

**ENVIRONMENTAL EDUCATION OF CHILDREN
IN EARLY EDUCATION FROM THE PERSPECTIVE
OF MODERN CHALLENGES AND THREATS.
THE WORK IN A NURSERY SCHOOL IN AID OF SUSTAINABLE
DEVELOPMENT¹**

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Abstract: The issue of sustainable development is most certainly a component of awareness of the whole society both in personal and global terms. Low level of people's ecological awareness is one of the factors of environmental crisis. Taking into consideration the guidelines of the "Agenda 21", environmental education should begin as early as possible, from the earliest years of a child's life, it ought to be developed and made more attractive on consecutive levels of schooling. Preschool age is a stage of extreme sensitivity to natural phenomena and external environment. Any neglects during early education will be difficult to compensate. It may become a serious barrier for the eco-development and consequently, they may have irreversible social and ecological consequences².

The concept of sustainable development which was accepted during the Conference under the banner of "Environment and development" also called "Earth Summit 1992" in Rio de Janeiro in the year 1992 is referred to. The assumptions of ecological education in a nursery school included in the curriculum and nursery education programs are described. Practical solutions in the domain are shown. The research confirms a theory of awakening ecological awareness even since the earliest years of a child's life .

Key words: environmental education, ecological awareness, sustainable development, a nursery school, a child, methods, forms

¹ The text is the continuation of the earlier publication about ecological education in a nursery school. I return to some of the topic threads, others are updated. cf. M. Falkiewicz-Szult, *Ecological education of pre-school children as the rudiments of humanistic education*. In: E. Fleszar (ed.), *ENVIRONMENTAL EDUCATION, Human Being in Environment*, WN, US, Szczecin 2000; M. Falkiewicz-Szult, *Forming ecological awareness in pre-school aged children*. In: E. Fleszar (ed.), *Sustainable Development*, WN, University of Szczecin, Szczecin 2005.

² A. Różańska, *Edukacja środowiskowa jako dialog z przyrodą*. In: E. Ogrodzka-Mazur, U. Szuścik, M. Zalewska-Bujak (ed.), *Edukacja małego dziecka. Wychowanie i kształcenie w praktyce*, Cieszyn-Kraków 2010, p. 182.

Introduction

The current state of the natural environment clearly indicates that ecological destabilization touches the whole global ecosystem. There is a large number of causes of such state of affairs. One can consider them from the technological, economical, political and also social perspective. One should remember that both danger and environmental protection are considered to be global problems. We are dealing with disappearance of whole ecosystems, air, water, soil pollution, climate changes, rapid extinction of flora and fauna species, ecological catastrophes which, additionally, deteriorate human condition and culture they create³. B. Żółtowski and K. Kwiatkowski⁴ have made the following classification of the threats to natural environment: earth space, water and atmosphere menace, flora and fauna devastation, noise and vibrations, dangers arising from machine work (vibration, noise, dust); dangers caused by motorization, rail transport, menace to human health⁵. Therefore, with good reason, natural environment protection along with the promotion of sustainable development becomes a major task for a 21st-century man.

In the secondary sources one can read that "Environmental protection consists particularly in its rational shaping and husbanding according to the principles of sustainable development and also counteracting pollution and restoring elements of nature to their proper state"⁶. In 1972, during global Conference (UN) in Stockholm under the banner of "There is only one Earth" it was established that "human has got a basic right to freedom, equality, proper environment living conditions. Good quality of this environment allows to live in dignity and prosperity. Hence, a human bears a huge responsibility for protection and improvement of the environment both for the present and the

posterity"⁷. Since responsibility for the quality of the environment does not appear spontaneously, it is necessary to emphasize the role of **education** in aid of sustainable development⁸ (eco-development).

