

About the Conditions of Environmental Development During Preschool Years

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Abstract: Preschool years are the first link in the system of continuous environmental education. At this age, children are particularly sensitive to the perception of nature and the formation of careful attention to the world. The understanding of the preschool period uniqueness for the development of environmentally competent behavior led to the search of some optimal solutions to this important task. The study deals with the psychological and pedagogical conditions of a humane, socially active development of a child, capable of careful, responsible attitude to the natural environment. The special role of adult support during the education is emphasized for the sustainable development. The researchers described the content, the results of experimental work are presented.

Key words: Environmental development, environmental education, the attitude towards nature, psychological and pedagogical conditions of child ecological culture development basics, game technologies

INTRODUCTION

The global environmental challenges of our time require considerable efforts from a state and society on the development of environmentally responsible outlook among all population strata. The Russian system of continuous environmental education is actively used for this problem solution. The state educational standards and the programs at each level of education should include the requirements for the formation of the student environmental knowledge (Medvedev, 2012).

Pre-school organizations are the first link in continuous education system. The process of developing a responsible attitude to the environment begins during the preschool years. The natural interest of a child to nature his curiosity and observation may be used to enhance the environmental outlook and erudition. The exceptional opportunities for enriching the basic components of a person ecological culture, allowing further to get successfully a practical and spiritual experience of mankind and nature interaction. A child begins to reveal himself in the environment, chooses the strategies of behavior shows an emotional and value attitude to the world. This happens on the condition that the adults accompanying a child also have an environmental culture: they understand the problems common to all people and worry about them show a wonderful world of nature to a child, help to establish the relationships with him.

The problem is that the initial experience of a child interaction with nature often develops spontaneously. The environmental trend of an educational activity for most modern nurseries is not a priority. Parents do not realize the need for environmental education at preschool

age and the significance of their own example. Most of all they care about the preparation of children for school, the artistic, aesthetic and physical development of a baby. And the leaders and teachers of preschool institutions are guided by the customers of educational services the parents of pupils.

The most important subsystem of ecological culture is the relation to nature. It is known that preschool childhood is a sensitive period in the development of relationship to the world, including, to nature, to health, to work, to the surrounding world as a whole (Aksenova, 2013; Grizik, 2010; Yasvin, 2006). It is not permissible to ignore the unique opportunities of the pre-school age to develop a special, humane attitude to nature. It will be difficult or impossible to catch up during the next age periods.

The purpose of the study is to determine the complex of psychological and pedagogical conditions for the optimal environmental development of children during the preschool stage.

The majority of children at the age of 3-7 years passes the system of preschool education in Russia. The kindergarten teachers may actively contribute to the environmental development of preschool children and the development of ecological and pedagogical education of their parents. The parents with babies are the basis of a young, the most active part of our society. This is very important. The functional responsibility of kindergarten teachers is to attract them to work in a team to make decisions that promote the transition to a sustainable development. Being a small social group of a society structure, the family has to develop a child attitude to nature as the source of unique material and spiritual values.

When you develop an environmental education of young children it is extremely important to consider the characteristics of children's thinking, their desire for active learning. The technologies of psycho-pedagogical support should be primarily the playing ones. The works of many authors proved that a game has the highest developmental potential and attracts most of all preschool children (Leontiev and Zaporozhets, 2007; Wood, 2014; Chazan, 2012; Akhmetzyanova, 2014; Klimentyeva, 2014; Elkonin, 1999). By playing a game, kids may gain the experience of a gentle, non-destructive and responsible attitude to the objects of nature which is a major component of a personality ecological culture.

MATERIALS AND METHODS

According to the literature analysis (Gorbatenko, 2008; Lykova and Ryzhova, 2012; Zelenkova, 2010; Nikolaeva, 2011; Serebriakova, 2010) and the practice of pre-school education a decisive influence of "adult" culture on the formation of a child ecological culture is revealed. The psycho-pedagogical conditions of an effective environmental development of children during the preschool years are revealed:

- The unity of teachers and parents views on the issue of a child environmental education
- The systematic environmental and pedagogical education of parents
- Ecologically correct attitude to the environment among all adults, training a child
- Psycho-pedagogical support of a child environmental development through the use of gaming technologies: experimentation, modeling, teaching and story games, environmental theater
- The activity of all educational process participants in the enrichment of ecological and developing environment of a kindergarten in the organization of the activities for sustainable development

All these conditions make it possible in our view to ensure the readiness and the ability of a child for a proper interaction with the environment. This is a fairly solid foundation for the further formation of a person ecological culture.

