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Environmental education in early and pre-school education – terminology

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Abstract: The article discusses environmental education and terminology in pre-school and early school education, based on a short historical outline of environmental education for this age group of children in Poland. It refers to the signing of the Biological Education Convention at the Earth Summit, which determined the stimulation of ecological awareness, protection of natural resources, and natural space around man. The article is an analysis of the goals of environmental education. Natural and ecological education has a biological, emotional, motoric, creative, and spiritual aspect. It has a significant meaning in the development of a small child in preschool and early school age in cognitive, physical, health, social and emotional development.

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Education is a stimulus on a human that supports their development. It awakens cognitive potential, awareness and has the capacity to develop creative attitudes towards the social, national and cultural environment. It can develop identity and engagement with the environment.[1] The environment in which a person develops is based on two fundamental components: nature and society. The natural environment consists of the living and the non-living environment. The first is composed of people, the world of animals and plants. The other one, which is closely related to non-living environment, is the atmosphere, the hydrosphere, earth's crust, as well as man-made products in the field of technology.[2]

Nature education

Regardless of the season, organized and spontaneous contact with nature is an opportunity for a child to learn, experience emotions, and engage in interesting activities. Krystyna Żuchelkowska defined natural education in kindergarten as a planned activity of a child organized by the teacher, which aims to familiarize pupils with living and non-living nature, to equip a child with attitudes of respect and a sense of responsibility for the state of nature and its transformation, as well as the attitudes of sensitivity and readiness to act.[3]

Ewa Korczak, in the methodological guidelines for organizing environmental education in grades 1–3 of primary school, proposes organizing such activity in three dimensions, as:

- education about nature;
- education for nature;
- education through nature.[4]

Education about nature includes getting to know living and non-living nature, searching for it and placing it in connection with the social environment. In terms of

[1] W. Okoń, *Słownik pedagogiczny*, Państwowe Wydawnictwo Naukowe PWN, Warszawa 1981, p. 66.

[2] Ibidem.

[3] K. Żuchelkowska, *Edukacja przyrodnicza w przedszkolu*, Wydawnictwo Uniwersytetu Kazimierza Wielkiego, Bydgoszcz 2015, p. 30.

[4] E. Korczak, *Edukacja środowiskowa w klasach I–III szkoły podstawowej*, [in:] J. Gzyl, W. Jarosz, E. Korczak, E. Kulka, Z. Nowińska (eds.), *Nasze środowisko – jak w nim żyć? Podstawy teoretyczne edukacji ekologicznej uczniów klas I–III szkoły podstawowej*, Wydawnictwo IETU, Katowice 1996, p. 23.

this field of education, there are methods involving the release of various activities of children through the following methods:

- observation;
- experimenting;
- examining;
- the project method.

The content learned should be presented to children in accordance with the model of integrated education, as an inseparable part of reality with a focus on the regularities existing in nature.[5]

Education for nature is the introduction of children to the subject of nature protection and the development of appropriate attitudes towards the natural human environment and the ability to transform it in a remedial way. Apart of the education for nature, the content concerning the activity of children and students concerns the development of a specific attitude towards the environment and the rational use of natural resources. The foundation of education for nature is learning about the principles of nature protection and developing readiness to respect it and use it appropriately, as well as to prevent its devastation.[6]

Education through nature directs activity to learning about nature in direct contact, thanks to which there is an interaction of cognition with the child's practical activity, in direct contact with specimens of nature and its beauty. This area of activities provided for in the content brings many aesthetic experiences, positive emotions, and enables the perception of the relationship between the environment with health and well-being.[7]

Wanda Daszewska and Aleksandra Malinowska developed the first methodology of nature education right after World War II, considering it as one of the fields contributing to the comprehensive upbringing of a child. They suggested nature as an environment of cognition and action, nature that children encounter every day, which intrigues them with the richness of dynamics and colours. They recommended illustrative knowledge and help in discovering the relationships between phenomena and seasons, getting to know the surrounding plants and animals with all the senses, emphasizing the child's activity and active methods.[8] They suggested caring for animals, growing plants in the garden, working in the field, and proposed activities using rich natural material. The aim of natural education set by the authors were cognitive values consisting in satisfying children's interest in the field of natural phenomena, and moral and social values in the form of developing activity, initiative, cooperation.[9]

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[5] K. Żuchelkowska, *Edukacja przyrodnicza*…, op. cit., p. 30.

