воспринимая друг друга и себя как членов разных групп. Чаще, безусловно, когда речь идет о межгрупповых конфликтах, имеются в виду именно конфликты между группами людей. Один из вариантов объяснения межгрупповых конфликтов основан на известной концепции фрустрационной детерминации агрессии, которая дала толчок соответствующим исследованиям в области межгруппового взаимодействия. [4]. Традиционные классификации конфликтов далеко не всегда включают внутригрупповые конфликты. Это связано с тем, что обычным основанием для разграничения видов конфликта являются его стороны (личностные образования одного субъекта, разные субъекты или группы людей), а в вычленении внутригрупповых конфликтов это основание явным образом нарушается. Действительно, кто является сторонами внутригруппового конфликта? Либо отдельные члены группы, либо отдельные группировки внутри нее, либо член группы и остальная ее часть (позиция которой, как правило, персонифицируется лидером или другим активным членом группы). Это стало основанием для принятого мнения, что внутригрупповые конфликты фактически не имеют самостоятельной феноменологии и принимают форму либо межличностных, либо межгрупповых конфликтов.

Благодаря конфликту оказывается возможным первичное установление единства или его восстановление, если оно было ранее нарушено. Однако не каждый тип конфликта будет способствовать укреплению группы, равно как и не во всех группах конфликт может реализовывать подобные функции. Наличие этих позитивных потенций конфликта определяется его типом, равно как и особенностями группы. Необходимым моментом исследования механизмов возникновения внутригруппового конфликта становится изучение системы предметных взаимосвязей индивидов, основой которых служит социально обусловленное проблемно-целевое содержание совместной деятельности». [5]. Из этого следует вывод, что конфликт нельзя рассматривать с точки зрения одной теории. Изучение данного феномена должно соблюдать некую психологическую традицию.

Конфликт следует рассматривать с разных сторон его проявления таких как:

1. конфликт с точки зрения интрапсихической интерпретации;
2. конфликт как реакция на внешнюю ситуацию;
3. конфликт как когнитивный феномен.

Конфликт в ходе своего развития и завершения оставляет на личности (группе) конструктивный или деструктивный сдвиг. Во многом именно тактика поведения в конфликте является решающим звеном в позитивном или негативном его завершении. На этом основании мы можем выделить схему, которая имеет следующий вид: конфликт – изменение – адаптация/дизадаптация – выживание/патологическое развитие.

Таким образом, конфликт – это сигнал к изменению и источник развития. И только индивид (группа) определяют, какой итог этого развития будет приобретен.

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ON THE ISSUE OF INTRODUCTION TO HUMAN ECOLOGY AS PART OF A PRE-MEDICAL CURRICULUM

К ВОПРОСУ О ВВЕДЕНИИ В ЭКОЛОГИЮ ЧЕЛОВЕКА В РАМКАХ ОБРАЗОВАТЕЛЬНОЙ ПРОГРАММЫ ПОДГОТОВКИ К ПОСТУПЛЕНИЮ В МЕДИЦИНСКИЙ ВУЗ

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The article considers the issue of introduction to human ecology as part of a preparatory department curriculum. The authors justify the feasibility of incorporating human ecology issues into classes of Chemistry and the English language and illustrate the possibility of promoting health consciousness and environmental awareness in international students by relating the course content to real life for stimulating active participation in analyzing and considering the solutions of urgent ecological problems.

В статье рассматривается возможность знакомства слушателей с проблемами, связанными с экологией человека, в рамках образовательной программы подготовительного отделения. Авторы обосновывают целесообразность обсуждения данных проблем в процессе обучения химии и английскому языку и демонстрируют на примерах способы мотивации здорового образа жизни и развития экологического сознания у иностранных слушателей посредством обучения на основе конкретных случаев, связывая содержание курса с реальной жизнью в целях мотивации активного участия в анализе и рассмотрении возможных вариантов решения актуальных экологических проблем.

Keywords: human ecology, health consciousness, environmental awareness, environmental health, international students, preparatory department, pre-medical curriculum.

