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RAISING ENVIRONMENTAL AWARENESS OF STUDENTS THROUGH RESEARCH ACTIVITIES AT THE UNIVERSITY MUSEUM

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The article looks at raising environmental awareness of students in the course of research performed at the university museum. The author assumes that environmental museum of a university can become the space for innovation and exploration that could raise environmental awareness of students. In order to ensure proper pedagogical conditions there was elaborated a concept of raising environmental awareness of students with the help of a university museum.

The article follows the main stages of creation of the exposition by the students, which was devoted to the 5th year of environmental disaster, which was the result of a series of shipwrecks on the ‘black Sunday’ of 11 November, 2007 in the Kerch Strait.

The author assumes that the exposition is essential to shed light on real events, present them more vividly, follow the history of certain exhibits and emphasize the unbearable living conditions for the birds dying in the oil slick. The exposition unveils core problems of oil contamination of the world ocean. The exhibits prove the actual fact and foster deeper understanding of the situation. They help to picture the tragic events of the black Sunday more vividly and evoke feelings and emotions, which make the students their witnesses and participants.

The author follows the process of raising environmental awareness of students and looks at the results before and after their involvement in research at the environmental museum with the help of the method by E.V. Asafova and concludes that engaging students in research through creating ecological exposition can considerably raise their environmental awareness.

Key words: coevolution, increasing environmental awareness of students, research, environmental museum, museum exposition, sociocultural educational environment, space for research and innovation, educational background of a museum, scientific research.

ФОРМИРОВАНИЕ ЭКОЛОГИЧЕСКОЙ КУЛЬТУРЫ СТУДЕНТОВ В ПРОЦЕССЕ НАУЧНО-ИССЛЕДОВАТЕЛЬСКОЙ ДЕЯТЕЛЬНОСТИ В МУЗЕЕ ВУЗА

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Статья посвящена формированию экологической культуры студентов в процессе научно-исследовательской деятельности в музее вуза. Автор предполагает, что именно инновационно-исследовательское пространство экологического музея в высшем учебном заведении является мощным механизмом развития экологической культуры студентов. Для обеспечения педагогических условий данного процесса была разработана концепция формирования экологической культуры студентов в вузовском музее.

В статье прослеживаются ключевые этапы создания студентами экспозиции посвященной 5-летию экологической катастрофы возникшей после серии кораблекрушений в «черное воскресенье» 11 ноября 2007 года в Керченском проливе.

Автор полагает, что создание данной экологической экспозиции не заменимо в освещении реальной стороны тех событий, зрительной их конкретизации, истории отдельных объектов, в характеристике сложившихся невыносимых условий жизни для пернатых, погибающих в разливе нефти. В содержании экспозиции раскрываются стержневые проблемы, связанные с загрязнением мирового океана нефтью. Музейные предметы, представленные в ней, являются доказательством происшедшего факта, содействующего пониманию сложив-

шейся ситуации. Через музейные предметы человек соприкасается с событиями, происходящими в то черное воскресенье, это вызывает особые чувства, переживания делая студента наблюдателем, свидетелем и участником самого события.

Автор отслеживает, результаты процесса формирования экологической культуры студентов, до и после вовлечения их в научно-исследовательскую деятельность на базе вузовского экологического музея по методике Асафовой Е.В. и приходит к выводу, что включение студентов в научно-исследовательскую деятельность при создании экологической экспозиции оказывает значительное влияние на повышение уровня экологической культуры студентов.

Ключевые слова: Козволюция, формирование экологической культуры студента, научно-исследовательская деятельность, экологический музей, музейная экспозиция, социокультурная развивающая среда, инновационное исследовательское пространство, учебно-воспитательное поле музея, научно-исследовательская деятельность.

Present-day environmental problems can be solved only by environmentally literate population, the humanity aware of its responsibility for nature, and succeeding generations, possessing strong environmental awareness. This can be achieved only through educating people about the issue from their school-days, at vocational training institutions and at universities. Coevolution of the society and the nature presupposes awareness of its value and applying humanist approach, which forms the basics of social ties between the people and the nature. Thus, 'humanism as the form of a social tie between people acquires its final shape only after it becomes the form of a tie between people and nature' [3 p. 90].