The preschool children of the city of Kazan participated in a pilot study. With parental consent, psychologists and teachers 100 children were surveyed at the age of 4-6.5 years: 50 children from the experimental groups and 50 children from the control groups. In order to determine the level of their environmental development, the diagnostic methods of Serebriakova (2010), Solomennikova (2006) and Smirnova (2010) were used. During the survey the following aspects were studied:

- The knowledge of animate and inanimate nature, the needs of living organisms
- The practical skills of taking care for the objects of nature
- The nature of children attitude towards nature

The monitoring of real relationship to nature was based on daily observations of preschoolers behavior and activities.

According to the evaluation results of the experiment participants the children with a high, an average and a low environmental development were identified.

Main part: The initial level of preschool children environmental development during the first stage of the experiment (May 2013) is shown in Table 1.

The data obtained allowed to conclude that the level of ecological concepts and practical skills and the attitude to the world of nature is insufficient among the surveyed groups of children. In accordance, with the selected conditions for a successful environmental development of the children in the experimental groups the eco-pedagogical education of parents was organized. The proposed environmental information included the following data:

- About the environmental situation in the world, in the Republic of Tatarstan in the city of Kazan in the neighborhood of the kindergarten, the residential area, the suburban area
- About the dependence of a healthy child state on the quality of the environment
- About the rules of behavior in extreme conditions (adverse environmental situations, natural disasters)

Table 1: The levels of children environmental development at an early stage of the experiment in percentage

Groups	The level of animate and inanimate nature knowledge, the knowledge about the needs of living organisms			The level of practical skills concerning the care for the objects of nature and the relation to the natural world		
	High	Average	Low	High	Average	Low
Experimental	16	74	10	6	46	48
Control	16	72	8	8	48	44

- About environmentally safe places for walking with children, outdoor recreation
- About the keeping of domestic animals, the involvement of children in the process of caring for domestic animals
- About the development of a child personality in the process of environmental education

The adults received this information at parents' meetings, at the meetings specially organized at the experimental kindergartens of environmental clubs in cooperation activity among the children and the staff of educational institutions. During the selection of discussion topics the teachers proceeded from the urgent tasks of children development and parental requests.

Such experts as ecologists, health care workers were invited to the meeting. The potential of parent groups was widely used. Children took part in some meetings. The joint activity of all educational process participants included:

- The enrichment of ecological and developing environment of a kindergarten through the creation of an environmental room, the experimentation centers, the replenishment of nature corners, libraries, kitchen gardens and flower beds. The children with their parents gathered a collection of stones, shells, cones, postcards, calendars, photos and other materials. The practice showed that it is very important to keep a child interests by his parents
- Caring for animals and plants. Parents were encouraged to buy a pet if possible and actively involve a child to care for it. This is especially, relevant now because a pets' corner is rarely met at Russian kindergartens and urban children rarely come into contact with the objects of fauna
- Environmental projects and events:
 - "Feed the birds in winter"
 - "Green Christmas Tree is a live needle" (about the preservation of a living tree and against their mass felling by New Year)
 - "Green pharmacy" (collection of medicinal herbs)
 - "Plant a tree" (planting of green spaces in a kindergarten in a residential neighborhood)
 - "Clean the world from garbage" (participation in the garbage disposal near the area of a pre-school institution, a yard, a garden)
 - "Our kitchen garden" (work in the kitchen garden of a nursery, in garden plots in cottages)
 - "Water is necessary for all" and other events

- Ecological holidays, games, environmental theater. The parents were involved in the preparation of scenarios, the composing of environmental fairy tales, texts for environmental propaganda teams in contests, competition games, during which the different points of view were discussed on the specific environmental issues
- Competitions, the exhibitions of collaborative drawings, models, objects of nature, crafts from natural materials, family photo gazettes, fruits and flowers grown in families
- Campings, weekend excursions; the experiment participants went into the forest to the river and to the lake. Parents learned the organization of family leisure, the culture of careful treatment with nature

Such a joint activity of the educational process participants motivated the parents to be interested in the issues of natural science and ecology, especially as the children were asking questions constantly, talking about their studies in a kindergarten. The activities promoted the cooperation, the emotional and psychological rapprochement of children and adults, the development of good family traditions.

Another significant component of successful environmental development during the preschool years is the personal efforts of a child in various activities. It is through, the activity a person shows his attitude toward the world. The choice of a psycho-pedagogical support technology for the preschoolers of experimental groups consisted in the transfer of a child to the position of a subject who is aware of the need for environmentally appropriate behavior.