The concept of sustainable development was accepted by 179 countries during the Conference on "Environment and Development" also called "Earth Summit 1992" in Rio de Janeiro in 1992. The idea has been included in the Global Action Plan called "Agenda 21". The document includes the confines of moral values according to which national plans of eco-development should be created. The sector to which the authors of the "Agenda 21" brought attention was the education of various social groups heading towards knowledge and understanding the guidelines of sustainable development and undertaking pro-ecological actions. Proper child and adolescent education is, to a large extent, included in the document which detailed elements are: environmental education, shaping ecological awareness and also creating programmes in aid of environmental protection and sustainable development in which youth **and also children** take part (note M. F-Sz)⁹. It is worth noting that Poland, in the document "Polish Strategy of Ecological Education" entitled "Through Education Towards Lasting And Sustainable Development", has obliged to apply complex directives included in the "Agenda 21" and to execute their recommendations. Manner of realization of the task of environmental education was presented in the document in detail.

In the secondary sources, the idea of ecological education is defined as "enhancing knowledge, theoretical and practical skills and developing sensitivity and emotional need to act in aid of

³ B. Żółtowski, K. Kwiatkowski, *Zagrożone środowiska*, Bydgoszcz 2012, p. 6.

⁴ Ibid., p. 3.

⁵ Owing to the limited confines of the text, I am going to skip their detailed analysis.

⁶ A. Marciniuk-Kluska, *Zarządzanie środowiskiem w aspekcie zrównoważonego rozwoju gospodarczego*. „Zeszyty Naukowe” Siedlce University of Natural Sciences and Humanities, Siedlce, 2013, no. 96, p. 133.

⁷ S. Kozłowski, *Ekorozwój wyzwanie XXI wieku*, Warszawa 2002, p. 141.

⁸ Sustainable development, in other words ecological development (eco-development), generally means running a business or undertaking an activity in harmony with nature which do not harm it in the form of negative irreversible changes in the natural environment. cf. A. Różańska, *Edukacja środowiskowa jako dialog z przyrodą*. In: E. Ogrodzka-Mazur, U. Szuścik, M. Zalewska-Bujak (ed.), *Edukacja...* op. cit., p. 181.

⁹ S. Kozłowski, *Ekorozwój...* op.cit., p. 65-66.

the environmental protection and its shaping"¹⁰. One can say that ecological education is a program of educating and bringing up a society within the scope of respect for the environment according to the watchword "think globally, act locally". At this level educational acts which shape ecological awareness become more crucial. The ecological awareness is defined as "system of knowledge, views and beliefs on the topic of natural environment. It allows the perception of relations between state and character of the environment and conditions and quality of human life"¹¹. Ecological knowledge basics, an ability to perceive specificity and complexity of natural phenomena (...), an ability to think openly and creatively (...)¹² and also, in axiological and emotional terms, experiencing ecological values, sensitivity and empathy for nature, constitute fundamental components of ecological awareness¹³. In other words, the thing is about acquiring ecological knowledge and also, or perhaps first of all, about creating proper pro-ecological attitudes and conscious acts in aid of environmental protection. Acting in aid of environment results from knowledge, thinking and ecological awareness. Integration of all components mentioned above generates possibilities of positive changes in natural environment. In that regard, ecological education does not end at the level of knowledge but explores those mental structures that stimulate attitudes, habits and systems of values. Intense cooperation among a large number of social groups is needed in order to make such situation come into existence¹⁴, for example, among local government workers, teachers, adults, children and youth along with simultaneous integration of environmental, economic and social politics.

¹⁰ J. Frątczak, *Świadomość ekologiczna dzieci, młodzieży i dorosłych w aspekcie edukacji szkolnej i nieszkolnej*, Bydgoszcz 1995, p.144.

¹¹ T. Wieczorek, *Edukacja i doradztwo rolnicze wobec wyzwań zrównoważonego rozwoju*. In: *Doradztwo rolnicze w stymulowaniu i wspieraniu przemian zachodzących w polskim rolnictwie – conference materials*, Poznań 1998, p. 261.

¹² J. Frątczak, *Świadomość ekologiczna...* op. cit., p. 19-20.

¹³ A. Różańska, *Edukacja środowiskowa...* op. cit., p. 183.

¹⁴ See M. Falkiewicz-Szult, *Forming ecological...* op. cit.

