

Настоящий сборник составлен по материалам международного научно-методического семинара «Анализ учебных программ в контексте развития «зеленых» учебных заведений», состоявшегося 28 октября 2022 года в ЕНУ имени Л.Н. Гумилева (г. Астана).

Материалы семинара предназначены для ученых, педагогов-предметников высших, средних учебных заведений, магистрантов, докторантов PhD и аспирантов, международных экспертов, представителей общественных организаций.

Материалы публикуются в авторской редакции, и редколлегия не несѐт ответственности за содержание авторских материалов.

УДК 378(08)
ББК 74.48я431

ISBN 978-601-337-781-0

ұйымдастыруға, қалдықтардың қайтадан жаңартылуына, табиғат ресурстары мен жағдайларына теріс, әсіресе, оң көзқарас қағидаларына да назар аударуына ықпал ету.

- Экологияны сақтау талаптарын ескере отырып, оқушылардың табиғаттағы жеке мінез-құлық мәдениетін қалыптастыру.
- Қоғамдық еңбек қызметінің барлық түрлерінде табиғи орта жөнінде қабылданған шешімдер үшін азаматтық жауапкершілік сезімін дамыту.
- Экологиялық сауатсыздықтың алдын алу мен шешу жолдарын түсіну.

Экологиялық тәрбие — бұл адамдардың сезіміне, санасына, көзқарастарына әсер ету әдістері. Ал «Жасыл мектеп» жобасы оқушылардың саналық деңгейінің артуына, табиғатқа қарым-қатынасының өзгеруіне, табиғат ресурстарына ұқыптылықпен, үнемшілікпен қарауға, оның жай-күйіне жаны ашып қарауға, табиғи ортада өзін өнегелі ұстауға әсер етеді деп ойлаймын.

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UDC 910.3

GREEN TECHNOLOGIES OF CENTRAL KAZAKHSTAN - AS A MEANS OF GREENING THE EDUCATION OF THE POPULATION

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Abstract: *Based on the analysis of research on the principles of "green technologies", which are primarily aimed at environmental protection, green technologies are proposed for local executive bodies in order to make socially significant decisions in favor of strengthening the public health of the population of Central Kazakhstan, where large industrial facilities of anthropogenic impact are concentrated in urbanized territories.*

Keywords: *green technologies, public health, WELL standard, healthy lifestyle.*

On a global scale, humanity, in pursuit of achieving maximum profit, technological breakthrough, the need for industrial and economic development, mining, exploitation of natural and human resources, has unfortunately allowed the formation of environmental problems in many countries, the processes of degradation of the natural and social environment. Therefore, the United Nations, as an international system, considers these global challenges as a necessity and awareness of the importance of sustainable development. "Sustainable development" is understood as a set of comprehensive measures for the development of society while meeting the necessary needs for economic growth while curbing uncontrolled consumption growth and preserving the ecological balance [1, p.101; 2, p.490]. The UN Summit adopted 17 goals for transforming our world, 193 countries of the world are

directing efforts to eliminate poverty, increase economic growth, address a number of issues in the field of education, health, social protection, employment, as well as combating climate change and protecting the environment [3, p.520].

It should be noted that the greatest exposure to Global Health is associated with the adverse influence of harmful factors of industrial activity of manufacturing enterprises, anthropogenic pollution of environmental objects and urbanization of residential areas in the industrial centers of the country. At the same time, Central Kazakhstan, namely, the Karaganda and Ulytau regions, is of interest, since the main industrial enterprises of the metallurgical industry and the coal industry are concentrated here. The Karaganda region is located in the central part of the republic, the area of the territory is 239 045 km², the administrative center is the city of Karaganda, the average population density in the region is 3.2 people per 1 km² of the territory. There are 7 districts and 6 cities of regional subordination in the region [4, p.545]. Ulytau region was formed on June 8, 2022, the area of the territory is 188 936,61 km², the administrative center is Zhezkazgan city, the population density is 1.2 people/km², includes 2 districts and 3 cities of regional subordination.

