

support of multidimensional mathematical training, which includes:

- a) educational activities, contributing to the formation of professional competencies;
- b) designing socially significant results of this exploration activity;
- c) identification of attitudes results for the student and society.

Conditions necessary for the formation of student's abilities for independent cognitive activity mastering basic knowledge and skills sufficient for effective use in a future profession, are:

- 1) modernization of methodical teaching systems based on the competence approach;
- 2) ensuring inter-linkages of formal logical and intuitive components of learning activities.

We will take a closer look at the interactions of formal logic and intuitive components of the activity.

Formal, logical component is reduced to a set of objects to classify skills and deductive reasoning, counterexample to disprove a general statement, formulate questions, conduct action by the algorithm and make this algorithm, and look for patterns to get the consequences. While intuitive visual component involves guessing patterns in numerical material and geometric drawings, expressing hypotheses and holding reasoning by analogy and induction, building generalizations and instantiations.

**Conclusion.** Implementation of cognitive, social, humanitarian, operational, research and professional orientation education involves enriching personal experience of the student in the areas of:

- intellectual and cognitive search, if converted quest for knowledge, endowed with personal meaning;
- dialogic communicative activities, if any leads to the formation of their own position in life testing;
- emotional and personal manifestations, if there is a need to develop and experience different aspects of the value of action relations.

Thus, the multi-dimensionality of mathematical training in the integration of methodological knowledge and generalized methods of activity focused on the formation of a student's ability to self-education professional self-development

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#### ORGANIZATION OF ECOLOGICAL ACTIVITY OF JUNIOR SCHOOL CHILDREN

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The article describes the importance of using different types of ecological activity in the formation of ecological culture of JUNIOR SCHOOL CHILDREN. In this direction we studied the experience of other authors. The publication acquaints readers with such activities as: ecological actions, ecological pathway, excursions, ecological games, role plays, field workshops, sociological studies, ecological experiments.

The organization of ecological activity of junior schoolchildren often causes serious difficulties for teachers. Unlike adults, senior pupils and even teenagers, junior schoolchildren look at the world as through a magnifying glass, which not only enlarges the natural objects, but also animates and humanizes them. That is why it is important to take care of the organization of activity even not so significant for the environment, but it has a huge impact on the development of ecological culture of the child [2, p. 21–22].

It was studied methodical development programs of A.A. Pleshakov, I.A. Kudinov, G.V. Bukowski, M.E. Bukovsky, N.F. Vinogradov, G.G. Ivchenkov, I.V. Potapov, N.S. Dezhnikovoy, L.Y. Ivanov, E.M. Klemiyashova, L.M. Klara, A.P. Molodov, V.A. Samkov, V.M. Suvorov, N.V. Lobodin, Y.N. Alexandrov, N.D. Laskin, N.V. Nikolaev, S.V. Mashkov, I.G. Norenko and others. In their studies the authors used the following forms: excursions and activities, studies and projects, practical and laboratory work, observations and walks, distance travel and tours, competitions and children's parties, work in pairs and groups, ecological quizzes and KVN's (the club of inventive gays – CIG), conversations and exhibitions, presentations (using computer technologies) and ecological operations, ecological pathway, an hour of questions and answers, ecological courts, etc.

The analysis of researches allowed to group conditionally activity forms as follows:

- Ecological-oriented: ecological and psychological trainings, festivals, discussions, naturalistic activities, environmental, business, simulation games, thematic shifts in the CHC (Children's Health Camp);
- Environmental: community work days, ecological actions, children's ecological movement, actions on environment protection, tree planting;
- Design and research: ecological workshops, competitions, creative collective works (CCW), summer ecological workshop, the establishment of environmental projects (Urban ecology, recycling, the projects of ecologically clean house), and field of environmental practice;

- Educations: studies, environmental monitoring, meetings, the issue of ecological paper, school of the young journalist, theatrical events;

- Eco-regional: excursions, expeditions, journeys, educational ecological pathways and others [3, p. 125].