Evidently, museums play an important role in improving environmental awareness of people, because they serve as a certain socio-cultural background, which fosters education. Research is the main means to create favourable conditions

for ecological education of students at present-day university, and according to Federal State Educational Standard research is a corner stone of education and presupposes various forms of student findings, including those taking place at a university museum. The latter is focused on ecology, which allows discovering interconnections between various processes and subject fields.

It is easy to observe the connection between scientific research at the university in general and scientific research at the museum in particular, interlinked goals of environmental awareness and socio-educational background of a museum.

In this regard we suppose that raising environmental awareness of students through research will be more efficient in the innovative and exploratory surrounding a museum can offer. Therefore, we have developed a concept of environmental exposition of a university museum which serves as a research facility and allows deeper engagement of students in investigation activities.

Museum exposition is the basic means of museum communication, whose educational function is performed through demonstration of museum exhibits, located, arranged and explained according to the scientific concept of the museum [10, p.197].

Exposition work is a certain 'crossroads' of all museum activities. It does not only serve as a basis of educational and awareness-raising function of a museum, but places its demands on the themes of scientific research in the field-specific discipline and acts as one of its products and a form of scientific publication [10, p.198].

With this view Environmental Museum of Ecological Restoration EMROS was established at Anapa branch of Kuban State Agriculture University.



Экологический музей реставрации окружающей среды «ЭМРОС» - Environmental Museum of Ecological Restoration EMROS on the premises of Anapa branch of Kuban State Agriculture University

Идеология «ЭМРОС» направлена на повышение экологической культуры – EMROS ideology is targeted at raising environmental awareness

Fig. 1. The emblem of Environmental Museum of Ecological Restoration EMROS on the premises of Anapa branch of Kuban State Agriculture University

Of significant importance is ecological exposition of the museum devoted to the 5th year of environmental disaster that took place on 11 November, 2007 in the Kerch Strait.

In the course of work at the exposition the students conducted research, which helped to logically develop and specify its contents and theoretical grounding.

More than 30 thousand birds, among them bald-coot, scarf, great-crested grebe, mallard duck and other species died as the result of the ecological disaster in the Kerch Strait caused by the crash of an oil tanker. The exposition was meant to have a strong psychological impact on the consciousness of the visitors to the museum by demonstrating the destructive power of the tragic events, which resulted in the death of birds in the oil slick.



Pic. 2. The photograph of a bird dying in the oil slick on the shore of the Kerch Strait. 11th November, 2007.

Environmental exposition devoted to the ecological disaster in Kerch is essential to shed light on actual events, present them more vividly, follow the history of particular exhibits and emphasize the unbearable living conditions of the birds. The exposition unveils core problems of oil contamination of the world ocean. The museum exhibits prove the actual fact and foster deeper understanding of the situation. They help to picture the tragic events of the black Sunday more vividly and evoke feelings and emotions, which make the students witnesses and participants of the disaster. Nowadays, ecological problems have become the problems of mere survival, and according to the main character of the ecological documentary ‘Russian Nature Reserve’, which was awarded Grand Prix at ‘Golden Knight’-2009 film festival, survival is only possible with a living affectionate heart.

The museum presents four exposition complexes: ‘Oil, the black gold’, ‘Techniques of gathering oil slicks from the water surface’, ‘Outcomes of ecological disaster caused by a series oil tankers crash on the black Sunday of 11th November,

2007 in the Kerch Strait’, ‘Contribution of environmental club researchers to ecological exposition devoted to the death of birds in Kerch’.

Exposition complexes are interrelated and uncover the idea of the whole exposition. They include supplementary materials, graphic materials, maps, manuscripts, physical objects and photographic documents.

Research performed by the students helped to enlarge the exposition of the museum, conduct experiments, perform observations and draw conclusions on the following topics: ‘Proof of inevitability of oil mining and consumption at present-day stage of human development’, ‘Monitoring of oil mining and oil consumption’, ‘Oil disposal techniques’, ‘Experimental proof of the use of surfactants for removing oil from waterbirds’ feathers’, ‘Monitoring of oil contamination of the world ocean’, ‘Monitoring of environmental awareness of young people’, ‘Outcomes of ecological disaster in the Kerch Strait for wildlife preserve Bolshoy Utrish’.