The greatest opportunities for this are revealed in a game. We proceeded from the understanding of a game as the as a type of children's activities for their development. According to many researchers (Gorbatenko, 2008; Serebriakova, 2010; Solomennikova, 2006; Nikolaeva and Komarova, 2005), the games with ecological content cause a lively, emotional response and thereby, influence the formation of a positive attitude to the objects of nature.

The teaching, story, theater games of ecological character used during the experiment included two relatively independent parts.

The games and game exercises for the development of aesthetic perception of nature, the emotional relation thereto.

The games and stories for creation of a positive experience and the behavior of preschool children and the valuable relation to nature. The basis of such games is certain life situations: “the kitten left alone”, “the baby bird fell out of the nest”, “a sick dog”, “a wilted plant” and others. The consequences of good and bad deeds OF adults and peers were discussed. The children learned to meditate, to show the empathy, to motivate their choice. The teachers participated in children discoveries did not hurry to show the way of a problem solution and initiated an independent search of a child. In the theatrical activities of an ecological orientation (environmental theater) the environmental issues were revealed by preschoolers via the costumed theatrical productions including the songs, dances, propaganda poems that promote nature preserving activities.

The preschoolers had a great interest in practical research activity, modelling activity in experimental games with the objects of animate and inanimate nature: sand, water, snow, air and others. The importance of such activities for the development of children was demonstrated by the studies of Russian and foreign psychologists (Korobova, 2000; Ivanova, 2010; Poddiakov, 2010). So, John Dewey considered the research activity as a special kind of children activities in the context of “doing something”. The researchers associated the research activity with the instincts inherent to the nature of a child (Korobova, 2000). Poddiakov (2010) formulated the hypothesis that the leading activity for a child is not a game as such but experimentation. During the experiment, we were able to verify the validity of the researchers conclusions:

- The playing activity often requires some stimulation and a specific organization by adults. During the experimentation a child acts independently in various ways with the surrounding objects and phenomena in order to study them completely. This activity is not given by an adult to a child but is developed by him
- During the experimentation the moment of self-development is represented quite clearly: the transformations of an object performed by a child, open his new aspects and properties. A new knowledge about the object, in its turn, allows for some new, more complex and sophisticated transformations

- Some children do not like to play and prefer to engage in any business but their mental development proceeds normally. The mental development of a child is slowed down if there is no opportunity to get acquainted with the world through the experimentation
- The experimentation activity permeates all areas of a child life, including the gaming one. An independent game occurs much later after the experimentation activities

The game technologies of the eco-educational activity allow shift the focus from the theoretical knowledge study by children to the mastering of a positive experience of empathy, care, love and concern for the environment. The correlation of actions by preschoolers in a natural environment with the ethical standards presented in the game tasks, contributes to the development of the valuable attitude to the world.

RESULTS AND DISCUSSION

The results of children re-examination (January 2015) are given in Table 2. The given data indicate a clear positive trend in the ecological development of children within the experimental groups. A significant increase in the high-level values is recorded: the development of ideas about the animate and inanimate nature was increased by 47%, the development of practical skills for live objects care and the attitude to the natural world was increased by 50%. The low-level values concerning the development of practical skills and the attitudes to the natural world were significantly reduced; the low level was not revealed in the development of concepts about animate and inanimate nature. There is a significant increase of interest among the children of experimental groups concerning the objects of nature, the gaming, research environmental activity, the gentle, caring attitude towards living beings. The awareness of the need to fulfill certain rules of behavior in nature appeared. The children of the control group still showed the significant low level from 4% in the development of ideas about the nature objects up to 36% in the development of practical skills concerning the care of live objects and the consciously correct attitude toward nature.

Table 2: Levels of environmental development among children during the control stage of the experiment in percentage

Groups	The level of animate and inanimate nature knowledge, the knowledge about the needs of living organisms			The level of practical skills concerning the care for the objects of nature and the relation to the natural world		
	High	Average	Low	High	Average	Low
Experimental	63	37	0	56	42	2
Control	28	68	4	22	42	36

CONCLUSION

The preschool period is the initial stage of a continuous environmental education. This age is characterized by a high susceptibility to the development of a humane, consciously correct attitude toward the world. Children are able to empathize to show empathy, care, respect for the objects of animate and inanimate nature. However, the results of children environmental development directly depends on the positions of adults living with the child.

A significant number of parents do not understand the importance of environmental education for the development of a child general culture, his spiritual, moral and aesthetic development. Adults tend to think that a small child can not and should not take part in the process of the relevant environmental issues solution. Therefore, the efforts of teachers at preschool educational institutions should be aimed at changing the attitudes of parents to the problem of environmental development during the preschool years and the choice of appropriate technologies for a psycho-pedagogical support of children.