We will describe some of the offered forms.

The ecological actions. Children offered some actions, among which was “Help to homeless dogs” which included the steps to search the owners for the homeless or lost dogs. Participation in the actions which are carried out by International Fund for Animal Welfare IFAW became traditional. An example is the participation in the action “Save the elephants on the planet” (students gathered 526 signatures under the petition, involving to this noble cause their friends, parents and students from other schools).

Conducting of ecological action “The Week of Clean Schools” suggests improvement of ecological situation of schools, improving of ecological education of schoolchildren, as well as the assessment of practical and educational work of ecological character, which are held by teaching staff and students of schools.

At the first stage of the contest the organizers organize “The Round tables” with children of school government in each of the districts where explains the basic criteria and conditions of the tender. After meetings with leaders in all selected schools are handed announcements that specify criteria for determining winners. Then all schools receive a week’s time to improve the ecological condition of the school and other activities on the competition conditions.

During the competition, the competent jury, which includes adults and children, conducts the monitoring of ecological conditions in schools, school gardening degree and the frequency of the community work days, which are held in schools.

Are also conducted interviews with students to determine how students are informed about environmental issues. According to the results of monitoring and conversations is determined the school – winner.

Excursions. The important information about the nature of a child can get in the school yard in nearby squares and parks, even on a busy city street, if the excursion planned and prepared in advance. In preparing and conducting the excursions the facilitator should follow some rules:

- the duration of the excursions for children 6–8 years must not exceed 30–40 minutes;

- The place of the excursion must be new for the guys (but not the head), as the novelty of perception helps to better learn the material;

- The manager must determine in advance the route of the excursion to identify interesting stopping places and objects for display. There are 3–6 objects for children of this age;

- it is necessary to concentrate the attention of the children to the planned objects, not being distracted by minor and accidental, strictly following the route and the theme of the excursion;

- The explanations need to carry an emotional charge and be rather brief, do not overwork sightseers;

- Each object for better absorption is shown on the excursion 2–3 times in different ways. For example, showing *Gladiolus*, at first are introduced with the name of the flower and its features, and then, in another place, ask to find a flower, like a sword, tell the legend about him, again is repeated the name.

- Each object for better absorption of the shows on the tour 2–3 times in different ways. For example, by showing *gladiolus*, the teacher introduces the name of the flower and its features, then, in another place, asks to find the flower, like a sword, and tells a legend about it, the children again repeat the name. At the third stop we guess riddles about flowers, including about *gladiolus*;

- For the aesthetic perception of the nature the excursion is desirable to accompany with reading of passages of poetry, available for this age, guessing riddles, bringing the folk proverbs and sayings;

- Fastening materials of excursions can be carried on the following excursion, walks and various games [4, p. 4]

Environmental Games. Game is, first of all, the accumulation of experience, and it is active experience. The method of game in general terms is a sequence of actions, operations of the teacher on the selection, development, preparation of games, the inclusion of children in play activities, the implementation of the game, summarizing its results [12, p. 30].

Environmental games, chosen appropriately, help teachers to give children the installation on the right behavior in the nature among peers and in the circle of adults, to form the corresponding emotional attitude to such behavior. The tasks of the game and game situations are as follows: to develop the environmental culture of junior school children; to teach children to use the knowledge about nature in the fulfillment of the tasks, i.e. to enhance the knowledge acquired before the game, activate thinking of the child; to reinforce knowledge of the nature; to develop ingenuity during the game; to develop observation when performing gaming techniques. In some cases, in the game, some information is digested, which increases the volume of knowledge about the nature of [4, p. 32].

A role-playing game simulates various life situations, giving students the opportunity to understand better the studied laws, communication, relationships. There are some the types of the role-playing games such as are environmental talk

show and environmental performances. However, the talk shows are difficult for organizations with primary school age. Therefore, during the work with junior school children we use environmental performances which in form are freer.