The students have created the following exhibits and supplementary materials for research, which formed the part of the exposition:

1. Slides and multimedia presentations with graphs and tables to illustrate present-day dynamics of oil mining and oil consumption.
2. Graphic maps to illustrate the state of world ecology. Epicenters of oil contamination, which create disbalance in life-sustaining systems of the Earth are marked in red on the globe.
3. A collection of photographs that vividly illustrates ecological disaster in Kerch. The photographs convey dramatism and emotional tension of those days. The materials can be referred to the group of graphic documents.
4. Newspaper articles from ‘Kraevye Novosti’, ‘Taman’, ‘Komsomolskaya Pravda’, ‘Kubanskije Novosti’ with chronicles of the ecological disaster that was happening during 13-21 November, 2007.
5. A collection of feathers and oil, which the students found in August, 2008 in wildlife preserve Bolshoy Utrish, titled ‘Outcomes of ecological

disaster in the Kerch Strait for wildlife preserve Bolshoy Utrish'. The collection is a material evidence of the catastrophe.

6. Instruction sheet with precise description of a chemical experiment to remove oil from birds' feathers – 'Stalgmometric method of detecting the correlation between the change in the surface tension and the quality of removal of oil from the birds' feathers'.
7. A collection of synthetic detergents used as surfactants for removing oil from birds' feathers during the chemical experiment conducted by the students in the year of Kerch disaster.

The study resulted in detection of the level of environmental awareness of students in the course of their research activities. Students of environmental club of Anapa branch of Kuban State Agriculture University majoring in Gardening and Accounting, Analysis and Audit took part in creating the exposition.

To diagnose environmental awareness of students we have benefited from the experience of Kazan State University by applying the method of E.V. Asafova [4]. Environmental awareness is a multi-faceted phenomenon, therefore the test includes three interrelated sections: environmental education (I), environmental responsibility (II), environmental activity (III), which are indicative of aspects a person can be most interested in:

I - acquisition of environmental knowledge and skills; acquiring environmental notions;

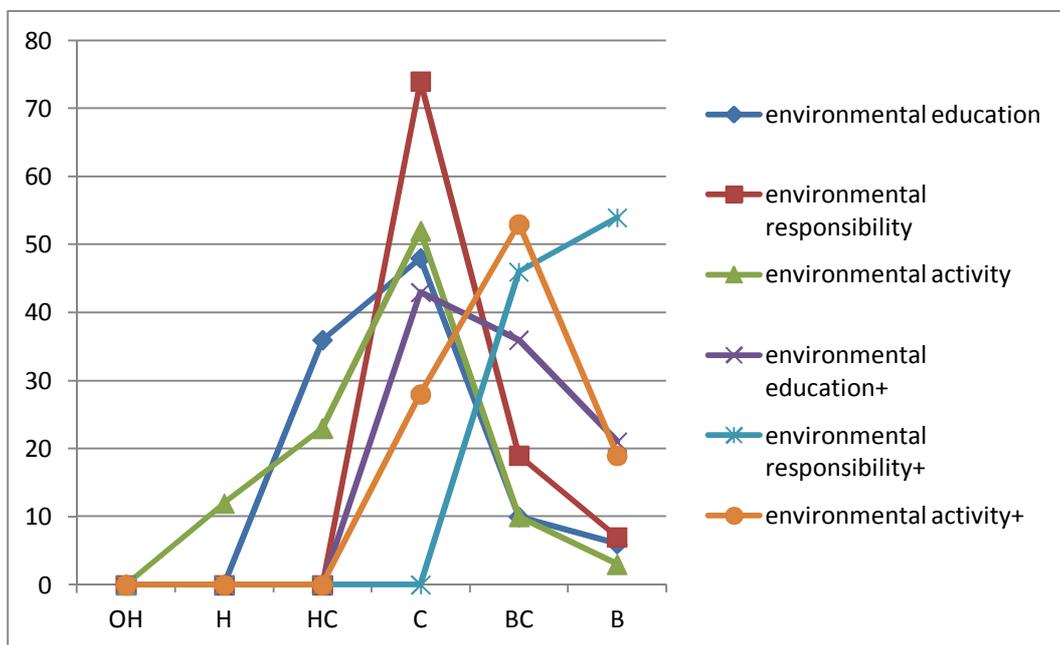
II - their transformation into beliefs and attitudes, improving environmental awareness; developing ethical attitude to the natural world, learning to love nature;

III - participation in environmental activities.