Ключевые слова: экология человека, здоровый образ жизни, экологическое сознание, экологическое здоровье, иностранные слушатели, подготовительное отделение, программа подготовки к поступлению в медицинский вуз.

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Social-ecological issues in students' education have been an important part of all curricula in International Sakharov Environmental Institute. Loss of biodiversity, land and air pollution do not just harm the nature around us, all this threatens our well-being. In the recent years human ecology has become a major topic of discussion in academic and public circles. The rapid development of industry and technology has led to deterioration in the chemical composition of the biosphere, which could not but affect people's health, leading to an increase of chronic, oncological, autoimmune diseases, and the emergence of allergic reactions.

In 1989 the World Health Organization (WHO) introduced the term "environmental health" and defined it as "Those aspects of human health and disease that are determined by factors in the environment and the theory and practice of accessing and controlling factors in the environment that can potentially affect health" [3]. Environmental health encompasses all of the external factors that affect human health and wellbeing. This ranges from the air we breathe, the food we eat and the water we drink, to the wider impact of human-made hazards on the world around us.

Researchers associate the ecological crisis situation to a greater extent with broken values of people, and to a lesser extent with the crisis of nature itself. Health consciousness and environmental awareness ate indicators of a person's moral maturity. Our practice of interaction with international preparatory department students convinces us that this important component of a person's moral maturity is not completely formed. Teaching students from different countries helps us to observe that this problem is global and has been caused mainly by lack of knowledge therefore it is primarily an education problem.

Researchers prove the importance of ecological education for future doctors.

In 2012 the journal "Science" published an article "Add Ecology to the Pre-Medical Curriculum", where the authors expressed their belief that the specific competencies proposed by the Association of American Medical Colleges–Howard Hughes Medical Institute report in 2011 and the corresponding proposed changes to Medical College Admission Tests should include biodiversity and ecological interactions that can influence human health. They claim that understanding the role of species interactions with each other and with the abiotic environment will be crucial to future physicians as they diagnose disease and prescribe medication, as soon as a wide variety of species are medically important, both as causes and cures of disease. Approximately 75% of newly emerging infectious diseases in humans are zoonotic, predominantly from wildlife. Many ill nesses are induced or exacerbated by environmental factors, including climate and pollution. They proposed an additional core competency for the pre-medical curriculum: "Demonstrate an understanding of taxonomic diversity and fundamental ecological processes and how they relate to human health" [2].

In his review article "Ecological analysis in general medicine" Jose Luis Turabian stresses that "human ecology designates a complex and multidimensional system that includes individuals and their reciprocal interactions with their global environments and the subsequent impact of these interactions on their health. Certain symptoms can be understood as attempts by the organism to adapt to a new environment or situation. Physical symptoms are signs that the body needs to change. The suppression of symptoms could lead to situation of imbalance at a deeper level of the organism". He suggests the introduction of ecological analysis into general medicine, which will lead to comprehensive understanding of patients, and therefore having a holistic view of diseases [5].

Pre-medical international students study the English language as well as Chemistry, Biology and Physics in English. The latter subjects are connected with the study of nature and environment, hence the preparatory course should include discussions based on a set of questions related to environment protection issues, brainstorming tasks consisting ideas or giving solutions to a given problem. The process of training should be properly organized. Teachers should use students' life experience for their further development.

In chemistry classes, it is important to focus not only on the physical and chemical properties of substances and compounds as well as on the ways they are produced and used, but also on the ways they affect the environment and human health. It is important to reveal the relationship between biochemical and physiological processes in the human body, and the concentration of chemical elements and their compounds in soil, water, air, food, to form ideas about the cycling of substances in nature, and the influence of anthropogenic factors on the emergence of ecologically disadvantaged territories.