In the context of discussion on actions within the scope of ecological education, one should stress that it is reached by means of: a) formal education (at school) including children from pre-school age and adolescents to higher education students and also teachers and experts working in the field of environmental protection, b) informal education including youth and adults, conducted by means of various forms of both individual and collective education through mass media, ecological organizations and movements and also home environment¹⁵.

During this process, some crucial tasks are taken up and leading aims and values of ecological education are being realized piece by piece. Fundamental aims of ecological education are singled out by Emilia and Jan Frątczak and these are: "learning the motives and ways of protecting and shaping the environment; exercising the skill of perceiving phenomena happening in ecosystems, predicting and judging certain after-effects of observed natural phenomena and human actions; shaping emotional attitudes towards specific phenomena and objects in human environment; forming and strengthening positive beliefs and attitudes towards specific natural phenomena and objects of human environment and also in relation to the elements and the whole environment"¹⁶.

Methodological conditions of the ecological education in a nursery school

1. Curriculum and preschool educational program

In the Polish educational system, aims and tasks have been included in "Core curriculum of preschool education for nursery schools, preschool departments in primary schools and other forms of preschool education"¹⁷. In the curriculum, a graduate profile (a child's one) after finishing preschool education is displayed. In other words, these are an old boy's supposed

¹⁵ K. Górka B. Poskrobko, W. Radecki, *Ochrona środowiska – problemy społeczne, ekonomiczne, prawne*, Warszawa 1995, p. 72.

¹⁶ E. & J. Frątczak, *Edukacja ekologiczna uczniów klas I-III. Część ogólna*, Pabianice 1993, p. 13.

¹⁷ Ministry of National Education Decree issued on 27 November 2008 (Dziennik Ustaw of 15 January 2009 No. 4, item 17)

acquired competences in 15 areas of thematic educational activity. For the purposes of the paper, I am going to enclose only those activities that are connected with environmental education. A child leaving a nursery school and beginning education at primary school "knows the dangers arising from human and animal world and avoids them; recognizes atmospheric phenomena characteristic of seasons (...); enumerates plants and animals living in different natural environments, for example in a field, on a meadow, in a forest; knows what kind of conditions are needed for animal development (life, space, security, food, etc.); is able to enumerate changes in plants and animals lives during seasons; knows how human can help and protect them"¹⁸. It is necessary to notice that these are so called minimum curriculum requirements binding on preschool education. Extended contents of environmental education are included in various programs of preschool education¹⁹ and in authorial programs worked out by teachers in a given institution as well. Thanks to their own programs, a teacher has got a possibility to select right forms and methods of working with children realizing the assumptions of environmental education at the level of preschool education. Realization of program contents heads towards awaring children that life without being in contact with nature is impossible; everything that a human being needs for living is drawn from the environment; deepening information on the topic of vegetation and animals living on Earth; awaring that each being has its own right to live in dignity; shaping the basic principles of environmental protection; shaping the skills of rational use of natural resources; developing skills of rational use of renewable and non-renewable resources; introducing clean technology and waste recycling; shaping their own "self" in harmony with the environment;

¹⁸ Curriculum for preschool education according to the Ministry of National Education decree issued on 23 December 2008.

¹⁹ E.g. S. Załęska, *Trampolina do szkoły. Program wspomagający nauczyciela edukacji sześciolatków realizowany w oddziałach przedszkolnych, w przedszkolu, szkole i punktach przedszkolnych*, PWN, Warszawa 2013; I. Broda, *Od przedszkolaka do pierwszaka. Program wychowania przedszkolnego*, WSiP, Warszawa 2009; J. Andrzejewska, J. Wierucka, *Razem w przedszkolu. Program wychowania przedszkolnego*. WSiP, Warszawa 2009.

developing leisure activities in the open; arousing a feeling of responsibility for the state of natural environment²⁰. These acts head towards developing subject treatment of the environment by preschool children.