[6] Ibidem.

[7] Ibidem, p. 31.

[8] W. Daszewska, A. Malinowska, *Zajęcia przyrodnicze w przedszkolu*, Nasza Księgarnia, Warszawa 1951, p. 8.

[9] Ibidem, p. 74.

Post-war times, and perhaps also beliefs, pressured authors in the form of the need to refer to the socialist ideology. The content was intended to improve speech and pronunciation in the native language, but also to refer to the relationship between the achievements of the socialist state system with nature and environment. It was recommended that content related to coal mining should be combined with the subject of work leadership in mining, classes on plants grown in the field and garden should be combined thematically with the use of modern agricultural machinery used in state farms.[10]

Several decades ago, Maria Studzińska defined the goals of science education in elementary education:

- developing the ability to think logically by noticing the relationships and correlations between the observed phenomena and objects, and their comparison, classification, comprehension, and generalization;
- developing independence in observing and perceiving as well as taking care of plants;
- shaping aesthetic experiences by shaping sensitivity to beauty and aesthetic experiences that comes from contact with nature;
- shaping beliefs about the need to protect nature;
- developing and shaping the sense of sight, improving perceptiveness and the ability to observe nature – phenomena and objects;
- eliminating inappropriate behaviours, stereotypes, attitudes towards natural objects, and incorrect interpretations.[11]

Environmental education

Dynamic changes in the development of industry around the world in the second half of the 20th century brought rapid changes in technology, society and all scientific fields. Expansive development led to the formulation of the idea of sustainable development, which was seen as ensuring natural balance in order to meet the needs of both the current, contemporary society of our civilization and future generations. The 1992 Convention on Biological Education signed by the United Nations at the Earth Summit marked a significant extension of natural education with the concept of biodiversity in relation to global phenomena and sustainable development. Educational goals turned to countermeasures, slowing down the destruction of nature.[12] The definition of sustainable development is a message of rational use of non-renewable

[10] Ibidem.

[11] M. Studzińska M., *Dzieci przedszkolne poznają przyrodę ożywioną*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1989, p. 23.

[12] A. Kalinowska, *Cele zrównoważonego rozwoju do roku 2030 i cele różnorodności biologicznej do roku 2010 w kontekście działań edukacyjnych*, "Studia i materiały w CELP w Rogowie" 2018, no. 55(1), pp. 10–12.

earth resources by current generations and care for the environment during expansive economic, civilization and cultural development. Sustainable development concerns three harmoniously coordinated areas of SOCIETY-ENVIRONMENT-ECONOMICS.[13] The goals of raising environmental awareness in relation to understanding oneself, the enironment, the interaction of organisms and environments, shaping attitudes of respect towards the human environment and protecting the natural space around people were expanded.[14]

The response to the signing of the Convention was a wide interest in the nascent movement towards environmental education. Ryszard Więckowski noted the role of nature education in stimulating creative curiosity through observations, experiments, experiences. Ecological education could help predict the effects of one's actions.[15] He attributed this task to the education undertaken towards the youngest, in order to instil appropriate, positive attitudes towards the environment from childhood. He argued for using the natural interest and the sensitivity of the child to build active attitudes towards the natural and social environment from the earliest years, using educational situations for experiencing.[16]

Danuta Cichy defined the stimulation of attitudes as showing respect for nature as a measure of human culture. She developed the concept of nature education in response to the trend of interchangeably calling ecological education as environmental education. Nature education involves all cognitive processes of the student participating in broadly understood social and natural environments in accordance with the direction of education necessary for sustainable development.[17]

Małgorzata Jagodzińska presented a taxonomy of environmental education goals for sustainable development in three spheres:

- the sphere of messages covering the shaping of the processes of remembering, explaining, solving problems and predicting consequences;
- The sphere of practical skills, which includes observing phenomena, imitating activities, shaping skills, creative activities and shaping an ecological lifestyle;
- the emotional sphere in which values of the interest in the environment, pro-ecological attitudes, and the perception of the environment as are shaped.

