

*Pop Olena Yuriivna,
Vinnytsia State Pedagogical University named after M. Kotsiubynskyi
tutor, Department of Foreign Languages*

*Поп Елена Юрьевна,
Винницкий государственный педагогический университет
имени М. Коцюбинского, ассистент кафедры иностранных языков*

Non-formal Environmental Education in Canada: the Role of Outdoor Educational Establishments

Неформальное экологическое образование в Канаде: роль внеклассных образовательных учреждений

The problem of the relationship between man and nature is not new. But now, at present, the ecological problem of the interaction of man and nature, as well as the impact of human society on the environment has become extremely acute. Worldwide research shows that the progressive deterioration of the environment, degradation of ecosystems and species diversity is a threat to the very existence of mankind and most other species on Earth. According to the Global Environment Outlook-4 (GEO-4), “The need couldn’t be more urgent and the time couldn’t be more opportune, with our enhanced understanding of the challenges we face, to act now to safeguard our own survival and that of future generations”¹.

In the face of a looming environmental disaster environmental education acquires enormous importance. It is widely regarded as the key response to the

¹ Global Environment Outlook – environment for development (GEO-4). – Malta: Progress Press Ltd, 2007. – P. 493

environmental crisis. Environmental education should attempt to create awareness, transmit information, teach knowledge, develop habits and skills, promote values, provide criteria and standards and present guidelines for problem-solving and decision-making. It therefore aims at both cognitive and affective behaviour modification. The latter necessitates both classroom and field activities, thus an action-oriented, project-centered and participatory process leading to self-confidence, positive attitudes and personal commitment to environmental protection.¹ As Russell and Hodson claim, ‘it is not enough for students to be armchair critics’; they need to get their hands dirty and learn how to take action.²

The process of environmental education can occur through formal, non-formal, and informal approaches or settings. In this paper, we will describe positive experience of the implementation of non-formal action-oriented environmental education of teenagers at botanic gardens, parks and nature centres in Canada, the country which is engaged in UNEP’s work on environmental policy.

Non-formal environmental education is an organized educational activity outside the formal school system, and includes environmental education activities or programs provided by community organizations, youth groups, museums, zoos, and nature or interpretive centres, etc.³

Botanic gardens, museums, zoos and nature centres have a key role to play in implementing non-formal environmental education. They are a part of a growing worldwide movement working to make environmental education accessible to

¹ International strategy for action in the field of environmental education and training for the 1990s. – Nairobi: Majestic Printing Works Ltd., 1988. – P. 10.

² Russell C. Whalewatching as critical science education?/ C. Russell, D. Hodson // Canadian Journal of Science, Mathematics and Technology Education .- 2002.- Vol. 2(4).- P. 489.

³ Environmental Education in Canada. An Overview for Grantmakers. – Toronto: Canadian Environmental Grantmakers` Network, 2006. – P. 3.

everyone. Along with the issues about human activities and environmental dilemmas, non-formal educators at nature centres, parks and botanic gardens can provide young people with the experience of being in indigenous places, of feeling the earth as it is without human alteration.

In Canada, the abundance of resources long supported the belief that nature was like a well that would never run dry. Thus the idea of protecting natural resources did not come to the forefront until the late 19th century. This was when the first national parks were created.¹ Nowadays Canadian Botanic Gardens host over 4.5 million visitors per year and are important science and educational facilities, providing leadership in plant conservation and public education. Botanic gardens, nature centres and parks of Canada contribute enormously to enriching biodiversity education.

Such opportunity is extremely valuable, because if students are educated at schools only, they are separated-out from other environments where they would have the opportunity to grasp and live out the interdependence with others, and with their local built and natural environments. They will broaden their opportunity to directly experience the world beyond school, and learn from this experience.²

Within the framework of educational environmental programmes in botanic gardens, parks and centers of the country there are such forms of training as field trips, interactive exhibits, nature tours, role play, discovery paths, Horticulture and Forestry workshops, specialized botany and biology courses, landscape architecture etc.

Organizing all above mentioned forms of training and being members of Botanic Gardens Conservation International, botanic gardens of Canada follow

¹ Canada Year Book, 2001. - Toronto: Statistics Canada, 2001. – P. 423.

² Steen S. Bastions of Mechanism, Castles Built on Sand: A Critique of Schooling From an Ecological Perspective / S. Steen // Canadian Journal of Environmental Education .-2003.- Vol. 8.- P.194.