2. Forms and methods of work in environmental education of children in aid of sustainable development

Well-organized systems of education within the scope of environmental education of children, including propagating the idea of human protection of the natural environment and its shaping, require adequate practical and content-related preparation, and application of adequate training aids and also adaptation of right and diverse forms and methods of work²¹. The most effective forms of work in a nursery school are said to be trips and strolls to various ecosystems (forest, meadow, lake, park) and institutions (for example LOP (League for Environmental Protection)); competitions and events within the scope of ecology, radio and television reception, practical classes in aid of environmental protection, research games, examining books, albums, photographs, magazines, work in a place, located in a nursery school, where children gather objects of animate and inanimate nature, work in a preschool garden, questioning and answering, small exhibitions for parents and a wider preschool audience.

When it comes to selection of methods of realizing goals of ecological education in a nursery school, verbal, active and visual methods are preferred. Activating methods retain the greatest value since they favor the development of activity, communication skills, creativity. Moreover, they help a child build their self-esteem and self-realization²². They, among other things, include: valuing, observing and examining methods, simple experiments and staging, drama, educational games. Recently, project-based learning has become

²⁰ G. Kutylowska, *Ekologia w przedszkolu*, Warszawa 1996.

²¹ M. Falkiewicz-Szult, *Ecological education...* op. cit., 2000.

²² D. Morka, B. Pakuła, *Efektywność zastosowania różnicowanych metod i technik w nauczaniu treści przyrodniczych w klasie trzeciej gimnazjum*. In: M. Pedrycz - Wrona (ed.), *Nauka, technika, społeczeństwo, wyzwania i perspektywy w zakresie kształcenia przyrodniczego*, Lublin 2007, p. 93-97.

more popular which is characterized by "combining practical work with brainwork. It is an active learning, learning through research which is required by the process of solving problems"²³.

3. Learning about animate and inanimate nature by preschool children

Active communion with nature plays a key role in experiencing nature and shaping a proper relation between it and children. Direct contact with nature usually takes place during organized strolls and trips or observations of any kind. It is justified, especially when it comes to a young child whose most effective way to acquire knowledge and skills is active one, and, what is extremely important, not necessarily in a nursery school class but rather in natural environment in which they function. Trips and strolls, mentioned above, to various natural places, seem to be designed for it. These places constitute stimuli to certain action, transformation, posing questions and looking for their answers, they are great sources of information to a child. Thus, the environment in which a child grows up is a perfect place of education since it consists of a large number of biocenosis and objects. Moreover, it constitutes a goal for intended observation, experience, practical tasks²⁴. The odds are that the usage of activating methods in order to awaken children's ecological awareness carries, at the same time, a great number of positive implications, for example it favors effective development of readiness to active participation in aid of natural and environmental protection, it delivers measurable results within the scope of knowledge extension and skill broadening, it develops both passive and active glossary. What is more, it influences the development of emotional sphere and improves child's sensitivity. Briefly put, the use of activating methods in a nursery school allows children to gain experiences independently through contact

with natural surroundings and perceiving relationships between facts and their causes.

It is worth noticing that through combining theory with practice and activation of various sensomotoric functions, a child acquires knowledge much better, solves problems and improves logical thinking. Thanks to trips to a park, forest, meadow, pond, river or botanical gardens children learn how to distinguish and name different ecosystems and their elements. Moreover, they learn to differentiate colors, compare tree sizes, leaf shapes, etc. They familiarize themselves with appearances and lives of different animal species living in their natural habitat. They have an opportunity to observe appearance and behavior which snails, earthworms, ladybirds, frogs or ants have. They describe a squirrel, a hedgehog, a magpie, a crow, a woodpecker, a stork, a cuckoo, an owl and a frog's appearance and distinguish sounds these animals make; they also familiarize themselves with their eating habits. Through observations of birds in the nearest surroundings, children begin to interest themselves in nest construction and offspring raising²⁵. They also enrich their understanding of plants' life and their needs as well as the role they play in the environment. For example, they find out about certain parts of plants, for instance: the roots keep plants still in the ground and take in food; stem and trunk allow it to keep vertical position and spread food; leaves secure shadow for a plant and enable it to breath, a flower attracts insects in order to pollinate and finally a fruit protects seed²⁶. In the process of enriching the understanding of natural environment, rural tourism in West Pomeranian Voivodeship is a great advantage. Thanks to these kinds of trips, children have got an opportunity of direct observing of pets' appearance and behavior and find something about their everyday life and tending as well. In general, children can explore plants and animals most effectively in their natural habitat, thus, in relation to the whole ecological net, any relationships between them and other

²³ J. Harris Helm, L. G. Katz, *Mali badacze. Metoda projektu w edukacji elementarnej*, Warszawa 2003, p. 7.

