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ENVIRONMENTAL PROJECT IN NATIVE LOCALITY AS METHOD IN ECOLOGICAL EDUCATION

Purpose: To connect the components of the environment, society, economy and education in view of sustainable development, with formation and development of a *sense of local belonging*, through environmental project, as individual work for students, including studies of environmental problems in their home villages. **Methods:** environmental project, methods of oral communication, written communication methods, methods of direct systematic exploration of reality, methods of working in the field, laboratory study methods, analytical method, historical method, systematic method of environment study, etc. **Results:** One of the recent methods used in environmental education of Pedagogical State University "Ion Creanga" students, faculty - History and Geography, university course - "Environmental Protection" is the *environmental project* - a research carried out by students and coordinated by teachers, that studying an environmental issue or problem. In this context, the main effort is focused on local communities, which is the highest form of organization in which students and residents, by developing local sense of belonging, "I live here", can be more involved in conservation and environmental protection. Also, through environmental project, it is proposed to integrate environmental knowledge from various university courses, previously studied within the Geography specialties of the University.

Key words: ecological education, environmental protection

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ЕКОЛОГІЧНИЙ ПРОЕКТ В РІДНОМУ НАСЕЛЕНОМУ ПУНКТІ ЯК МЕТОД У ЕКОЛОГІЧНІЙ ОСВІТІ

Мета: поєднати компоненти навколишнього середовища, суспільства, економіки й освіти з формуванням і розвитком почуття патріотизму через екологічний проект в порядку індивідуальної роботи для студентів, яка включає вивчення екологічних проблем в їх рідних селах. **Методи:** екологічний проект, методи усної комунікації, методи письмової комунікації, методи прямого систематичного дослідження реальності, методи роботи в полі, лабораторні методи дослідження, аналітичний метод, історичний метод, систематичний метод вивчення навколишнього середовища та ін. **Результати:** на факультеті історії та географії, Державного педагогічного університету ім. І. Криянге, в курсі «Охорона навколишнього середовища», в освітніх цілях для студентів застосований новий метод - екологічний проект, що виконується студентами під керівництвом викладачів. В ході виконання цього проекту студент проводить дослідження екологічних проблем і питань безпосередньо на території свого рідного села. На підставі екологічного проекту «Я тут живу» місцеві жителі - студенти - можуть більш активно брати участь в охороні природи і навколишнього середовища свого рідного села. Таким чином, розвивається почуття патріотизму. Крім того, в рамках екологічного проекту пропонується інтегрувати екологічні знання з різних університетських курсів, раніше вивчалися в рамках географічних спеціальностей університету.

Ключові слова: екологічна освіта, охорона навколишнього середовища

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ЭКОЛОГИЧЕСКИЙ ПРОЕКТ В РОДНОМ НАСЕЛЕННОМ ПУНКТЕ КАК МЕТОД В ЭКОЛОГИЧЕСКОМ ОБРАЗОВАНИИ

Цель: Соединить компоненты окружающей среды, общества, экономики и образования с формированием и развитием чувства патриотизма через экологический проект в качестве индивидуальной работы для студентов, включающей изучение экологических проблем в их родных селах. **Методы:** экологический проект, методы устной коммуникации, методы письменной коммуникации, методы прямого систематического исследования реальности, методы работы в поле, лабораторные методы исследования, аналитический метод, исторический метод, систематический метод изучения окружающей среды и др. **Результаты:** на факультете истории и географии, Государственного педагогического университета им. И. Криянгэ, в курсе «Охрана окружающей среды», в образовательных

целях, для студентов применен новый метод – экологический проект, выполняемый студентами под руководством преподавателей. В ходе выполнения этого проекта студент проводит исследование экологических проблем и вопросов непосредственно на территории своего родного села. На основании экологического проекта «Я здесь живу» местные жители - студенты - могут более активно участвовать в охране природы и окружающей среды своего родного села. Таким образом, развивается чувство патриотизма. Кроме того, в рамках экологического проекта предлагается интегрировать экологические знания с различных университетских курсов, ранее изучавшихся в рамках географических специальностей университета.

Ключевые слова: экологическое образование, охрана окружающей среды

Introduction

Environmental protection is an issue of global importance, which must become a national priority that targets directly the living conditions and health of the population, achievement of economic interests, as well as capacities for sustainable development of society. Environmental protection, however, can not be fully realized if not correlate legislative and administrative measures with educational ones. The problems highlighted in the environmental education and access to environmental information in our country, are due largely to the lack of programs, school curriculum on environmental education, lack of an integrated information system in the field and a shortage of access to environment information [10].