The test includes 20 questions with a 6-point scale to measure personality characteristics indicative of the level of environmental awareness of a student, where 0,1,2,3,4,5,6 refer to the degree in which characteristics are present.

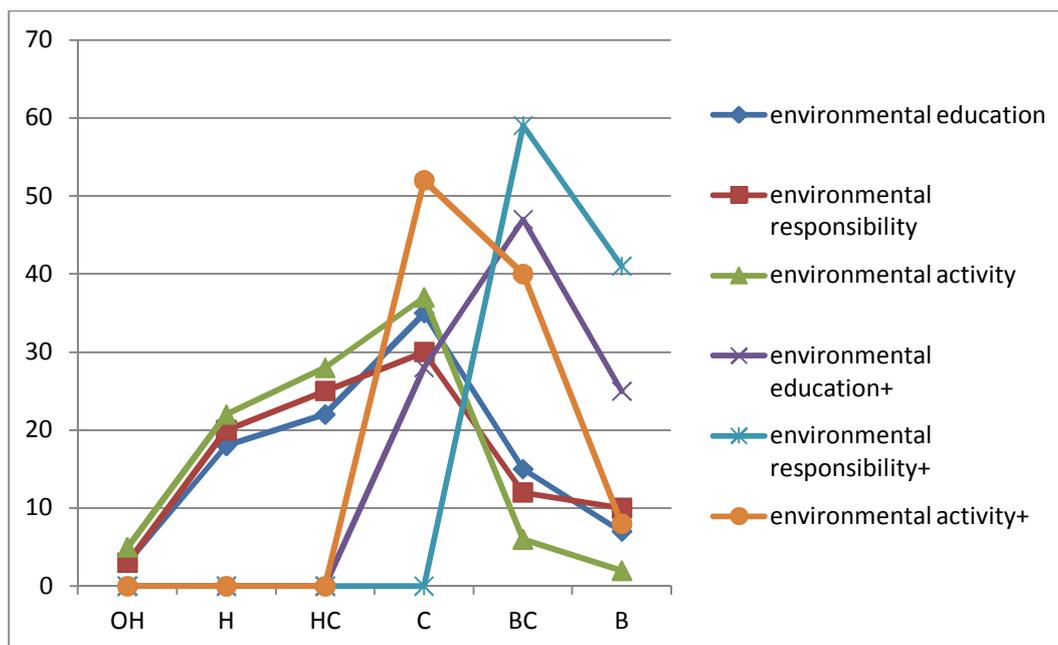
The total number of scores corresponds to the general level of environmental awareness. Besides detecting the general level of environmental awareness as an integral value the test allows to measure each of the three aspects: environmental education, environmental responsibility and environmental activity as low, average or high.

Pic. 3 and Pic. 4 show the obtained results of study of environmental education, environmental responsibility and environmental activity of students.



Levels of environmental awareness: OH-very low, H-low, HC-lower than average, C -average, BC-higher than average, B-high. (+) – after the experiment.

Pic. 3. Environmental awareness of students majoring in Gardening



Levels of environmental awareness: OH-very low, H-low, HC-lower than average, -average, BC-higher than average, B-high. (+) – after the experiment.

Pic. 4. Environmental awareness of students majoring in Accounting, Analysis and Audit

The experiment showed that engaging students in research activities during creating environmental exposition at the university museum results in considerable increase of environmental awareness in students majoring both in biological disciplines (Gardening) and non-biological (Accounting, Analysis and Audit).

Environmental exposition does not only inform about the events connected with the ecological disaster and increase environmental awareness, but serves as an educational premises for student scientific research, methodological activities of university professors and introduction of social and instructional programmes.

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