²⁴ R. Wiśniewska, *Elementy programu ABC...XXI wieku wspierające edukację przyrodniczą dzieci w wieku przedszkolnym*. Unpublished MA thesis written under the guidance of Prof., PhD M. Czerepaniak-Walczak in University of Szczecin, Szczecin 2005, p. 32.

²⁵ See A. Przybył, K. Dziąg, M. Gładka, M. Kaniewska, G. Konarska, *Ja i mój świat. Program edukacji przedszkolnej dla dzieci w wieku od 3 do 6 lat*, Warszawa 2001, p. 44.

²⁶ K. Nowak-Grobelska, B. Pilecka, *Program wspomagający rozwój aktywności twórczej dzieci. Jestem częścią świata*, Białe Blota- Bydgoszcz 2000, p. 19.

organisms, as well as abiotic and environmental conditions²⁷ in a direct and active manner. At the same time, they begin to realize that anything necessary for man's existence is derived from the environment. Jadwiga Pytlarczyk, commenting on the topic, emphasizes that „here, a teacher supervises child's work whereas they draw conclusions. It allows the increase of knowledge and abundance of sensations. They will describe and evaluate them with time. Difficulty level and complexity of the phenomena and problems concerning nature will be increasing with children's age and abilities"²⁸. In this context, younger children are proposed to explore nearer ecosystems and their representatives whereas older children study distant environments and their conditions. For the sake of better understanding level, older children perceive relationships between causes and effects, adaptation to life in the environment etc²⁹.

Program contents concerning knowledge gaining on the topic of inanimate nature are realized with the use of the same forms and methods of work. Even three-year-old children are able to recognize certain natural resources like sand, clay, then, at the higher level, they name, examine and describe: selected characteristics of soil, air, natural resources: coal, salt. Next, they can describe ways of exploiting the resources of inanimate nature by a man as well as explain and experience observed natural phenomena³⁰.

Deliberating on environmental education from the perspective of sustainable development, one must pay attention to the influence of human action on nature, for instance, water, air, soil pollution, different kinds of waste and landscape changes. Hence, trips constitute a great opportunity to discuss the topic of observance of the nature, avoiding tree destruction and animal bullying with children. It allows children to acquire knowledge and skills within the scope of obeying the rules of not harming nature and appropriate behavior during trips, for instance, avoiding to make noise in a forest, not throwing litter about, keeping off the grass, etc. At the same time,

children begin to consciously obey the rule of unnecessary picking up endangered plant species and appropriate behavior in nature reserves along with simultaneous emphasizing their importance³¹.

4. Activating method in environmental education in a nursery school

Children's practical activities in the field of environmental protection in aid of sustainable development are connected with natural situations in a given season and in every moment of a day. One of the examples is an active participation in animal care, for instance, feeding birds during winters, building bird tables in technical classes. A child's active attitude allows them to understand the need of protection of nature, creation of reserves for endangered animal and plant species and, first of all, it simplifies adaptation of their own behavior to existing rules.

What is more, pupils take care of their nursery school surroundings and other places they stay every day. In addition, they learn how to save natural resources and other products of natural origin. That is why actions connected with recycling³² are being taken up along with those concerning water and energy saving. These situations are most available for young children. It is worth noting that every nursery school in Szczecin perform various actions on environmental protection. For instance, in one of them³³, children's joining into LOP Association (League for Environmental Protection) was a major undertaking. Children's involvement into the Association entailed was bound with pledging on accepting the functions and tasks adequate for "Nature's Guardians". As a result, children were happy to feed birds in a playground during winter season, they were collecting recycling paper, they were also

²⁷ A. Różańska, *Edukacja środowiskowa...* op. cit., p. 183.

²⁸ J. Pytlarczyk, *W kręgu zabawy. Program wychowania przedszkolnego*, Warszawa 2009, p. 29.