[13] L. Tuszyńska, *Edukacja ekologiczna*…, op. cit., p. 14.

[14] A. Korwin-Szymanowska, E. Lewandowska, L. Tuszyńska, *Edukacja środowiskowa w kształceniu nauczycieli w perspektywie praktycznej*, Wydawnictwo Akademii Pedagogiki Specjalnej, Warszawa 2015, p. 16.

[15] R. Więckowski, *Pedagogika wczesnoszkolna*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1993, p.150.

[16] R. Więckowski, *Edukacja ekologiczna*, "Życie Szkoły" 1997, no. 2, p. 67.

[17] M. Jagodzińska, E. Buchcic, *Wychowanie ekologiczne poprzez aktywne poznawanie rzeczywistości przyrodniczej*, „Społeczeństwo. Język. Edukacja" 2013, no. 1, pp. 29–30.

The specified goals of the impact of environmental education determine the methods and techniques used to determine the type of student activity in education.[18]

According to Anna Strumińska-Doktór, the task of ecological education is to acquire knowledge about threats to the environment created by man. This implies another task for education, which is also influencing the volitional and emotional sides of the student in order to shape attitudes related to environmental protection. In this way, the author expresses the need to make natural education a component of moral education in the entire educational process.[19]

At the moment when this science, ecology, was formed, 160 years ago, it was a science defining a place to live, i.e. the environment and mutual relations of organisms, their impact on the environment. This term was only registered biological sciences. Currently, ecology has become an interdisciplinary field which is entering pedagogy, sociology, philosophy, psychology and dealing with the relationships between all organisms, both plants, animals and people, the impact of humans on all species and their living environments. In the current approach, ecology studies the impact of all physical, chemical, biological, man-made factors on the life of all plant and animal species.[20] The original meaning of the term "ecology" was borrowed by environmental protection entities and its accompanying social movements and distorted from biological to socio-political meaning. Hence, considerations about natural and ecological education have a lot in common, but they also overlap thematically and are not entirely coherent. In general, environmental education needs to be supported by introductory instruction in environmental education in order to have a systematized foundation in the student's knowledge, abilities and creative, committed attitudes. Knowledge and sensitization in the field of the most valuable good in the form of nature come from the field of natural education. The goals of natural and ecological education should be analysed in order to understand at the level of early school and pre-school education that natural education serves the ideas of ecological education and can have a common path and ways of implementation.

The overarching objectives of natural science education in pre-school, as well as derived in direct objectives, were defined by Krystyna Żuchelkowska. We can distinguish the general goals as:

– assimilation and deepening of information in the field of non-living and living nature;

[18] M. Jagodzińska, *Nauczyciele o nauczaniu przyrody*, [in:] D. Bebel (ed.) *Słupskie prace przyrodnicze. Biologia eksperymentalna i ochrona środowiska*, Wydawnictwo Pomorskiej Akademii Pedagogicznej, Słupsk 2003, p. 18.

[19] A. Strumińska-Doktór, *Poziom wiedzy środowiskowej nauczycieli*, [in:] D. Cichy (ed.), *Edukacja środowiskowa w szkole i społeczności lokalnej*, IBE, Warszawa 2007, p. 123.

[20] L. Tuszyńska, *Edukacja ekologiczna w perspektywie zrównoważonego rozwoju*, "Studies in Global Ethics and Global Education" 2017, no. 7, pp. 9–10.

– shaping the skills related to breeding, cultivation, and experiencing the natural environment;
– developing attitudes that influence the prudent use of natural resources.[21]

The author arranged the intermediate goals as follows:
– experiencing nature with children by spending time with it on walks and trips;
– acquainting children with the changes that occur in nature as the seasons change;
– learning about nature through experiences, experiments, observations, breeding, and care work in eco-corners, in explored ecosystems;
– developing caring attitudes towards animals and plants;
– familiarizing children with the importance of nature in human life;
– getting to know the work of man related to nature;
– awakening natural interests.[22]

Nature education for preschoolers, which is supposed to bring preschoolers closer to nature and help them understand it, must be based on children's independent action and the principles of demonstrativeness and independent construction of knowledge about the world.

