

Children's awareness of plants: Preliminary investigation of problem "at the sharp end of art"

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"...Problems cannot be solved at the same level of awareness that created them."

--Albert Einstein

A lot of visitors come to see collections of greenhouse of the Main Botanical Garden Russian Academy of Sciences every year. Many of them – schoolchildren of different age, but mainly teenagers, attending schools and classes of various types – state secondary, special language, biological, lyceums and gymnasiums, private schools, children attending centers of additional education after classes at school (including ecological) and so on. Of course, different groups of children need different approach. It is very important to know the starting point of children's knowledge to elaborate the educational program and make the process of education sustainable.

For this purpose **4 groups of schoolchildren** (one of which was a group of teenagers – 14-15 years old, two - pupils of primary schools – 8-10 years old, and the 4th - children of 11-12 years old (totally 40 pupils) after a short discussion of the importance of plants in their life in English were asked to interpret their knowledge of plants and their attitude towards problems connected with plants in the form of drawings under the title "**Plants and me**". The simplest way could be making a questionnaire, but it is not so interesting for children as making pictures. Children are very frank and creative, like to use their imagination. Only 2 teenagers refused to do this saying that they could not draw at all, all the rest agreed willingly. It is worth noticing that the mainly gifted children took part, having a high level of intellect, many of them were winners of various intellectual and artistic competitions of a city and international level.

The analysis of children's drawings shows:

<i>Children's awareness</i>	<i>% of drawings</i>
1. Many of children realize beauty of plants, draw beautiful landscapes and make artistic compositions using different parts of plants	21%
2. Many of children realize close relationships between plants and animals (insects, birds and mammals) and plants and human beings.	12%
3. Problems that worry children most of all are the following:	
a) Fires	34%
b) Trampling down and eradication of plants with beautiful flowers	9%
c) unreasonable cuttings of trees	9%

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| d) air, water and earth pollution and, as a result, extinction of plants In this case their pictures are often .black and white | 9% |
| e) planting of trees and gardens | 6% |

Conclusions

1. None of the children remained indifferent to the problems, connected with plants nowadays. Many of them are sure that plants must be protected. grown in the gardens because people need and like them, i.e. they already occupy an active position in relation towards plants.
2. But they never give names of plants, they don't draw plant species, but some "common" tree or herb, because they don't know them well, plant diversity of their close surroundings is poorly familiar to them. The problem of global conservation of the whole biodiversity of plants – not only beautiful, not only economically important, not only necessary for animals as well as conservation of life as a whole at this preliminary stage remains unclear to them, because they don't know all chains and levels of relationships existing between all living organisms. And that will be the task of the future work of the educators of the botanical garden.
3. According to Einstein a new level of awareness is needed to solve the problem created earlier. Thinking about the problem of conservation of plants now the formula of new level of awareness can be marked as "knowledge + active living position". Children themselves have little possibilities, of course, but they have friends, relatives who are able to make decisions concerning conservation of plants now and they will be grown ups who'll make decisions in the future. A very important problem is to keep their active position, acquired in childhood till they are adults. We consider the task of the future work of the educators of the botanical garden as converting the consciousness of children in this direction.

Drawings by:

Askerov Farid, Bakotina Anna, Bolshakova Tonya, Karoyan Anna, Konysheva Anastasia, Konyukov Misha, Kostev Ivan, Krasnorutskaya Tanja, Kyrillova Julia, Likunova Kate, Safonova Oksana, Schukina Kate, Sorokotyagin Vasilyi, Szuravleva Kate, Travushkin Maxim, Turygina Anastasia, Vachaev Iliya, Zaporozhets Anastasia etc.

Biography

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Born in Moscow in 08.09.1955. Graduated from the Moscow pedagogical university in 1977. Since 1981 have been working in the Main Botanical Garden RAS. Ph. D., senior researcher.