Hana Horká, Veronika Rodová Masaryk Univerzity in Brno

The way of life of prehistoric people as a source of environmental understanding of pupils of fourth grade primary school

(the theoretical and empirical reflection of the educational programme)

The article deals with joining the educational content of the subject National history and geography with an environmental topic. A qualitative analysis of the author's educational programme *Prehistory — The Life of Gatherers and Hunters* based on constructivist principles and psychosomatic participation of pupils, points to possibilities of connecting the instructional and educational potential of the chosen educational topic. A recording of the final verbal reflection completed with photographs of still images demonstrates the cognitive demandingness of education within a wider environmental context.

Keywords: educational programme, gatherers and hunters, grounded theory, primary pedagogy, relationship between nature and culture

1. Theoretical Background

Education is gaining particular importance for overcoming the disturbed reciprocity between man and nature. Within the eco-social theories which require "scattering" the fragmented view of nature and society in education, discovering the "belonging to life and to mass" and getting "the consciousness of global functioning of social organism" (Grand'Maison, De Rosnay, Morin, Toffler in: Bertrand, 1998, p. 227-228), the view of education is being transformed. The ideological and content level provides opportunities for explaining the relationship between nature and culture. The aim of the biophile-oriented education is to lead pupils to understand the "conflict" of culture and nature in its complexity and from different points of view. The acquisition of the basic competence to "civilized protection of the environment" (Horká, 2011, p. 175) is therefore connected with the discovery of a delicate balance between nature and culture. Opportunities to fulfil the educational goals can be found not only in the explicitly determined educational areas and cross-curricular topics, but also in seemingly unrelated themes, as we would like to demonstrate in this paper.

Within school education, the value priority of nature to human life should be justified, the sensitivity should be stimulated and the "human predispositions for the value and beauty of nature" (Śmajs, 2008, p. 57) should be strengthened. Pupils learn to distinguish between nature and the natural from culture and the artificial and they also learn to understand the emergence of material culture, which makes life easier, but also causes the destruction and depletion of nature. They gradually learn that man is not responsible for nature, but for culture, for his work. Understanding the conflict between nature and culture allows pupils to anticipate and reflect on their actions, to derive solutions and effective prevention.

The learning process is based on physical, sensory and social experiences. They are confronted with the new knowledge which a pupil acquires. Here a conflict situation, where the emerging contradictions are being actively overcome, arises. A pupil assimilates and adapts new elements (Piaget, Inhelderová, 2007, p. 57), integrates them into existing structures which are being "developed, enriched, modified, reconstructed and transformed" (Skalková, 2007, p. 138). However, there is a condition — pupil's intrinsic activity. Mezirow understands the learning process as creating "new or revised interpretations of meanings" (in Nehyba, 2011, p. 308). The concept of **communicative reason**, which emphasizes the "moments of understanding and communication" (Habermas, 1995, pp. 314-315), can serve as an overarching argument.

The visual display represents a demonstration of a certain objectively existing state of affairs. In our case, this postulate is implemented within a specific didactic structure which is represented by programmes of thematic cooperative education (TCE). Central didactic approach is based on the technique of still images (*still picture*, Valenta, 2008, pp. 157-161). The technique is unique for providing an active interaction with the subject matter. To be able to create a still image, pupils have to analyse the content of the curriculum and understand the significance of facts. This understanding is formulated, justified and strengthened within the process of communication (reflection) between the creators of a still image and other participants, the audience. The debate over the meanings of a still image has the form of negotiation between the creators and the viewers. Pupils are implicitly working within the field of hermeneutical analysis when an accompanying text (picture description) "allows to "anchor" the meaning and show what it is necessary to turn our attention to" (Barthes, 1977 in: Sztompka, 2007, p. 82). Another overlap heads to the field of discourse interpretation, where "diverse pictorial illustrations of the same topic join various backgrounds and contexts to one single area" (Goffman, 1979 in: Sztompka, 2007, p. 99). The aim of negotiating the meaning of still images is therefore not the search for one "true" interpretation, but it is an exercise in the formulation of logically consistent and convincing arguments and, at the same time, an exercise in accepting a (temporary) existence of several justified options.

2. The Concept of Thematic Cooperative Education

The concept of educational programmes is based on the **constructivist paradigm** and the work with concepts, structure and intuition plays a key role there. It allows you to "get to know what the relationships between things are" (Bruner, 1963 in: Skalková, 2007, p. 76). Knowledge is *physically* constructed through pupils' activity and their own actions; *symbolically* through the creation of models and schemes, *socially* through communication of the understood meaning and *theoretically* through questions and explanations of the temporarily unintelligible (Nezvalová, 2006, pp. 10-11).