It is also necessary to look at the goals of natural education at the early school level. Jadwiga Hanisz described them as a deeper knowledge and understanding of nature in all its aspects, predictions, and cause-and-effect relationships.[23] Mieczysław Sawicki highlights that these goals cannot only be about getting to know the natural environment of man, but also experiencing the unity of man with nature, his place in nature, acquiring the ability to take care of it, and learning its value.[24] Alina Budniak also emphasizes the values of respect for nature and sensitivity to the problems of the environment and the entire human environment, shaping the competence of ethical and aesthetic evaluation of students in the face of the beauty of nature and the threats of its destruction.[25]

Irena Jarzyńska emphasizes that nature education is a long-term and comprehensive process. Early education strengthens students' bonds with the environment, deepens their knowledge, and lays the groundwork for further development of full sensitivity in action and comprehensive knowledge on environment and learning how to use it, protect it, and care for it, along with the assessment of one's actions,

[21] K. Żuchelkowska, *Edukacja przyrodnicza*…, op. cit, pp. 34–35.

[22] Ibidem, p. 35.

[23] J. Hanisz, *Zintegrowana edukacja wczesnoszkolna*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1998, p. 3.

[24] M. Sawicki, *Edukacja środowiskowa w klasach I–III szkoły podstawowej*, Wydawnictwo Naukowe Semper, Warszawa 1997, p. 13.

[25] A. Budniak, *Edukacja społeczno-przyrodnicza dzieci w wieku przedszkolnym i młodszym wieku szkolnym*, Wydawnictwo Impuls, Kraków 2009, p. 56.

begin at a young age.[26] Environmental education has a biological, emotional, motoric, creative, and spiritual aspect. The proposed content must be conveyed through the combination of nature education with emotional and practical attitudes, as it creates opportunities to shape appropriate pro-ecological behaviour in the environment.

Emilia and Jan Frątczak formulated the goals of environmental education at the level of early school education as follows:

- familiarizing oneself with the ways and motives of nature protection;
- shaping the ability to recognize natural phenomena in ecosystems, observation and assessment of phenomena in nature and human activity;
- awakening an emotional attitude toward natural phenomena in the human environment;
- developing appropriate beliefs and attitudes towards natural phenomena and objects in the human environment.[27]

The importance of natural and ecological education in the development of a child

A child having contact with the environment of plants and animals, introduced to the world of nature based on action and experience, acquires knowledge, develops interests, and has the ability to shape the relationship with the natural reality. Experiences, feelings, are the foundation for views, beliefs, and attitudes, that will guide children into adulthood.[28] Contact with nature breeds attachment to the homeland and a lasting relationship with one's own country.[29] Interest in human activity and self-agency is awakened, which results in the development of self-awareness and identity.[30] Contact with nature supports the development of attitudes marked by sensitivity to the beauty of the surrounding nature, the devastation of nature, and the ability to perceive threats to it. This attitude is accompanied by elements of responsibility and sensitivity, and these are currently one of the most cherished, preferred values against the background of civilization, global human problems.[31]

[26] I. Jarzyńska, *Wykorzystanie walorów środowiska lokalnego w zintegrowanej edukacji wczesnos*zkolnej, [in:] M. Królica, E. Piwowarska, E. Skoczylas-Krotla (eds.), *Edukacja przedszkolna i wczesnoszkolna na początku XXI wieku. Wyzwania i konteksty*, Wydawnictwo Uniwersytetu Humanistyczno-Przyrodniczego im. Jana Długosza, Częstochowa 2007, p. 293.

[27] E. Frątczak, J. Frątczak, *Edukacja ekologiczna uczniów klas I–III*, Wydawnictwo TUVEX, Pabianice 1994, p. 13.

[28] A. Budniak, *Edukacja społeczno-przyrodnicza*…, op. cit., p. 53.

[29] E. Buchcic, *Edukacja przyrodnicza elementem procesu wychowania*, "Studia ecologiae et bioethicae" 2014, no. 2, p. 31.