The conclusion was made concerning the effectiveness of psychological and pedagogical conditions of ecological development at the stage of a pre-school period:

- The unity of teachers and parents view on the issue of environmental education for children
- Systematic environmental-pedagogical education of parents
- Ecologically, correct attitude to the environment among all adults, educating a child
- Psycho-pedagogical support of environmental development for children through on the basis of gaming technology use: experimentation, modeling, teaching and story games, environmental theater
- The activity of all educational process participants in the enrichment of ecological and developing environment of a kindergarten in the organization of activities for sustainable development

The mentioned psychological and pedagogical conditions contributed to the enrichment of ecological concepts and preschoolers and the development of their valuable relation towards the natural world to the greatest extent. The positive results of the performed study may serve as the basis for the, further use of the mentioned complex conditions for the environmental development of children during their preschool years.

ACKNOWLEDGEMENTS

This research was prepared as the part of the "Action Plan for the implementation of the Programme of improving the competitiveness of FGAOU VPO "K(P)FU" among the leading research and education centers in 2013-2020".

REFERENCES

- Akhmetzyanova, A.I., 2014. Spatial and temporal elements of anticipation consistency of children with general speech retardation. *Am. J. Applied Sci.*, 11: 1031-1035.
- Aksenova, Z.F., 2013. Come to the nature as a friend. *Environmental Education in a Kindergarten*, TC Sfera, Moscow, pp: 128.
- Chazan, S.E., 2012. The Children's Developmental Play Instrument (CDPI): A validity study. *Int. J. Early Years Educ.*, 1: 297-310.
- Elkonin, D.B., 1999. *The Psychology of a Game*. 2nd Edn., Vlasov, Moscow, Pages: 360.
- Gorbatenko, O.F., 2008. *The System of Environmental Education at Preschool Institutions*. Uchitel, Volgograd, Pages: 286.
- Grizik, T.I., 2010. *Cognitive Development of Children at the Age of 2-7: Handbook for Teachers*. Education, Moscow, Pages: 96.
- Ivanova, A.I., 2010. *Ecological Observations and Experiments in a Kindergarten*. Sfera, Moscow, Pages: 240.
- Klimentyeva, Z.A., 2014. About the development of children's crafts by means of a free story game. *Life Sci. J.*, 11: 385-388.
- Korobova, A.E., 2000. *Pedagogical ideas of John Dewey and their interpretation in the domestic pedagogical theory and practice*. Ph.D. Thesis, Saratov, Moscow.
- Leontiev, A.N. and A.V. Zaporozhets, 2007. *The Issues of Preschool Child Psychology*. International Educational and Psychological College, Moscow, Pages: 144.
- Lykova, I.A. and N.A. Ryzhova, 2012. *Integration of Aesthetic and Environmental Education in a Kindergarten: Educational Handbook*. Tsevtnoy Mir, Moscow, Pages: 144.
- Medvedev, D., 2012. The basic principles of state environmental development policy for the period through to 2030. April 30, 2012. <http://en.kremlin.ru/events/president/news/15177>.
- Nikolaeva, S.N. and I.A. Komarova, 2005. *Story Games in Ecological Education for Preschool Children*. Sfera, Moscow, Pages: 128.

- Nikolaeva, S.N., 2011. The System of Ecological Education for Preschool Children. Mozaika-Sintez, Moscow, Pages: 184.
- Poddiakov, N.N., 2010. Mental Development and Self-Development of a Child Since its Birth Till the Age of Six Years. Rech, Moscow, Pages: 460.
- Serebriakova, T.A., 2010. Environmental Education During Preschool Years. PH Akademiya, Moscow, Pages: 205.
- Smirnova, V.V., 2010. A Path to Nature. Environmental Education in a Kindergarten. Soyu, Moscow, Pages: 208.
- Solomennikova, O.A., 2006. Environmental Education in a Kindergarten: Program and Guidelines. Mozaika-Sintez, Moscow, Pages: 104.
- Wood, E.A., 2014. Free choice and free play in early childhood education: Troubling the discourse. *Int. J. Early Years Educ.*, 22: 4-18.
- Yasvin, V.A., 2006. Psychology of Attitude Towards Nature. Smysl, Moscow, Pages: 456.
- Zelenkova, O.S., 2010. Teamwork of a kindergarten and a family on ecological education of children. *Preschool Pedagogy*, 1: 54-57.