Currently, environmental education in the educational system of the Republic of Moldova is based on several relevant policies and strategies in the field, among them:

1. The Framework Plan for primary and secondary education for the academic year 2014-2015, includes some optional subjects that have in viewfinder knowledge and protection of the environment, along with some objectives of Sciences disciplines, Civic Education, Chemistry, Biology, Geography and Physics including hours devoted to ecological theme or environmental protection [5,6];

2. Sectoral Strategy for Development of Education for the years 2012 - 2020, setting out the objectives, tasks and priority directions of development of the education system in

Moldova, in the European integration perspective and ensuring sustainable development of the education system by forming integral, active, social and creative personality - main factor of human development and socio-economic progress of the country [8];

3. Draft Law on Environmental Protection, (2012), where through article 168, the duties and powers of the Government, is provided the organization and support of environmental education activities, creation of ecological education system at all levels of education, ensuring the specialists' training in environmental protection [7];

4. National Environmental Strategy 2014-2023, within the the direction of action 3: Ensuring institutional reform in the environmental sector, with a specific objective aims to improve knowledge on environmental protection among pupils, students and employees with at least 50% by 2023 and access to environmental information [10];

5. Education Code of the Republic of Moldova, where in the context of school educational ideal of Moldova (the formation of personality with initiative, capable of self-development, which does not have only a system of knowledge and skills required for employability, but also independence of opinion and action, is open to intercultural dialogue in the context of national and universal values assumed) is embedded the idea of environmental education [1].

Materials and methods

The environmental project is a research carried out by students, coordinated by teachers and pursuing an environmental issue or problem. Current pedagogical and innovative methods in Education for Sustainable Development (ESD), recommended that process of teaching and

learning phenomena, components, problems concerning the environment, to focus on the prevalence of methods including active participation, learning through experience, visits field study, etc [3]. In this research students used the following methods: methods of oral communication (presentation, querying,

reasoning, problem solving, demonstration etc.); written communication methods (manual with map work, text analysis); methods of direct systematic exploration of reality (systematic observation, documents research, case study); methods of working in the field (field observations, evidence collection, interviewing, interviewing civil society and the authorities dealing with environmental issues); laboratory study methods (laboratory, working with determination, etc.), analytical method,

historical method, systematic method of study environment, etc. For the more visible, accessible results of research, rapporteur will build its presentation using appropriate techniques for the investigated phenomenon: graphs, tables, photographs, drawings, images of the Earth's surface taken from artificial satellites, PowerPoint presentations, stand-ins or will be witnessed by some computer programs on the environment domain.

Results and discussion

The university course "Environmental Protection", taught at the State Pedagogical University "Ion Creanga", Faculty of History and Geography, has as the finality of knowledge, the following objectives: correct identification of environmental elements and description of its essential characteristics; understanding of the integrated character and interdependence of environmental elements; knowledge of significant elements related to territorial differences and peculiarities of the environment; understanding the interdisciplinary nature of environmental issues; correct assessment of current and future changes in the environment; knowledge of international and national legal framework in environmental protection.

Also, through this university course, it was proposed to integrate various visions on education strategies, environmental policies, and various university courses studied during the years (General Geography, Biopedogeography, Climatology, Hydrology, Social Geography, etc.) so that the student understand the importance of integrated approached of environment and be responsible in relations between human and natural systems [2].

Because, in the curriculum of the Faculty of History and Geography, "Ecology" course is not introduced, through the "Environmental Protection" course is try also to explain some concepts of sinecology and demecology. Thus, within realization of environmental project, students will better understand these concepts, the ecosystems as a whole, through observation and description of the ecological state, structure and behavior of rare populations from native locality, describing a food chain, the specific interrelations of biocenosis with biotope, etc.

In environmental education activities, it is necessary to be introduced also the principles of *sustainability of pedagogy* [9]. For the creation of connections between the components of the environment, society, economy and education in view of sustainable development at the end of this course the student must: a) think globally about / to the future, and its influencing - to think about the future when we act now and that all our facts, actions affect us, our lives, and the lives of those outside the community; b) plan, design the idea of a sustainable communities - focus on communities, which is the form of organization in which students and the inhabitants can get involved in formation of environmental durability, developing a sense of local belonging " I living here"; c) manage rationally the natural resources - because every student learn with pleasure about nature is indicated for the teacher to be guided by this enthusiasm in his work with they, and help them to understand the links between the different systems around us [3, 4].

Leading with principles outlined above, and primarily with formation and development of a *sense of local belonging*, environmental project was assigned as individual work, for each student, and included a study of environmental problems in their home villages.