[30] M. Parlak, *Przygotowanie nauczycieli przedszkoli do prowadzenia edukacji przyrodniczo-ekologicznej – raport z badań*, "Edukacja Biologiczna i Środowiskowa" 2016, no. 4, p. 193.

[31] E. Buchcic, *Działania podejmowane przez szkoły w środowisku lokalnym*, [in:] *Edukacja środowiskowa w szkole i społeczności lokalnej*, Instytut Badań Edukacyjnych, Warszawa 2007, p. 167.

Contact with nature undoubtedly provides the child with knowledge that develops thinking, memory, and orientation in the world. Self-study of the surrounding nature teaches the child how and where to look for interesting information, where and how to acquire knowledge.[32] Mindful care of plants and animals gives rise to a sense of contentment, satisfaction, and a positive attitude towards the environment.[33] Satisfaction from learning through exploration influences the child's motivation towards the educational process. This highlights the significance of nature in achieving school maturity by a pre-schooler and a student at a younger school age to begin education at the next educational levels.[34]

Elżbieta Buchcic notices the advantages of nature, thanks to which a child develops perceptiveness and shapes the efficiency of sensory receptors. Beyond their meaning in cognitive development, nature and contact with it contribute to physical development. Experiencing natural materials has an impact on the motor sphere of development. Being out in the fresh air during walks and trips gives the body the opportunity to immunize itself. During physical exercise, the child improves the strength of the leg muscles and bones. During experiments in the room and garden on natural material, children shape manual dexterity and eye-hand coordination. Exploring nature with the help of many senses simultaneously causes an increase in the level of psychophysical functioning of the child. To sum up, nature classes are conducive to developing the child's physical fitness, physical strength, immunity, and dexterity, they inspire and develop a passion for walks that affecting well-being and mental health.[35]

Preschool and early school age is an extremely important period in the overall development of a child. At this time, the child's interests and abilities are formed. Nature has an impact on the development of this cognitive sphere, which, by its part in improving the skill of learning, can become their "internal program".[36]

Experiencing nature while exploring it stimulates thought processes, and thus affects the development of speech. The child is stimulated to think, which improves speech development by searching, acquiring, and using new words. When formulating observations, a child uses phrases, learns to name feelings and emotions, and defines the rules governing nature. Experiences and emotional experiences shape and enrich a child's personality.[37] The child's development is the result of the interaction of biomedical and social factors and their own activity. Further stimulation and shaping

[32] D. Al-Khamisy, *Rozwijanie pojęć przyrody nieożywionej w dzieci sześcioletnich*, Wydawnictwo Żak, Warszawa 1996, pp. 50–51.

[33] M. Arndt, *Przyroda przeżywana i obserwowana z dziećmi przedszkolnymi*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1980, p. 16.

[34] Ibidem, p. 28.

[35] E. Buchcic, *Edukacja przyrodnicza*…, op. cit., p. 35.

[36] D. Al-Khamisy, *Rozwijanie pojęć*…, op. cit., p. 48.

[37] M. Arndt, *Przyroda przeżywana*…, op. cit., p. 17.

of development depends on the teacher who is equipped with a scientific worldview and has the competence to manage the educational process.[38]

A child, a student, observing nature, performs a number of mental operations, such as: analysis, synthesis, comparison, generalization, which is the basis for creating natural and more general concepts. Stimulated creativity affects the process of personality formation in response to ideas about the surrounding world.[39] We observe the impact of the content and activities related to nature education on the development of such cognitive functions as: attention, thinking, and the abilities to analyse, synthesize and abstract. One should also emphasize the role of nature in the development of fantasy and imagination. A child in preschool and early school age constantly returns to previously encountered problems and subject areas, improving orientation and enriching knowledge in a given field. The advantages of the observation method are noticeable; it improves multi-sensory cognition, which then becomes the basis for the child's contact with the environment.[40]