It is widely known that with the increase in the number of motor vehicles, the concentration of chemical substances in the air has increased significantly. So in 2022 the average concentration of carbon dioxide was 150 percent of the pre-industrial level (according to the World Meteorological Organization for Greenhouse Gases). Carbon dioxide is highly carcinogenic and badly affects the human body. Due to the constant influence of high CO2 concentrations, the hydrogen pH of the blood changes, namely, an increase in acidity, which leads to acidosis, and as a consequence leads to disruption of physiological processes in the body, for example, reduced absorption of magnesium, potassium, calcium, sodium ions, which in its turn can lead to the development of cardiac rhythm disorders, tendency to hypertension, muscle hypertonia. Acidosis can provoke the development of diabetes mellitus, problems with the musculoskeletal system, cardiovascular diseases, general weakness. Therefore, it is vitally important to carry out activities to reduce the concentration of carbon dioxide in the atmosphere. The activities (problem solutions) – planting green areas, ventilation of the premises, the use of humidifiers and air purifiers in the premises – are suggested by the students after completing a brainstorming task.

Increased concentration of most gaseous chemical compounds in the air course irritation of mucous membranes and airways and lead to respiratory diseases. Such substances include chlorine and its compounds, ammonia, nitrogen oxides, sulphur oxides, acetone vapours and others. According to statistics, among the urban population, the highest incidence of respiratory diseases is found in industrial regions where the air is heavily polluted by sulphur gas. The annual technological input of this substance exceeds 150 million tons: about 60% of this amount are products of fuel burning containing sulphur (including diesel). When it enters the body, sulfuric gas causes acute toxic lesions of the respiratory organs – laryngitis, tracheitis, bronchitis, toxic pneumonia. The compounds of the other chemical elements, nitrogen oxides (II and IV), are toxic enough to irritate the mucous membranes of the pulmonary edema. In addition to industrial emissions, NO, NO2 are responsible for the increase in ambient air concentrations due to the combustion of diesel, cigarettes, keratin heaters, wood-burning boilers.

The human body is a complex self-correcting open system, which needs a variety of microelements for its proper functioning. For example, iodine is involved in the functioning of the thyroid gland, providing the formation of thyroxine and triiodothyronine, which are involved in regulating the processes of energy formation in the body and are necessary for the growth and differentiation of cells in the body tissues as well as for trans-membrane transport regulation. This micronutrient enters the body solely with food and people living near salty bodies of water are less likely to develop iodine-deficiency conditions. However, the uneven spreading of the waters of World ocean over the Earth's surface accounts for a sufficient number of areas with low concentration of iodine in water and soil that causes iodine deficiency in plants and animals, and thus in humans. For the prevention of iodine deficiency diseases in many countries of the world certain activities are carried out, for example, the use of iodized salt as well as iodine enriched food, the distribution of biological additives to food, etc. However, one of the consequences of iodine deficiency prevention has been an increase in the level of autoimmune thyroid diseases. It is generally accepted that two factors contribute to the development of autoimmune thyroid diseases: genetic and environmental. In recent years, excess iodine has been identified as an environmental risk factor for autoimmune thyreopathy. Experimental and clinical studies have shown the relationship between long-term excess iodine intake and the induction of autoimmune thyreopathy in humans and animals.

Food industry development has not only led to an increase in the diversity of food products, but also to the active use of various synthesized food additives. Food additives are widely used in fast food, semi-finished products, for prolonging shelf life of food products, reducing the calorie content of food. Today about twenty-two food additives are known, they include: colorants, preservatives, emulsifiers, flavour enhancers, stabilizers, etc. One of the main conditions for the use of food additives is their toxicological safety. At the same time very little attention is paid to assessing the impact of food additives on human mutagenesis. Not all modifications of the DNA molecule are dangerous, but spontaneous, non-directed mutations carry negative effects on the body. Induced mutagenesis can lead to hereditary oncological diseases, congenital malformations. Food additives can lead to an increase in spontaneous mutations in the human body, they can enhance the effects of mutagens present in the environment, that is, to manifest commutative activity. The main types of mutations caused by chemicals are: modifications of nucleotides in DNA structure and chromosomal abbreviations – changes in chromosome structure. For example cinnamon aldehyde showed mutagenic properties in an experiment on mice. Tin chloride preservative was found to be genotoxic in microbiological tests, and formaldehyde exhibited mutagenicity by inducing chromosome abbreviations in human cell culture. Food colorants such as: E142, E125, E150c, E150a caused chromosomal mutations in mammalian cell culture. So the mutagenic effects of most chemicals used in food industry are not properly studied yet. Consequently, it is not possible to predict the effects of the accumulation and transmission of possible mutations to the next generation.

