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“Zaprude” Kindergarten
Zagreb, Baburičina 11, Croatia
Academic year 2017/2018
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ARTICLE

Project “Energy and I”
Ecology activities for energy efficiency

Since 2016, Zaprude Kindergarten has been involved in the international TOGETHER (TOwards a Goal of Efficiency THrough Energy Reduction) project, in which the City of Zagreb has been participating as one of the partners in the Interreg Central Europe program. The goal of the “Together” project is not only to make the kindergartens’ facilities energy- efficient, but also to raise awareness of the need to change the behavior of children and adults to achieve energy efficiency and to try and influence the wider community.

Our group consisted of children between the age of 6 and 7. This is the age when children often expect too much of themselves, they set themselves up with difficult tasks, so the role of the educator is important to help them achieve their realistic possibilities. They are very interested in group work and the feeling of success in different situations is of utmost importance to them. For this reason, we conducted a variety of research and testing related games and activities to help them solve the problems by themselves, to successfully discover relationships, create and test their assumptions and gain new knowledge using different game materials and resources.

Project stages

To encourage awareness of the need for energy efficiency and an environmentally friendly way of living, it is best to start from the earliest age. Preschool children find the energy and energy efficiency concept very abstract and it is a great challenge for educators to bring them closer to children. The project “Energy and I” was designed with this aim. It is divided into 3 stages to help children expand their knowledge of energy and, through familiar topics, gradually understand the abstract concept of energy efficiency.

1st STAGE: Energy of the human body

The main topic of the last academic year was “My Body”, so we devoted the first stage of the project to the body’s energy. In addition to the importance of physical activity, we found out what our body needs to live, the important role of healthy food as a source of energy, how our body turns food into energy and internal processes of air and water circulation. A lot of time was spent on walks and physical activities to better understand how much energy we need to get to a further destination and we gradually shifted to other stages or even mixed individual stages of the project.

2nd STAGE: Transferring own energy to objects

The second stage of the project consisted of activities with which children, having become aware of their own energy, transferred energy to subjects. Objects were used that children handle every day, but in a different way. We moved balls by blowing into them, we put domino tiles into rows to get a chain reaction, we used spinning tops, air hockey, mini bowling alley, balls and so on. Spending time outside and physical activities were also a usual practice.

3rd STAGE: Energy efficiency in kindergarten - Eco patrol

Having researched different ways of energy transfer to objects, we started with a third stage that was devoted to energy efficiency and the awareness of the need for an eco-friendly way of living. We started with waste sorting activities, and in parallel established the Eco Patrol. Eco-patrol has had an important role in understanding the need for energy efficiency. The support of the City Office for the Economy, Energy and Environmental Protection helped us in procuring the measuring instruments to help children measure the temperature, brightness and power consumption by themselves. In addition, we bought a



smart TV which provides us with a real-time "poster" to monitor energy consumption and makes every change visible. In the "Baby elephants" educational group we have been dealing with various green topics and energy research for a long time, so we have established the Eco Patrol.

The Eco Patrol is made up of five children who are taking turns doing patrols and they take with them two guests from other educational groups. Eco patrols are done 2-3 times a week, and the situation is recorded on a large board, giving each group a smiley or an angry face in these categories - water saving, electricity saving, paper and plastic separation, decorative plants care, and yard cleanliness.

We started our mission by designing a logo, ID cards and Eco Patrol's uniforms. Given that we have had many ecological topics so far, we realized there is a great need to preserve nature, sort waste and save energy. We have decided to send memorandums to other educational groups and explain how they can help preserve our planet Earth.

The tasks of our Eco-patrol are not just kindergarten visits for energy saving reviews, but also research on various environmental issues such as waste sorting, renewable energy sources, energy transfer and environmental concerns through group work and collaboration with other educational groups.

Most of the activities were of research nature, but in addition to learning and awareness, we tried to encourage the development of other areas in children as well. We often integrated topics into activities that at first glance have little to do with the topic itself and thus managed to hold their interest for a longer time. Working together with parents, the Eco Patrol also made and took care of a small herb garden.

Throughout the year, the interest in the subject fluctuated, but it always came back when we would offer new or extended the old stimuli. The exception was the third stage, which was constantly in focus of the Eco Patrol. We encouraged the interests of children and developed activities through the stimulating environment that we have created together with children, parents and the expert team. The expert team supported us with various didactic content and literature.

Co-operation with parents and the community

We worked together with parents through parental meetings, daily communication when they brought and took their children home, individual conversations and procurement of various materials (PNM, plastic and paper boxes and bags, garden seedlings, planting substrates, etc.). Along with the Eco corner, we also created the Energy corner where we disseminated the work related to energy efficiency. Also, one of the more interesting activities we did was when we walked in the centre of our city block and, by singing and with ecological posters, tried to make the neighbourhood aware of our efforts and the importance of eco-friendly way of life. This was how we marked the Zagreb Energy Week, which we do every year.

Spatial context

The living room space was refurbished to suit the needs. Most of the activities were connected to the living room and other rooms such as the kitchen, laundry room, and boiler room, and we were verifying the insights by walking outside the kindergarten and with physical activity. When weather conditions allowed it, we were investigating and taking care of the kindergarten yard where we created our little garden with aromatic herbs that was also interesting for children from other educational groups.

Conclusion

The topic "Energy and I" proved to be great because it has provided a lot of opportunities for children to express themselves creatively in interaction with the offered stimuli. However, with this topic, it was difficult to stimulate the children's interest because of the abstractness of the concepts of energy and energy efficiency. The integration of the topic "Energy and I" at the beginning of the academic year was more difficult because of the "extensiveness" of the topic not easily understood by children of that age. For this reason, through a series of small projects related to body energy, healthy nutrition, waste separation and ecology-related experiments, we have decided to try to raise awareness of the importance of caring for the environment conservation, eco-friendly living and energy efficiency.

Sometimes, the interest was greater than the available material or aids. We would like to emphasize this as a deficiency. The project is successful despite its shortcomings and the specific situation at the beginning of the academic year because it took place through a longer period and every child could participate.

Having needed months of work and a lot of small projects to get the children interested in the topic, we were able to work on interesting topics that eventually brought us to the desired goal. In doing so, the children gained new knowledge and new experiences and passed this knowledge to the wider community, which was the main goal.

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