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An Opportunity to form skills supporting development with the help of out-of-class environment

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Abstract: *Forming skills supporting development has the character of continual amend process as a natural part of the education. These skills called at times “environmental competency” give the student a chance to find a place in the surrounding world, to find out the value of nature, their own and other people’s health, and also a way to make decisions for managing the risk. Creating a positive motivation to learn about the environment is the first step towards realizing environmental education, gaining environmental culture and supportive development skills. Except obligatory, out-of-class activities give very good opportunities to achieve such results.*

The aim of this presentation is to give an opportunity for permanent development in the process of Man & Science and Geography Education through out-of-class activities devoted to the Earth’s Day.

Keywords: *skins in permanent development, out-of-class activities Earth’s Day, script*

Introduction

The problem of increasing the quality of education has become more and more important recently and its solving has been connected to the competence approach. The results and achievement are rather connected with learning key competence, necessary for personal development and social realization than gaining knowledge, skills and habits.

School subjects, dealing with living and non-living nature, reveal reasons for environmental problems and consequence of people’s influence on nature. Understanding of environmental situation and taking part in its solving show ecological culture and personal orientation. Environmental knowledge has become a basic educational practice, a way to for skills supporting development – a key competence in primary and secondary school education law. These skills called at times „environmental competency” give the student a chance to find a place in the surrounding world, to find out the value of nature, their own and other people’s health, and also a way to make decisions for managing the risk. It helps to realize the connection between development and cooperation of all environmental systems, to predict the possible contradiction and problems in the nature-man relationship and to plan effective solution. Thus these skills have universal, multi-subject, integral and social-cultural character forming of which is one of the main

educational purposes. It is necessary the complex character of ecological problems to be revealed by using and interacting all subjects which deal with different aspects of environment and its influence on all living creatures.

It is also important for students to be personally involved and interested in solving these problems.

Out-of-class activities offer very good opportunities for this. Recently these types of activities have become an important component in the process of education. They balance the lack of time, as during the lesson it is impossible to satisfy all students' curiosity and questions. Taking part in out-of-class activities can expand students' knowledge and practice, as well as develop virtues like tolerance, planning, creativity confidence and self-confidence and team-work abilities.

Out-of-class activities have several advantages than those in class. They often have entertaining character which interest students to take part in desired activity. This helps using different methods and forms of education which reveals each student's abilities. Volunteering teaches responsibility, develops creativity, imagination and tolerance.

Students are not limited by strict rules. On the contrary, they are encouraged and supported to release their best qualities and virtues. They are also encouraged to make decisions and become initiative. As a result, the quality of decisions and responsibility to given aims are increased.

One of the most popular out-of-class activities is theme evening classes about a scientist or event. They have great known edge value, as the preparation and presenting can solve different educational and pedagogical problems and form important key competences. Themes and ways of organizing are extremely various, but our experience shows that the greatest students' interest is in holding competitions.

Results and Discussion

These out-of-class opportunities and the actual problem of forming responsible attitude towards nature and skills supporting development of students encouraged us to make up an Earth Day Class Script. We have chosen the title „The Earth – a Cosy but Insecure Home”. This is a script which was realized on 22nd April, 2017 at Konstantin Preslavsky University of Shumen, with the participation of students from „Sava Dobroplodni” Secondary School, Shumen.

Evening Devoted To the Earth Day (script)

It is a competition between 2 teams of 6th grade classes. Each team has chosen a name and symbol. Judges are lecturers from the University.

Suitable chemical experiments are shown in between the parts of competition as well as a quiz for the guests. The Interactive board has the motto of the evening (Fig. 1).



Figure 1. Motto of the evening

Announcer 1: "What place would you advise me to visit now?" he asked. "The planet Earth," replied the geographer. "It has a good reputation.". These words from „The Little Prince” by Exupery will enlighten our evening. It is devoted to planet Earth, its nature and our attitude towards it. Which is the reason?

Announcer 2: Our planet is aching!!! The following film will convince you. „Environmental challenges of 21st century” follows (Fig. 2).



Figure 2. Video „Environmental challenges of 21st century” follows

Announcer 1: In order to think about Earth and its protection, 22nd April is pronounced as an international Earth Day – a day of responsibility to our planet and people who live on it, to our nature of which we are part. Do you know the story of this day?

Announcer 2: It was pronounced in the beginning of 19th century by the minister of Agriculture of Nebraska, John Morton. The reason? Those days few existing trees and plants were cut down for building and heating purposes. Morton offered re-planting, announcing „A Tree day” and set up a reward for the man who will plan the largest number of trees on that day. On the first „Tree Day” – 10th April, 1842, Nebraska people planted about a million trees! Later the „Tree Day” became an official fest celebrated on 22th April – Morton’s birthday.

Announcer 1: The Earth Day gains importance during 1970, when more than 20 million people worldwide took part in different environmental actions. During 1990 the day was pronounced as an international one, and Bulgaria takes part in it in 1993, one of the first counties to recognize it.