Mirosława Parlak emphasizes the overriding value and importance of active learning about nature, which influences the development of a child's personality. The author lists the fundamental values that shape the developing child, such as respect for life, understanding the need for living organisms to coexist, compassion, and respect for all people. It even encourages students to intensify their activity in the field of natural and environmental education.[41] By organizing opportunities for contact with nature, children develop a sense of moral values, including the ability to distinguish between good and evil. The seeds of appropriate attitudes and beliefs are also developed. Thus, they strengthen positive ways of behaving toward nature and peers. Developing a responsible attitude towards nature should be a value shaping the moral figure of the future consumer of civilization and nature. At this age, the child begins the process of subtle and sensitive action by the individual, gaining further opportunities to develop positive habits and actions towards the environment and a sense of co-responsibility for it.[42] Contact with nature serves not only to equip the student with detailed information, but also to prepare him/her for independent consideration of problems that one may encounter in everyday life.[43]

A review of the literature on the importance of nature and the basics of ecological knowledge in child development leads to the conclusion that creating conditions and opportunities to use the health, socio-educational and cognitive values of nature, organizing the situation to explain it, the possibility of asking questions, sharing ob-

[38] Ibidem, p. 43.

[39] A. Budniak, *Edukacja społeczno-przyrodnicza*…, op. cit., p. 55.

[40] M. Arndt, *Przyroda przeżywana*…, op. cit., p. 21

[41] M. Parlak, *Przygotowanie nauczycieli*…, op. cit., pp. 24–25.

[42] A. Budniak, *Edukacja społeczno-przyrodnicza*…, op. cit., p. 53.

[43] E. Frątczak, J. Frątczak, *Ogród przedszkolny*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1997, p. 23.

servations is a fundamental factor for preschool and early school child development. "Nature is an ally in the upbringing of a child because it meets almost all of the needs, promotes harmonious development, provides affirmative experiences, and arouses interest in everything that moves, lives, changes."[44]

Bibliography

Al-Khamisy D., *Rozwijanie pojęć przyrody nieożywionej w dzieci sześcioletnich*, Wydawnictwo Żak, Warszawa 1996.

Arndt M., *Przyroda przeżywana i obserwowana z dziećmi przedszkolnymi*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1980.

Buchcic E., *Działania podejmowane przez szkoły w środowisku lokalnym*, [in:] *Edukacja środowiskowa w szkole i społeczności lokalnej*, Instytut Badań Edukacyjnych, Warszawa 2007.

Buchcic E., *Edukacja przyrodnicza elementem procesu wychowania*, "Studia ecologiae et bioethicae" 2014, no. 2.

Budniak A., *Edukacja społeczno-przyrodnicza dzieci w wieku przedszkolnym i młodszym wieku szkol*nym, Wydawnictwo Impuls, Kraków 2009.

Daszewska W., Malinowska A., *Zajęcia przyrodnicze w przedszkolu*, Nasza Księgarnia, Warszawa 1951.

Frątczak E., Frątczak J., *Edukacja ekologiczna uczniów klas I–III*, Wydawnictwo TUVEX, Pabianice 1994.

Frątczak E., Frątczak J., *Ochrona i kształtowanie środowiska w edukacji dzieci przedszkolnych*, Liga Ochrony przyrody, Bydgoszcz 1998.

Frątczak E., Frątczak J., *Ogród przedszkolny*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1997.

Hanisz J., *Zintegrowana edukacja wczesnoszkolna*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1998.

Jagodzińska M., Buchcic E., *Wychowanie ekologiczne poprzez aktywne poznawanie rzeczywistości przyrodniczej*, "Społeczeństwo. Język. Edukacja" 2013, no. 1.

Jagodzińska M., *Nauczyciele o nauczaniu przyrody*, [in:] D. Bebel (ed.) *Słupskie prace przyrodnicze. Biologia eksperymentalna i ochrona środowiska*, Wydawnictwo Pomorskiej Akademii Pedagogicznej, Słupsk 2003.

Jarzyńska I, *Wykorzystanie walorów środowiska lokalnego w zintegrowanej edukacji wczesnos*zkolnej, [in:] M. Królica, E. Piwowarska, E. Skoczylas-Krotla (eds.), *Edukacja przedszkolna i wczesnoszkolna na początku XXI wieku. Wyzwania*

[44] M. Szczotka, *Dziecko aktywnym odkrywcą i badaczem w procesie edukacji przyrodniczej*, "Edukacja elementarna w Teorii i Praktyce" 2013, no. 1, p. 64.

i konteksty, Wydawnictwo Uniwersytetu Humanistyczno-Przyrodniczego im. Jana Długosza, Częstochowa 2007.