Steps to achieve a such study include:

1. General information about the village (physical and geographical position, topography, climate, hydrographic network, vegetation and animals, soils), according to data from the literature and field observation;

2. History of native village (legend, myths), according to local folklore and historical data;

3. Description of general ecological status (characterization of environmental

components and argumentation of their functions in the ecosystem, the ecological status according to environmental reports);

4. The environmental problems identified in native village. Algorithm for characterization of environmental problems, recorded during the study, included the following steps: *causes / sources of pollution - consequences / impact –measures of control and prevention*. It is not enough for the student to identify and analyze environmental problems. Very important is to find solutions that can solve the studied problems, so their research can try to improve a situation or may be the first step in solving environmental

problems through the prism of critical thinking;

5. Conclusions - deduction of conclusions reached by the student, after research. They must be interrelated with the purpose and objectives initially proposed in the study;

6. Bibliography – it is passing in alphabetical order: author, title, publisher, year, pages you consulted student, internet sites, etc.

7. Appendices - may include attached press articles, photographs, tables, etc.

Below are brought some pictures of environmental projects presentation (combined oral and PowerPoint presentation), developed by students during September, 2014 – March, 2015 (Fig. 1-4).

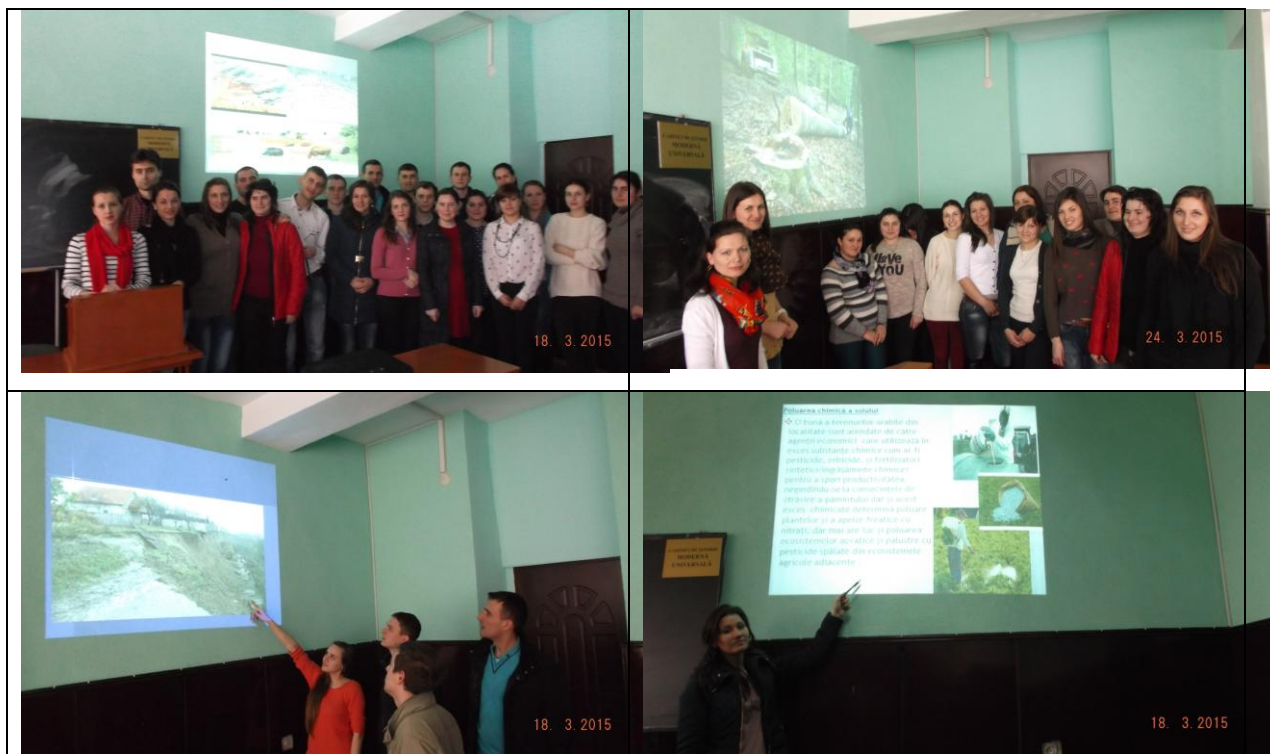


Fig. 1-4. Presentation of environmental projects (30 projects) on the ecological status of native village, coordinator – Dr, senior lecturer Donica A.

Conclusions

Environmental education through environmental project which focused on local horizon, has successfully completed initial proposed objectives, namely: awareness and assumption of responsibility for environmental protection; individual / group initiative adopted to find new solutions for solving environmental problems at national and local

level; conservation and environmental protection, beginning with the native environment (nearest as physical and emotional affiliation) and use of gained knowledge to information, awareness and education (of friends, colleagues, neighbors, villagers, future generations, etc.).

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