At the same time, the use of various "green" technologies for cleaning industrial emissions into the atmospheric air becomes particularly relevant. The most harmful anthropogenic pollutants to health and the environment are particulate matter (PM); nitrogen dioxide (NO2); ozone (O3); carbon monoxide (CO); sulfur dioxide (SO2); lead (Pb); volatile organic compounds (benzopyrene).

In addition, the introduction of environmental ideas and raising environmental awareness among the population is an important aspect of studying and forming an ecological worldview from childhood. Environmental education should become an integral part of the training of a specialist in various fields of knowledge.

The dissertation research is carried out at the Department of Physical and Economic Geography of the L. N. Gumilyov Eurasian National University, is devoted to the study of the features of technogenic and anthropogenic impact on the geography of public and professional health of the population of Central Kazakhstan. Geographical prerequisites for the territorial distribution of morbidity due to technogenic processes of environmental degradation will be substantiated, and an integrated assessment and geoinformation analysis of social determinants of public health, as well as medical and geographical zoning of Central Kazakhstan, will be carried out.

The model "green kindergarten – green school – green college – green university" in the interests of sustainable development of society closely echoes the direction of this research topic regarding the need to develop green health-saving technologies.

One of the key directions of innovative development of the economy and the central factor of sustainable development of the territory is the ecological construction of buildings, which consists in leveling the negative impact of construction on the environment and humans [5, p.160]. Green technologies are reflected in the WELL Building Standard ™ (WELL), the Fitwel Standard implemented, including by Russian companies. Unfortunately, the widespread introduction of "green" technologies for the construction and operation of buildings in various sectors of the economy is still being held back due to the high cost of technical solutions and long payback periods of projects [6, p.1041; 7, p.301].

The WELL Community Standard is a rating system that takes into account the relationship between buildings and their surroundings and their overall impact on human health [8, p.145]. The use of green technologies for hotel buildings and the certification of buildings according to WELL, Fitwel, and other standards may include key evaluation categories: lighting, air, comfort, reason, fitness, water, nutrition, and other criteria that combine the best international practices for creating a comfortable and healthy environment. Standards allow us to measure and then improve the quality of air, water, light and other important parameters, as well as design an environment that will help the body, creating conditions for physical, mental, and intellectual health, using the principles of a healthy lifestyle.

We recommend the following green technologies in the formation of a healthy environment, infrastructure, the creation of a Healthy city, for the prevention of occupational risks, reducing the negative anthropogenic impact of technological production, chemical load in order to strengthen the public health of the population of Central Kazakhstan, which should be considered as a transformation of the greening of education of specialists in various industries and among the population.

Cleaning of industrial emissions. The following methods are used to clean industrial emissions containing vaporous and gaseous pollutants into the atmosphere: activated carbon adsorption, the use thermal combustion method, biofiltration, and others.

Urban planning determines the planning structure of the area, and local natural conditions have a direct impact on the systems of recreational areas and their landscape organization. The landscaping system of a residential area includes territories for various functional purposes: a park or garden of the district, boulevards, city highways and pedestrian alleys, gardens of micro-districts, and green areas of residential groups.

Improvement and landscaping of the territory. Landscaping of territories allows the creation of favorable conditions for the urban population to stay in these territories. The composition of engineering improvement includes the following types of urban construction: the arrangement of driveways and footpaths, parking lots and utility sites in residential areas and micro districts; landscaping of urban areas; construction of small reservoirs in combination with green spaces; artificial lighting of city streets, squares, neighborhoods, parks, gardens and boulevards; sanitary cleaning of urban areas; creation of small forms of landscaping.

Environmental factors. The determining factors of the architectural and planning organization of green spaces of residential areas are: rational use of favorable natural features, protection and improvement of the air basin and reservoirs, protection of humans from harmful effects of noise and exhaust gases of cars, and the formation of a comfortable microclimate.

The maintenance of green spaces includes: planting green spaces; loosening the soil with the device of trunk holes, whitewashing trees, cutting hedges, raising the stem of trees, removal of overgrowth; arranging flower beds, and lawns, weeding, mowing grass, sheltering roses in winter; watering of green spaces throughout the growing season, in summer watering is carried out twice a week; crown formation; rejuvenation; fertilization; pest control and diseases of green spaces; sanitary pruning of emergency, dry-hardy, over-standing trees and shrubs.