Cancer is the second leading cause of death in the developed world. Environmental factors that increase the likelihood of malignant tumours are called carcinogens. Among these factors, we distinguish chemical carcinogens, which enter our body mainly with food. The most common are nitric acid salts – nitrates. If accumulated in large amounts in vegetables, as a result of the excessive use of nitrogen fertilizers, nitrates are restored to nitrite in the stomach and interacting with gastric juice, are converted into nitrosamines, substances with a wide range of carcinogenic and genotoxic effects. While

studying the negative effects of nitrosamines on human health, scientists conducted research on animal cell cultures. They concluded that this group of substances increases the risks of developing malignant neoplasms in the liver. In addition to vegetables, dangerous nitrogen organic matter can be found in jerky, processed fish, cocoa, alcoholic beverages, dairy products, fermented and marinated food. The Pharmaceutical Journal also reported that in 2019, an over-the-counter drug called Zantac was withdrawn from the US and EU markets due to nitrosamines. Pharmaceutical companies producing certain classes of pressure regulators – sartans – were also forced to revise their production processes in 2019 after massive drug recall in 2018. Another large group of chemical carcinogens are polycyclic aromatic hydrocarbons. They are formed by burning household waste, incomplete combustion of oil products, are released into the atmosphere air together with the exhaust gases, tobacco smoke. Being free, this group of substances enters open water, groundwater. This is facilitated by precipitation, directly washing polycyclic aromatic hydrocarbons into water, as well as the period of snow melting. The most dangerous of this group of organic compounds are benzantrazene, oval, benzipen. In addition to their carcinogenic properties, these compounds have the potential to disrupt foetal development. According to studies conducted at the Colorado University, polycyclic aromatic hydrocarbons can cause neoplasms in the lungs, as well as provoke the transformation of existing benign neoplasms into malignant ones. Moreover, such changes in animal cell culture occurred fairly quickly, within a few hours. So, exposure to this group of substances exceeding the limit doses can cause toxic effects to the body, and even irreversible processes in case of long-term exposure.

While studying the above mentioned issues pre-medical students develop creative projects, participate in round table discussions or debates, brainstorming tasks, case studies and role-plays. Creative activities in Chemistry and the English language classes help learners to visualize alternatives or possibilities from different perspectives, propose innovative ideas and resolutions. They review the progress of implementing them and adjust the process for improvement. Such ways of learning make learners curious about the process and the topic and foster learning itself. Emotions associated with information power long-term memory [4].

Incorporating human ecology issues into classes of Chemistry and the English language and promoting health consciousness and environmental awareness in international students through debate and negotiation requires complex modes of communication. According to the principle of interdisciplinary relationships the syllabus of the educational discipline "The English language" includes the following topics connected with environment protection and healthy way of life: "Diet, nutrition and the prevention of chronic diseases", "GMOs – their role in environmental management", "Plant Kingdom diversity", "Life of Animals", "Challenging Problems of Ecology".

The reader "English for students of medicine and biology" [1] is specially designed not only for vocabulary learning but also for promotion of health consciousness and environmental awareness in students. The topics suggested for discussion are all burning social-ecological and health issues: "Doctors in society". "Medical professionalism in a changing world", "Your body: how it works", "The immune system", "Main health problems and challenges", "The human genome project", "Mutations", "Virology and viruses", "Genetic engineering and human genetics ethics", "Cloning", "Ethical issues in biotechnology", "Organ transplants", "Challenging problems of ecology". We hope that discussions and creative activities that we offer in this book will add to students' motivation to improve environmental health. Enhancing creativity in the classroom is what we do to support in-depth learning. Telling an engaging story is a technique we use to build a creative learning experience through emotions. We believe that learners will get deeply engaged with creative tasks. As the more the students engage with the process, the longer they retain knowledge and get a better understanding of the problem, acquiring the desire to be environmentally friendly.

