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CONTEMPORARY APPROACH IN PEDAGOGICAL RESEARCH

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Ecological pedagogy vs. ecological approach in pedagogical research – selected aspects

Introduction

Admittedly, terms 'ecology' and 'ecosystem' coming from biology have been lent to many disciplines and, therefore, are used in contexts different from the original ones. The term *Ökologie* was introduced in 1866 by Ernst Haeckel – a German zoologist and philosopher, who defined it as the knowledge of relationships between the organism and the environment. This was because Haeckel understood ecology as the whole knowledge regarding the economics of nature, the examination of all relations between the animal and its non-organic and organic environment, including its friendly and hostile reactions with the animals and plants that it contacts indirectly or directly (McIntosh, 1985). In 1935, an English botanist Arthur G. Tansley used the term 'ecosystem' for defining the whole system containing not only a set of organisms, but also a full set of physical factors being a specific life environment for these organisms. Such systems where mutual dependencies between living organisms – biotic elements (plants, animals, people) and the entire inanimate nature – abiotic elements (water, soil, air, wind, mineral elements, non-organic elements, etc.) are primary units of nature on the surface of the Earth in ecology (understood as one of biological sciences).

While the development of biological sciences continued to progress at the beginning of the 20th century, and the tradition of nature writing related, among others, to the 19th century New English transcendentalism still developed in the United States, the anthropocentric attitude to nature developed under the influence of modern thought continued to dominate in society. It was accompanied by the conviction of the ultimate subordination of nature to the human being. As a result of this, issues of relations and interdependencies between society and nature were not reflected broadly in social and human sciences until the middle of the 20th century. Only the publication of U Thant Report (1969) and Roman Club reports (1972, 1979) was the turning point in this approach.

In social sciences, particularly sociology, the environment was treated as a human environment forced by various social entities and their actions. This began to change, consequently leading to the formation of environmental sociology, where research focused on interactions occurring between the natural environment and society in conditions of the increasing risk of ecological catastrophe (Trempała,

2016). Before this occurred, society had exerted an impact on the formation of ecological pedagogy developing within the scope of social pedagogy.

Background for ecological pedagogy

It was social pedagogy that developed interest in the upbringing of the human being for natural environment protection and the formation of ecological awareness and culture. This is how, on the basis of social pedagogy, ecological pedagogy has developed as one of its specific disciplines since the 1980s. The first works in the field of ecological pedagogy concerned mainly upbringing for environmental protection, with particular regard to individual responsibility for the natural environment. An outline of the idea of ecopedagogy was formed by Gerhard de Haan (1985). It was also developed by E. W. Kleber, who tried to combine planetary, biocentric and anthropocentric perspectives (1993).

Ecological school was formed much earlier, in the 1920s, as a result of the search for the relationship between human development and environmental factors. The ecological trend in social research has its long history. It developed within the conception of Chicago human ecology developed by Robert E. Park, Ernest W. Burgess and Rodrick D. McKenzie (Krüger, 2005; Trempała, 2016; Wroczyński, 1979). One of the creators of Chicago school was also Florian Znaniecki. By referring to ecological concepts and ideas, representatives of Chicago school tried to explain the characteristics of the spatial division and arrangement of urban communities, taking various factors into account. They treated urban space as an ecosystem that must be learned with the use of concepts and principles known from ecology, physiology or biology. Research on population movement processes and their ecological conditions developed within the scope of human ecology (the concept that was introduced by American sociologists at that time) helped to plan and organize the life of urban communities and intended educational activity. Although theoretical assumptions of the ecological trend (particularly conceptions of social Darwinism and geographical determinism) were criticized, ecological school in sociology undoubtedly contributed to the development of environmental pedagogical research and its methodology. With regard to human ecology, human sociology represented by F. Znaniecki indicates the need to consider the world of human meanings and values as elements regulating human behavior, not only the determination of development by means of biological factors (Kalinowska, 1994). From the perspective of human sciences, human ecology focuses on all elements of the environment, which are closely interconnected and form the natural, social & cultural and psychological sphere of human existence. This is reflected in the presence and determination of environmental education on the basis of education sciences and social sciences.