Gardening techniques. In the adjacent strips, it is appropriate to place compact groups of shrubs and small-height free-standing trees, as well as the arrangement of flower beds or small plots (2×2, 4×4 m) for amateur floriculture. Trees in the strips should be placed no closer than 5 m from the building, shrubs – no closer than 1.5 m. When placing plantings near sports grounds, it should be taken into account that these sites are a source of noise and dust, so they are usually isolated with mesh fences. It is recommended to plant fast-growing trees with a dense large crown along the perimeter of the site.

When constructing buildings, pay attention to the air and its purification. Buildings passively affect our health through the quality of the surrounding microclimate, so they need to be managed. When exhaling, carbon dioxide is released. If a room filled with people is not ventilated for a long time, then the excess of carbon dioxide can reach more than 20% of the permissible norm. This factor is often a common cause of migraines, fatigue, malaise and discomfort.

Water quality: filtration systems that remove residual chlorine, harmful metals and impurities. Water often becomes dangerous on the way from the treatment plant to the consumer due to the release of harmful heavy metals (such as lead, nickel and chromium) by pipes, as well as due to the decomposition products of chlorine.

Acoustic comfort. It is necessary to provide complete noise isolation so that no sounds from outside disturb either at night or during the day. To meet this, vibration damping of sound vibrations and increased requirements for doors and windows are added to the usual noise insulation of walls and ceilings. At the same time, it is important to take into account that poor acoustics directly reduces the productivity of work, and the presence of high-spectrum background noise keeps the human body in a state of permanent stress, which in turn also leads to serious chronic diseases.

Conclusion. The analysis of modern trends on the example of the formation of a healthy environment, infrastructure, and the creation of a Healthy city has shown that the implementation of the green technology concept model based on environmental education of the population, as well as health-saving technologies and principles of a healthy lifestyle, is possible with a comprehensive combination of the requirements of eco-certification of buildings, taking into account all modern engineering innovations and green technologies, as well as the creation of conditions for conducting wellness programs of climatotherapy taking into account the impact of climatic and weather factors on the body in combination with gardening, landscaping, sound insulation, water, and air quality. At the

same time, it is necessary to take care not only of the environment, but it is the care and creation of conditions for a healthy lifestyle (including the quality of the microclimate of the premises) for the person himself.

Environmental education, as the basis of a sustainable society, economy and environment, will allow the formation of the ideology of sustainable development in the worldview and behavior patterns of the population in favor of environmental protection.

The article was prepared as part of the implementation of the scientific project of grant funding for 2022-2024 of the Committee of Science of the Ministry of Science and Higher Education of the Republic of Kazakhstan IRN AP14869631 “Model "green school – green college - green university" as a system for the development of ecologization of education”.

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УДК 504.05

ЗЕЛЕНАЯ ЭКОНОМИКА И УСТОЙЧИВОЕ РАЗВИТИЕ

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Аннотация: *Устойчивое развитие – (англ. sustainable development –поддерживаемое развитие) – такое развитие общества, при котором улучшаются условия жизни человека, а воздействие на окружающую среду остаётся в пределах хозяйственной емкости биосферы, так, что не разрушается природная основа функционирования человечества.*

«Зеленая» экономика – это экономика, направленная на сохранение благополучия общества, за счет эффективного использования природных ресурсов, а также обеспечивающая возвращение продуктов конечного пользования в производственный цикл.

Ключевые слова: *экология, устойчивое развитие, зеленая экономика, экологическое образование, охрана окружающей среды.*

Человечество уже несколько десятков лет пробует формулировать стратегию выживания на планете. Интуитивно созданные и опробованные в разные века и тысячелетия стратегии не дают желательных результатов, да и народы, как правило, не выдерживают избранного курса развития. В соответствии с новыми научными достижениями меняется система ценностей и направленность воздействия на природу. По мере технического развития общества теряются последние экологические элементы в его культуре. Отсюда разрабатываемые научные стратегии становятся все более оторванными от жизни людей - теоретическими. Все это вынуждает уже не только ученых-экологов, но и правительство предпринимать какие-то шаги по обеспечению, если не улучшения, то безопасности обитания человечества на планете. В 1992 году на