Announcer 2: The „Earth Day” has its symbols. There is an Earth banner, which is not official because there isn’t a common government or country yet. The banner is dark blue with the image of the Earth on it. It is a picture taken by the astronauts of “Apollo-17” in 1972 from a distance of 29 000 km. The photo is known as „The Blue Marble”. The other symbol is the Greek letter Θ theta, it is green on a white background.

The Earth’s Day is celebrated in many different ways. But one tradition is connected with the Peace Bell and is equally presented. The Bell’s ringing appeals people on Earth to unite and care of planet’s health and beauty. Its first ring sounded in UN Headquarters in New York. It was molded from coins, collected by children around the world in the name of Peace on Earth. There is a saying on the Bell: „Long Live Peace In The Whole World”. Similar bell was situated in Vienna in 1996 and later in other cities in Germany, Japan, Canada, Brazil etc. [6].

Each symbol is projected on the interactive board as announced.

Then comes presenting of the teams, jury and competition rules. Then the competition begins.

First Round: Two envelopes containing a question each for recognizing and describing types of ores taught in „Geography and Economics” and „Man and Nature” classes. The question is: „You are explorers – geologists, geographers, chemists. You take part in a science expedition and come to a laboratory full of collections of various ores. You have to find out iron/copper ore and explain its qualities and influences over man’s health and environment.

As teams work, a quiz is held with the guests. It is in the field of geography and natural places as in the example:

The biggest river basin on Earth is ...

The biggest waterfalls on Earth is ...

The largest equatorial forest on Earth is situated in ...

The longest cave on Earth is ... etc.

Second Round: Both teams solve one and the same test including knowledge from „Man and Nature” School subject.

1. Fresh air is a gas mixture. Of biggest quantity is:

- a) oxygen;
- b) nitrogen;
- c) CO₂;
- d) helium.

2. Burning coal, petrol and other fuel exhaust sulfur and nitrogen oxides. These are dangerous fumes which lead to:
 - a) greenhouse effect;
 - b) acid rains;
 - c) damaging the ozone layer;
 - d) colder climate.
3. Which feature justifies best the oxygen's romantic name „life element“?
 - a) not poisonous;
 - b) a little soluble;
 - c) maintains burning and takes part in breathing;
 - d) doesn't burn.
4. Which collaboration is connected to acid rain forming? Define types of substances which take part in chemical processes!
 - a) Sulphur Dioxide + Water \rightarrow Sulphur Acid
 - b) Carbon + Oxygen \rightarrow CO₂
 - c) Calcium Oxide + Sulphur Dioxide \rightarrow CaSO₄
 - d) CO + Oxygen \rightarrow CO₂
5. Which of the following man's activity leads to increasing of the air pollution?
 - a) using water, sun and wind as energy resources;
 - b) increasing the production of vehicles;
 - c) creating of little-waste or non-waste produce;
 - d) increasing forest areas through planting/
6. People's activity is threatening the environment as constantly changing the ozone layer which protects Earth from Sun's ultraviolet radiation. This leads to many species' extinction. Especially on the Antarctic. That's why Bulgarian explorers together with their international Colleagues on Livingston Island constantly exam in life on the icy continent. The conditions are harsh, that is why members of the expeditions must know well the quality and virtues of the available substances. You can help them by solving this problem:
 - 6.1. There was a break-down at the camp and some hydrogen is necessary for a balloon to be raised in order to signal for help from the nearest camp. Can you help?
 - a) What substances you need to produce hydrogen (suggest methods);
 - b) Explain the processes that are going on;
 - c) Do you need any precautions using hydrogen?
 - 6.2. In the camp you need some oxygen to maintain life of an injured person from the nearest base. In the first – aid kit there is oxygen water, potassium, alcohol, Flavin and other medicines.
 - a) Which substances can you use to produce oxygen easily?
 - b) Explain the processes that are going on;
 - c) Do you need any precautions using oxygen?
 - 6.3. The expedition camp has run out of salt. Can you help participants to produce salt in the present conditions?
 - a) How can you produce salt most easily?
 - b) Which processes are you going to use to get pure salt?
 - c) Is salt healthy or harmful for people?

While the jury is checking the results, effective chemistry demonstrations of natural phenomena are being held.

Third Round: Working with Earth map, Competitors have to name and visualize on it three of the world records from the following.

1st team:

- The driest desert on Earth – the Atacama desert
- The widest river – the Amazon
- The highest mountain lake – Titicaca 3 812 m

For birds, trees, flowers and bees to live!
Our Earth to be gorgeous forever!
People, Be Careful! Be human! Protect our Planet clean!

This evening is a strong emotional influence both on students and on their parents. It helped not only for increasing students' knowledge but also for developing their team skills, work tolerance responsibility and forming important key competence like support in permanent development and healthy way of life and sport.

The survey of students and their parents' opinion was convinced as well– organized out-of-class activities make the School a preferable territory again.

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