Kalinowska A., *Cele zrównoważonego rozwoju do roku 2030 i cele różnorodności biologicznej do roku 2010 w kontekście działań edukacyjnych*, "Studia i materiały w CELP w Rogowie" 2018, no. 55(1).

Korczak E., *Edukacja środowiskowa w klasach I–III szkoły podstawowej*, [in:] J. Gzyl, W. Jarosz, E. Korczak, E. Kulka, Z. Nowińska (eds.), *Nasze środowisko – jak w nim żyć? Podstawy teoretyczne edukacji ekologicznej uczniów klas I–III szkoły podstawowej*, Wydawnictwo IETU, Katowice 1996.

Korwin-Szymanowska A., Lewandowska E., Tuszyńska L., *Edukacja środowiskowa w kształceniu nauczycieli w perspektywie praktycznej*, Wydawnictwo Akademii Pedagogiki Specjalnej, Warszawa 2015.

Okoń W., *Słownik pedagogiczny*, Państwowe Wydawnictwo Naukowe PWN, Warszawa 1981.

Parlak M., *Przygotowanie nauczycieli przedszkoli do prowadzenia edukacji przyrodniczo-ekologicznej – raport z badań*, "Edukacja Biologiczna i Środowiskowa" 2016, no. 4.

Sawicki M., *Edukacja środowiskowa w klasach I–III szkoły podstawowej*, Wydawnictwo Naukowe Semper, Warszawa 1997.

Strumińska-Doktór A., *Poziom wiedzy środowiskowej nauczycieli*, [in:] D. Cichy (ed.), *Edukacja środowiskowa w szkole i społeczności lokalnej*, IBE, Warszawa 2007.

Studzińska M., *Dzieci przedszkolne poznają przyrodę ożywioną*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1989.

Szczotka M., *Dziecko aktywnym odkrywcą i badaczem w procesie edukacji przyrodniczej*, "Edukacja elementarna w Teorii i Praktyce" 2013, no. 1.

Tuszyńska L., *Edukacja ekologiczna w perspektywie zrównoważonego rozwoju*, "Studies in Global Ethics and Global Education" 2017, no. 7.

Więckowski R., *Edukacja ekologiczna*, "Życie Szkoły" 1997, no. 2.

Więckowski R., *Pedagogika wczesnoszkolna*, Wydawnictwa Szkolne i Pedagogiczne, Warszawa 1993.

Żuchelkowska K., *Edukacja przyrodnicza w przedszkolu*, Wydawnictwo Uniwersytetu Kazimierza Wielkiego, Bydgoszcz 2015.

Edukacja ekologiczna w edukacji wczesnoszkolnej i przedszkolnej – terminologia

Streszczenie: W artykule omówiono edukację ekologiczną oraz terminologię w edukacji przedszkolnej i wczesnoszkolnej na podstawie krótkiego rysu historycznego edukacji ekologicznej tej grupy wiekowej dzieci w Polsce. Nawiązuje się do podpisania na Szczycie Ziemi Konwencji o Wychowaniu Biologicznym, która określiła pobudzanie świadomości ekologicznej, ochronę zasobów naturalnych i przestrzeni przyrodniczej wokół człowieka. Artykuł stanowi analizę celów edukacji ekologicznej. Edukacja przyrodniczo-ekologiczna ma aspekt biologiczny, emocjonalny, motoryczny, twórczy i duchowy. Ma istotne znaczenie w rozwoju małego dziecka w wieku przedszkolnym i wczesnoszkolnym w rozwoju poznawczym, fizycznym, zdrowotnym, społecznym i emocjonalnym.

Słowa kluczowe: edukacja, edukacja przyrodnicza, edukacja ekologiczna, cele edukacji ekologicznej, wpływ edukacji ekologicznej na rozwój dziecka

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