²⁹ Ibid.

³⁰ Ibid. p. 31.

³¹ B. Łojewska, *W świecie przedszkolaka. Program wychowania przedszkolnego*, Kraków 2001, p. 21.

³² It is worth mentioning that in Poland, 1 July 2013, new legal settlements concerning waste management (so called "waste act") have been made. Their aim is to mobilize society for waste sorting. (Ministry of Environment Decree issued on 11 January 2013 in the matter of detailed requirements concerning waste sorting from real estate owners.

³³ State Nursery School no. 3 in Szczecin. I am presenting the examples from the authorial Program of ecological education. „*Jestem przyjacielem przyrody*” written by Renata Wiśniewska.

involving their parents into the program. The money received from the sold recycling paper was allocated for the purchase of magnifying glasses³⁴ and bird food. The collection of used batteries was also a valuable intention. The action lasted for a year and it will be continued in the next years. As a result, children have learnt how to recycle, take care of the environment and have begun to "understand that a man is responsible for the state of the environment they live in"³⁵. In a nursery school, Provincial Artistic Competitions³⁶ are organized under the patronage of League for Environmental Protection in Szczecin and West Pomeranian Superintendent. Competitions are designed for preschool children from different nursery schools in West Pomeranian Voivodeship. Up to this day, two editions have taken place under the banners of "Forest ecosystem from a child's perspective", "Park ecosystem from a child's perspective". The author of the project has singled out following targets of competitions within the area of nature: increase of natural awareness, knowledge dissemination on the topic of forest and park ecosystems, shaping children's pro-ecological attitudes, ability to express experiences and observations through artistic work, development of children's concern over preserving life on Earth, sensitivity to the need of taking care of surrounding environment³⁷, which she successfully accomplishes through undertakings mentioned above³⁸.

³⁴ Magnifying glasses are used to observe plants, insects, etc.

³⁵ R. Wiśniewska, *Rozwijanie zainteresowań przyrodniczych w przedszkolu*. In: M. Królika, E. Piwowarska, E. Skoczylas-Krotla (ed.), *Edukacja przedszkolna i wczesnoszkolna na początku XXI wieku. Wyzwania i konteksty*, Częstochowa 2007.

³⁶ Within the confines of cooperation with the nursery school, I take part in the committee.

³⁷ On the basis of the nursery school's documentation written by R. Wiśniewska – a teacher at the nursery school.

³⁸ For the reason of limited confines of the text, I am going to enumerate the events that Polish children take part in and which shape their ecological attitudes here: The First Day of Spring – March 21; World Meteorological Day – March 23; Bird Day – April 1; Earth Day – April 22; Stork Day – May 31; Environmental Protection Day – June 5; The First Day of Summer – June 21; Ecologist Day – September 19; The First Day of Autumn – September 23; The First Day of Winter – December 22.

A brief résumé

To recapitulate, there is no doubt that an active way of exploring the natural environment, especially by the youngest, is of crucial importance for the realization of aims and values of ecological education. Since "objective knowledge about the world constitutes a sum of information which can be learnt in the process of education, not only theoretical but also practical"³⁹. Recognition and acceptance of stimulating methodology or, in other words, activating methodology, in environmental protection which gradually becomes a habit and is taken into consideration by children, adolescents and also the adults in each aspect of everyday actions and regardless of social status and occupation.

It is worth mentioning that the leading role in environmental education of children is played by a teacher. They are the ones who are professionals and possess knowledge, the ones who are capable of critical and creative thinking, the ones who become animators and participants in educational process including the process of environmental education of children. In this way a teacher – class tutor is a master – children's friend, who teaches less but shares their feeling more. They are attentive, directed towards pupils, attract their attention, observe, experience with them, and finally speak but rather lead and pull them than push. It is a teacher who takes into consideration various forms of transmission, in order to share their ecological knowledge in an easy and effective way. Initiating a child into contact with nature as soon as possible by preparing them to use all their senses is very significant since it allows them to grab stimuli and differentiate them properly.

³⁹ A. Marciniuk-Kluska, *Zarządzanie środowiskiem...* op.cit., p. 130.

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