The International Agenda for Botanic Gardens in Conservation according to which they:

- develop themselves as centres for environmental education and sustainability by having well planned environmental education programmes with appropriate resources allocated;
- employ appropriately qualified professional education staff and establish education sections or departments within their organizational framework;
- develop an environmental education strategy stating what they want to achieve, how they aim to achieve it, identify the attitudes, behaviour and social change to be encouraged and identify and prioritise the target groups, conservation messages, sustainability and development issues to be addressed and facilities and resources needed;
- ensure that their programme is flexible, taking into consideration different cultural and community values;
- develop and promote botanic gardens as centres for environmental education to schools and:
 - collaborate and support teachers to bring their classes to the garden;
 - develop child-friendly policies and train staff in these policies;
 - conduct regular audits to ensure that the garden is 'child friendly' in collaboration with regional education authorities develop and deliver curriculum based programmes in environmental education within the botanic garden;
- identify themes for their programmes and activities that are relevant to their local and regional environment and conservation issues;
- offer a variety of informal education opportunities that complement the garden's mission;

- evaluate the techniques used in the visitor, interpretive and educational services to ensure that they are effective in achieving their objective.¹

To achieve effectively educational goals, parks and centers of Canada have special educational and training programs for children of different age groups, the absence of which would turn them into ordinary centers of plant and animal life within a big city.

Special attention is paid to planning. Careful planning of educational activities and clearly oriented long-term performance objectives help in determining the results of operations, and create conditions whereby participants in the process have the confidence in the correctness of decisions aimed at overcoming threats to biological diversity.

As an example we would like to cite educational outreach “Shoots with Roots” which operates at Milner Gardens and Woodland in Qualicum Beach, British Columbia. Within the framework of this outreach schooled children (Shoots) work beside adult volunteers (Roots) to explore the wonders of the natural world. During garden programs and school visits, kids and adults have fun while they learn about what plants need to survive, why we need plants, and how people can help plants.²

“Adopt-a-Plant Alberta” is another example of a cooperative effort between various institutions and non-government agencies: Alberta Natural Heritage Information Centre, Devonian Botanic Garden, Alberta Native Plant Council, Alberta Fish and Wildlife, and Species at Risk Programme. It offers an exceptional opportunity for amateur botanists to learn about rare plants and at the same time

¹ The International Agenda for Botanic Gardens in Conservation. – Richmond: Botanic Gardens Conservation International, 2000. – P. 3-4.

² Galbraith D. A. Conserving Plant Diversity: the 2010 Challenge for Canadian Botanical Gardens. Investing in Nature: A Partnership for Plants in Canada and Botanic Gardens / D. A. Galbraith, L. McIvor. – London: Conservation International, 2006. – P. 9.

contribute to the understanding of provincial plant ecology and distribution. Participants adopt a provincially rare plant of their choice. Experts then train them to identify and find it, and once found, how to gather data about its location and local environment that will be useful in its conservation. All the data submitted is housed in the conservation database of the Alberta Natural Heritage Information Centre and is used for provincial efforts to protect the plant.¹

As can be seen from the above examples, training programs, operating in the centers offer students the opportunity to obtain environmental information, to make their own discoveries in a practical way and take a walk on the natural landscape. As a result such programs are really aimed at raising the level of the environmental awareness and at the formation of attitudes and beliefs that contribute to the harmonious development of ecological culture.

Reference:

1. Canada Year Book, 2001. - Toronto: Statistics Canada, 2001. – 563 p.
2. Environmental Education in Canada. An Overview for Grantmakers. – Toronto: Canadian Environmental Grantmakers` Network, 2006. – 17 p.
3. Galbraith D. A. Conserving Plant Diversity: the 2010 Challenge for Canadian Botanical Gardens. Investing in Nature: A Partnership for Plants in Canada and Botanic Gardens / D. A. Galbraith, L. McIvor. – London: Conservation International, 2006. – 17 p.
4. Global Environment Outlook – environment for development (GEO-4). – Malta: Progress Press Ltd, 2007. – 540 p.
5. International strategy for action in the field of environmental education and training for the 1990s. – Nairobi: Majestic Printing Works Ltd., 1988. – 21p.
6. Russell C. Whalewatching as critical science education?/ C. Russell, D. Hodson // Canadian Journal of Science, Mathematics and Technology Education .- 2002.- Vol. 2(4).- P. 485–504.
7. Steen S. Bastions of Mechanism, Castles Built on Sand:A Critique of Schooling From an Ecological Perspective / S. Steen // Canadian Journal of Environmental Education .-2003.- Vol. 8.- P.191-203.

¹ Found at http://www.bgci.org/files/Canada/english_docs/2010challengeeng.pdf

8. The International Agenda for Botanic Gardens in Conservation. – Richmond: Botanic Gardens Conservation International, 2000. – 65 p.
9. http://www.bgci.org/files/Canada/english_docs/2010challengeeng.pdf