In natural sciences, environmental education is sometimes associated with ecological education or is treated as a superior concept towards ecological education. As regards social education, the perception of environmental education has been dual since the late 1990s. Firstly, in a narrower sense, it is referred to the acquisition, teaching and popularization of knowledge of the local environment, its social, cultural and natural life in school work. In a broader sense, environmental education

is treated as the process of forming and developing one's own environment-related competences, the conduct that is combined with the fulfillment of a range of local needs, such as economic, educational, cultural or political needs (Theiss, 1999).

Environment in social pedagogy

Starting with the understanding of the concept of environment in social pedagogy, we must refer to the findings of its creator Helena Radlińska, who perceived the environment as a set of conditions among which the individual lives and factors determining his/her personality with a permanent or long-term impact (Radlińska, 1935). It is worth mentioning that the first works referring to the environment as a set of conditions for educational behaviours and socialization processes were undertaken in pedagogy in the 1920s and 1930s (Krúger, 2005). Ryszard Wroczyński also defines the environment as elements of the structure surrounding the individual that function as a set of stimuli and cause specific mental reactions (experiences) (1979). Depending on the type of environmental stimuli, we can distinguish between natural, social and cultural environments.

The natural environment is considered to include these elements of the background that form the physical environment of the Earth (e.g., the surface, climate, waters, natural resources), flora and fauna (Wroczyński, 1979). The natural environment initially understood as a product of nature and existing without human intervention actually does not exist on the globe any more. Only the areas in which elements of original nature prevail have remained. Although the human being can transform and interfere in the natural environment to a large extent (and does this), it is reasonable to subject his/her attitude to the world of nature to education.

On the other hand, the social environment includes people and social relations surrounding the individual, whereas the cultural environment encompasses elements of the output of historical human activity affecting the individual (Wroczyński, 1979). The aforementioned three types of environments: natural, social and cultural are not isolated – they are strongly interconnected. The natural environment forms a kind of basis for social life and the creation of cultural property whose direction it usually determines. All three types of environments are combined with educational activity, because they release specific human mental experiences, which forms a basis for processes of intentional educational activity.

The ground for scholarly deliberations of social pedagogy in the aforementioned aspect is ecosphere, which is closely related to other spheres of human life, such as biosphere, psychosphere, sociosphere and technosphere. Understood in such a broad sense, the environment of human life will significantly determine the quality of individual life and, vice versa, can be largely changed by rightly or wrongly thought-out human activity. Therefore, results of research conducted in an interdisciplinary manner and educational practice connected with ecological education can serve as primary sources for the development of ecological pedagogy as a discipline (Gola, 2018). The latter encompasses studies and research on the preparation of the human being for participation in social life through the formation of behaviors and values referring positively to the natural environment (Albińska, 2005;

Gromkowska-Melosik, 2004). The quoted understanding of ecological pedagogy has little in common with the ecological approach in pedagogical research.

Ecological approach in social research

It must be stressed that ecological approaches are often developed in research on the basis of social sciences, which goes for pedagogy, too. From among relatively recent pedagogical works, it is worth mentioning two significant research papers in this aspect: Zbigniew Kwieciński's work on the reactivation of pedagogical ecology (2013) and a new interpretation of Helena Radlińska's works by Lech Witkowski (2014). By introducing the term 'pedagogical ecology', Kwieciński treats it as studies and research on the entirety of educational relations in the life environment of individuals, where 'life environment' means both the 'world experienced' by the individual as processes and relations and objective 'conditions' of individual life. Pioneer research in Polish pedagogy within the scope of 'ecological monograph research' was conducted in the Ciche Górne village at Podhale – an economically retarded region, with school as a centre and object of influence (Kwieciński, 1968). In spite of the collapse of this research program after a few years, Kwieciński advocates the performance of comprehensive studies on education in its broad sense as pedagogical ecology and ecological pedagogy, because today we have studies at our disposal that largely broaden the understanding of the life environment and the world experienced as an educational environment.