In our reader "English for students of medicine and biology" we suggest some creative activities in writing. For instance: "The human immune system can be thought as of as an army defending a kingdom, keeping it safe and keeping out invaders. Using this analogy, suppose that you are the leader of the army and that the king has just been killed in a fierce battle which was the result of an attack by an invading army. The invading army destroyed the castle, the surrounding village, and the homes of your people. You know it is your responsibility to rebuild the kingdom. To do this, you must select a new site for the village and must begin building the fortress to defend the castle and its people from future invaders. Describe what should be done step by step to restore safety and security of your people and to rebuild a well-protected kingdom (human body)."

Introduction to human ecology through creative activities for communicative practice suggested in the reader is also provided by brainstorming tasks and round table discussions:

− Do you know which diseases are still incurable? We are fortunate to live in a time when – thanks to scientific advances that have produced lifesaving vaccines and treatments –we can actually begin to imagine a disease-free world. This world may one day be possible. How?

− Embryonic stem cells offer hope for new therapies, but their use in research has been hotly debated. Embryonic stem cell research poses a moral dilemma. It forces us to choose between two moral principles: the duty to prevent or alleviate suffering and the duty to respect the value of human life. So which moral principle should have the upper hand in this situation?

− Human cloning is forbidden; yet, in some countries, therapeutic cloning is no longer illegal. There was a shocking 276 failed attempts before success with Dolly the sheep. Can you imagine having 276 failed attempts at human cloning? Do you think cloning is moral? What gives humans the right to dictate the production of new life?

− What can large cities do to improve their air quality? Do you think cars should be banned from city centres? What do you think the effects of such a ban would be? Should gas for motorists be more expensive? What would be the

advantages and disadvantages of this? How much more would you be prepared to pay for an environmentally-friendly car? Would you like to own a hybrid or electric car?

− Do think global warming is real? What is global warming? Do you think this is an effect of pollution?

What's happening to forests in the world? What happens when we remove forests? What can we do to protect forests?

− Are you concerned about the environment? What do you think is the biggest issue? What little things do you think you could do to help protect the environment? Look at the following list of things which could help the environment. Work in a group to establish which are very important, which are good ideas and which are irrelevant. Say which ones you do or don't do and explain why.

− Turn off the tap when you brush your teeth.

− Turn off your computer when you are not using it.

− Turn down the thermostat or air conditioning at home.

− Don't buy bottled water.

− Use public transport whenever you can.

− Recycle everything you can.

− Don't buy products with excess packaging.

− Turn off the lights when you leave a room.

The topics for creative projects suggested in the reader are designed to promote interest in wildlife and maintain the values of environment preservation in students:

− What animal best represents you? Why? If you could be any animal in the world what would it be and why? What natural animal ability or talent would you like to have?

− Create a presentation of an animal that is commonly found in your country. Try to include information on where it lives, how it viewed in your country and any culture that surrounds it.

People's environmental awareness today is an integral part of the world in which our great-grandchildren will live. We can all take actionable steps as individuals to help improve our environmental health. It is quite obvious that it is necessary for people to form a new vision of the world, a new type of ecological consciousness, characterized by the absence of opposition between man and nature. In this regard, promoting health consciousness and environmental awareness in students for the sake of environment preservation on the one hand, and their own health on the other hand, is the main task for school and university teachers in the framework of environmental education. Human ecology as content for teaching is an effort worth pursuing as we give students knowledge, competencies, and tools to live in a healthy environment.

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ПСИХОЛОГИЯ ПРЕОДОЛЕНИЯ СТРЕССОВЫХ СИТУАЦИЙ В УСЛОВИЯХ СОВРЕМЕННОГО МЕГАПОЛИСА

PSYCHOLOGY OF OVERCOMING STRESSFUL SITUATIONS IN THE CONDITIONS OF MODERN MEGAPOLIS

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