Both teachers and students are given more opportunities to express an invention, personalized every role. In this case, the success of the performance is largely determined by the contrived costumes, and even the choice of artist in a particular role. There are many elements of humor in scenarios of environmental performances. With good production the hall should periodically laugh. Children love to compete, so it is logical to conclude any event with quiz, crossword, Olympiads, etc [8, p. 5–6].

A Field workshop is an indispensable element of the program for the development of ecological culture of the junior school children. They allow organizing the purposeful activity of junior school children study, assessment and improvement of the natural and social environment. The objects of study are variety of similar ecosystems and socio-eco-systems and their separate elements. Performed by junior school children learning research activity is aimed at improving skills of ecological character, emotional and aesthetic development, the realization of the need to solve environmental problems, the willingness to participate personally in this process. The main task of the workshops is in real conditions of interaction with the environment to reveal the universal value of nature, to form a basis of ecologically reasonable behavior [12, p. 32].

Our children are urban children. They have been in zoos and botanical gardens, but, as a rule, can't distinguish a linden from a pine, and a starling from a sparrow. Moreover, there is an opening for them how many different species live (grow, fly, crawl) next to them [7, p. 62]. Younger students are introduced to the real structure of natural communities (steppe, meadow, forest), learn how to use qualifiers.

The themes of field workshops can be such: "Live pharmacy: medicinal plants at home (Park, meadows, forests, etc.)", "Study of snow cover of the district" [6, p. 54–55], "Winter mnogoseditsa" [8, p. 80–86], "Distinguish spring trees", "Inhabitants of the river Tobol" and other.

The tracking processes in natural anthropogenic systems (monitoring) gives a real reliable information, in which students can identify local environmental problems, to continue to deploy all possible efforts to eliminate them [11, p. 382].

Sociological researches constitute a special category of tasks (questioning – written and oral interrogations, interviews, etc.), which directed on the defining the relationships of reference groups to the specific aspects of the environmental problems. Any sociological interrogation conducted

for a specific purpose and, as a rule, is a part of a lot of work (research or project).

Sociological research includes the main stages of work: writing of the questionnaires, their reproduction; distribution of questionnaires by the principle of feedback; carrying out sociological interrogation; analysis of results; receiving conclusions; interpretation of conclusions.

The questionnaire is desirable to formulate a "intricately" so that the respondent could not predict what answer you expect from him. It is desirable to develop simple, elementary "key" to sociological poll for simplicity of processing. It is possible to appropriate to answers points; for example, to the affirmative answer are appropriated 2 points, negative – 0, to the answer "not always" – 1 point [7, p. 65].

Ecological experiments. People are exploring the nature many thousands of years. But it is not so simple. Take, for example, the ice drift. Observing for this natural phenomenon, we note that there are different ice floes on the river: bright and dark. Which of them will melt faster? Do we observe? Uncomfortable and it will take a long time. We can spend an experience. It can be delivered only to those spring days when the sun peaks through the window. It is necessary to prepare a sheet of paper, half of which is shaded in black paint. Put the list on the window-sill, well-lit by the sun. Let the paper will lie down for half an hour. After half an hour should be touched by fingers, first, to the bright side of the page, and then to the dark and find out what part of the sheet has warmed more [5, p. 41].

Early spring away from the path on a flat snow it is necessary to outline three equal-sized book platforms. One sprinkles with powdered coal or ashes, the second – sawdust. The third area will serve for comparison. Every two days should be spent observing. Their purpose is to find out under which "cover" the snow melts faster. In this experiment very interesting to first think and would assume, write it in the diary of observations and then compare with the results of the experiment [5, p. 41].

The forms and methods of the organization of the ecological activity of junior schoolchildren, which are described in this article, demand thorough preparations from the teacher. Only in this case they will be effective and leave a trace in soul of the young inhabitant of our beautiful planet Earth.

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