As he suggests, inspirations for practicing pedagogical ecology and ecological pedagogy came, e.g., from works by H. Radlińska, from the reading of *Młode pokolenie chłopów* [*The Young Generation of Peasants*] by J. Chałasiński, from experiments of L. Bandura's "Bydgoszcz school", from the conception of Chicago human ecology of R.E. Park, E.W. Burgess and R.D. McKenzie, from the principle of interparadigmatic tolerance, from Dewey's progressivism, works of School 203 in Warsaw under the supervision of Prof. B. Suchowolski and the ethos and methodology of scouting (the School in Mikołów under the supervision of Prof. A. Kamiński).

Kwieciński notes that H. Radlińska stressed the ecological perspective of her approach to research on the educational environment, seeing school as a potentially inspiring institution in its centre (2013). School could also arouse social forces of the environment, among which the author counted also spiritual forces, "invisible environments". As she wrote, education is largely a contribution to the inscrutable result of experiences and creative activity (Radlińska, 1961).

In his articles devoted to the reactivation of pedagogical ecology in Poland, Z. Kwieciński presents a rich choice of works that he locates within its scope, at the same time admitting that pedagogical ecology extends its scope onto new problems, trends or other disciplines. These are, among others, studies concerning the spaces and places of school; the development of local education systems; environments on the organic, mezo- and macro- level; the pathology of a selected urban area; the socialization and inculturation of small-town young people migrating to a big city; educational environments of our migrants among others, the possibilities and limitations of their growing into accepting cultures; identities of ethnic minorities,

stereotypes towards them, hostility and colonization. The part of works significant for pedagogical ecology is devoted to place-based pedagogy, children's research on the history of their own family on the tales of grandparents relocated to new areas; intra-family relations in the contexts of everyday mutual learning; the importance of the internal culture of school for aggression and violence in it, the educational understanding of popular media culture as the life environment of individuals and generations; educational research in actions relating to engaged anthropology, the community of young people outside science and outside work. On the other hand, being distinguished from pedagogical ecology, ecological pedagogy is developed in an original manner thanks to such ecological education programs that confront children with the civilization crisis through the use of artistic means of expression offered by theatre, pantomime and painting (Łukaszewicz, 1996; Łukaszewicz, 2012; Łukaszewicz, Leksicka, 2018).

The conception of holon introduced by Arthur Koestler (1967) and subsequently developed by Ken Wilber (2007) turned out to be an innovative solution in ecological approach. A holon is treated as a system (phenomenon) being a whole in itself and a part of a larger system – other holons; it is treated as the primary substance of reality. Holons are grouped into a network of systems nested inside one another; each “smaller” holon is situated “inside” a larger holon (Wilber, 2007). Each system can be a holon, starting from a molecule to the universe as a whole. Holons have a tendency to self-transcendence – going beyond themselves and entering a higher level – and to self-dissolution (disintegration, descending to a lower level). A holon can be any identifiable thing – e.g., word, sound, emotions. In simple terms, holons can be this “invisible life environment” and an educational environment. This is everything that can be found outside the traditionally perceived educational environment and refers, e.g., to human spirituality, however, without limiting it to the sphere of religious experiences, but connecting the human intellect with his/her corporal, cultural, social and natural environment. Therefore, various experienced emotions and feelings, aesthetic experiences, bonds, self-experiences, longings and fulfillments can be treated as the life environment of educational importance for the individual. Today, high educational importance is attributed to this “invisible environment”.

Another interesting environmental approach related to visual perception is the ecological theory of perception (known as the theory of affordance) that was introduced to psychology in 1979 (Gibson, 1986). Affordances were defined by Gibson as all opportunities for action present in the environment that remain related to individuals and depend on their capabilities, e.g., a car in which it is possible to turn the key and ride (however, it will not be an affordance if the person is invisible). The ecological theory of perception in Gibson's interpretation encompasses a system of functional relationships with the environment, perception and action (Bańka, 2002).

Altogether ten years later, Donald Norman contextualized the term ‘affordances’ on the basis of the theory of interaction between the human being and the computer (1999). Norman ascertained that these are conscious (i.e., perceived by the individual) opportunities for action and impact on objects of the environment related to their properties as well as individual perceptual abilities and skills of action

(e.g., a chair on which it is possible to sit down, or a handle designed in such a way that it can be grasped and pressed). Affordance was not associated with individual physical capabilities; it was referred to his/her plans, dreams, views, goals, values, beliefs, etc. The term ‘affordances’ began to be used in various scientific theories and disciplines, among others, in cognitive psychology, psychology of perception, environmental psychology, the design of interactions, research on artificial intelligence, architecture or industrial design. In Poland, the conception of affordances is used in Augustyn Bańka’s works in the field of environmental psychology.

In the field of pedagogy, an example of such affordance can be a public library quoted by Kwiecińska, which is a dead pile of books until it begins to be used consciously as a rich learning offer (2013). School can also be an institution where books are physically collected (e.g., in a library or pupils’ lockers), thus providing the individual with inspiration for change and development. Kwieciński aptly remarks that people’s living environments can be equipped in such a way that its objects become affordances (2013).

G. Bateson’s works as inspirations for pedagogical ecology and humanities

A new interpretation of Helena Radlińska’s thoughts by L. Witkowski, undertaken through the prism of George Bateson’s approach, becomes an important inspiration for pedagogical ecology. In his book *Niewidzialne środowisko* [*The Unseen Environment*], Witkowski explores H. Radlińska’s works in the context of ecological references as a paradigm for the humanities (2014). Thus, he refers to a range of environmental, ecological or cultural conceptions – among others, from the works of Gregory Bateson, Kurt Lewin, Urie Bronfenbrenner, Geoffrey Vickers, Michael Winkler or Lew S. Wygotski. Witkowski interprets Radlińska’s complete pedagogy through the prism of Gregory Bateson’s approach as a critical ecology of idea, mind and education. At the same time, he acknowledges the author’s achievement in social pedagogy as fundamental and universal, in contrast to the narrowly perceived viewpoint of social pedagogy. He also admits that Radlińska instinctively perceives many intellectual motifs that are only emerging around the world between the 1920s and the 1940s, such as cybernetic thinking, ecological interpretation, social reflections on culture and cultural reflections on social phenomena. Reconstructing Helena Radlińska’s social pedagogy, L. Witkowski applies methodological suggestions inscribed into the “Ecology of Mind” by Bateson.

Monika Jaworska-Witkowska recognizes that the extensive reception of Bateson’s idea in Poland, referred to the practice of “ecological humanities”, cannot be reduced to associations with natural environment protection (2016). Here I mean works where the ecological approach has become a way or culture of practicing human sciences along with the inclusion of the “ecological turn” (Domańska, 2013). Obviously, this does not apply to works in the field of humanities that refer to the human being’s life environment in consideration of the protection of natural life conditions of individuals and societies, but those with such understanding of ecology that also changes the approach to all humanities. This would be a question

of another position of the human being in relation to culture and nature and of the human mind towards the space of ideas and values.

Bateson thought that the theory of mind presented by him is holistic and, like all serious holisms, assumes the differentiation of parts and interaction between them. When formulating the fundamentals of the ecology of mind, the British anthropologist treated mental phenomena as cognitive processes in the broadest sense of the word that are characteristic of the entire world of living creatures (Skibiński, 2012). Thus, he proposes the “global understanding of cognitive processes as characteristics of ecosystems” instead of the “anthropocentric understanding of the mind”. Bateson wanted to develop the epistemology that would unite the areas of genetics, morphogenesis and learning – these three fields were clearly only one area for him. In Bateson’s interpretation, ecological humanities refer to his treatment of reason as a systemic phenomenon that is characteristic of living organisms, societies and ecological systems. Systems have to meet certain conditions for reason to emerge in them. Every system endowed with reason will process information and develop in itself such intellectual phenomena as memory, thinking and learning. Reason is the highest quality of living systems; it forms the essence of everything that lives. Therefore, in light of the systemic conception of reason, mentation characterizes individual organisms as well as social and ecological systems (Skibiński, 2016).

Bateson’s ideas, particularly the idea of double bind, allows us to develop a new epistemology explaining two turning points that occurred in humanities at the end of the 20th century. Witkowski draws attention to them, writing about one turning point opening up to the internal structural complexity of processes and phenomena, which brings at least bilateral and bipolar tensions that he defines as the level of duality (2016). He calls the second turning point in humanities “ecological” with regard to the strategy of human reflection showing mutual determinants and entanglements of influence in areas where separate disciplinary worlds used to be perceived. This leads towards ecology as a paradigm for the entire humanities from an epistemological perspective.

Conclusion

It must be said that ecological interpretations existing in pedagogy refer to two theoretical and practical approaches that do not have much in common. The trend related directly to the ‘human – natural environment’ relationship, created in response to ecological crisis and undertaken in practice in the form of ecological education, concerns ecological pedagogy as a discipline developing since the 1980s. In this case the starting point was an observation of the intensifying anthropopressure on the natural environment and its consequences in the form of: biodiversity loss, climate change, water contamination, desertification of soil, deforestation, depletion of natural resources and many other environmental problems on which the increase in world’s population, and – to a greater extent – the consumer lifestyle of people, is leaving its imprint. Indicated problems, being a kind of environmental challenges of the 21st century, make ecological issues extremely important in the context of education.

The second interpretation originating from socio-ecological tradition – called “Chicago school” – refers to the conception of human ecology. The ecological approach in social sciences refers to the analysis of educational relations in the broadly understood life environment of individuals, incorporating the “world experienced” by the individual into them: emotions and feelings, aesthetic experiences, bonds, self-experiences, longings and fulfillments. The great attention currently paid in pedagogy to ecological approach in research finds its reflection in the works of Z. Kwieciński (2013), L. Witkowski (2014, 2016), M. Jaworska-Witkowska (2016) inspired by H. Radlińska, G. Batesone (1996), the holon concept of A. Koestler (1967) and K. Wilber (2007); affordances of J. Gibson (1986) and D. Norman (1999). This approach, used to practice the ecological humanities, cannot be reduced to the associations with the protection of natural environment.

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Ecological pedagogy vs. ecological approach in pedagogical research – selected aspects

Abstract

The article shows in how many different contexts the term 'ecology' originating from biology is used. This was done on the basis of the characteristics of ecological pedagogy and ecological approaches in social and humanistic research. The understanding of the term 'environment' in social pedagogy, including the natural environment, is shown. The formation of ecological pedagogy as a subdiscipline within the scope of social pedagogy has also been presented. When discussing the ecological approach in social research (also in pedagogy), the author referred to the conception of holon and the theory of affordances that could be used in education through the world of feelings, desires, longings and emotions creating the life environment of the individual. To conclude, it was stated that inspirations from the field of ecological humanities – found also in G. Bateson's works – are not limited to the protection of the natural environment of human life. This means that ecological pedagogy examining the preparation of the human being for participation in social life through the formation of behaviors and values referring positively to the natural environment is not identical to the ecological approach in pedagogical research.

Keywords: ecological pedagogy, social pedagogy, ecological approach in research, ecological education, environmental education, Gregory Bateson

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