The TCE model represents a structure proven by practice whose core is formed by linking cognitive and psychosomatic activities (particularly interpretation, brainstorming and still image). The starting point, in terms of content, is created by historic sources in the form of written and visual *texts*. The emphasis on work with images, which are regarded as a text, is crucial for the TEC programmes. It is not limited to viewing and reading the source material only, but the choice of educational techniques causes that pupils themselves become the authors of pictorial "texts" (represented by still images), which they create and interpret. In the present paper, we analyse the data obtained during the implementation of the programme *Prehistory* — the life of hunters and gatherers.

In the first part of the programme, pupils create working groups and they acquire the teaching technique of still images which constitutes the core of creative-cognitive activities. Then, the pupils learn about the African San people. In the eighth step (see the programme scenario), a form of a structured dramatic play¹, motivated by the periodicity of gathering and parting of the San people groups during the year, emphasizes the importance of memory and the ability to sustain attention in order to survive under natural conditions.

The second part opens by reading of a popular scientific text (Leakey, Lewin, 1984, p. 101-103) on the impact of hunting and gathering on the life and functioning of communities. A discussion, which results in a creatively-cognitive task, follows. The aim of the task is to depict, in the form of still images, a day in life of a hunter and a gatherer. The requirement is to employ relevant facts which the pupils had been familiarized with. Groups present their proposals and discuss the meanings of still images. The programme is terminated by a reflection.

Pupils create a still image based on the evocation of their previous experience. It represents a visual representation of facts and feelings, it includes poetics which stems from the paradox of a non-moving body which still expresses action; it can also serve as a means of reflection (Valenta, 2008, p. 160). The use of still images within the TEC programmes is determined by the nature of (historic) facts that are being investigated. The external stillness of the picture expresses dynamic (and often dramatic) and internally structured situations, it allows their exploration while respecting the content accuracy. The bearer of communicability is the mis-en-scène, a thoughtful composition of "special relationships of people and objects and their transformations" (Valenta, 2008, p. 160) which carry the meaning (Ejzenštejn, 1998).

In order to be able to create a still image within the TEC programme, "pupils must encompass the cognitive level of synthesis, i.e. based on their prior knowledge, pupils must create something new, that the others will understand" (Rodriguezová, 2012, p. 230). The object of representation is family relationships and therefore it can be assumed that in addition to the information from the text, pupils will work also with their personal experiences.

3. Methodology

The following examples of teaching situations are part of an empirical analysis carried out within the framework of a dissertation thesis (Rodriguezová, 2012). Its aim was to understand the teaching situations which occur within the TEC programmes, particularly with regard to the cognitive demandingness of pupils' work. The

¹ The form of social learning, which is realized through role play and improvisation. Svozilová defines it as a "group creative activity which connects the participants (...) through their own experience within the co-operatively built drama unit" (2005, p. 30-31).

starting point was the photographs² of still images and audio recordings of the reflection at the end of the programme. Another source consisted of field notes which, in addition to the information about pupils' behaviour during their work, contained a detailed description of still images, including suggestions for their interpretation.

Research used a qualitative methodology based on grounded theory (Strauss, Corbinová, 1999). Open and axial coding allowed to create an application of the paradigmatic model and to subsequently detect the core category (*Still image as a psycho-somatic artefact*), which was subjected to selective coding. This lead to the formulation of the analytical story outline and a subsequent creation of a theory which encompasses educational possibilities of the TEC programmes.

The research sample consisted of 194 pupils from eight classes of primary schools. This paper deals with the implementation of the programme in the fourth grade. The data were collected during the second half of the school year 2010/2011.

4. Chosen results of the analysis

The educational programme *Prehistory — the life of hunters and gatherers* familiarizes pupils with the workings of hunter-gatherer society; it stands at the border of history, anthropology, ethnography and evolutionary psychology. The main theme is the examination of the influence of the environment on the life and behaviour of the human community.

The basic source of information is represented by the reading of a passage from the book *People of the Lake* by Roger Lewin and Richard Leakey. The pupils' utterances quoted below exhibit different levels of cognitive demandingness.

The Bloom's taxonomy of cognitive aims (of six levels) was used as a criterion. The basic level is represented by knowledge (a pupil remembers, recognizes and reproduces the data which he had previously learned). The following level is understanding (s/he is able to express the subject matter studied in her/his own words). The third level is the application (s/he uses the acquired information actively), then the analysis follows (s/he creates her/his own hypothesis and conclusions). The highest levels are synthesis (a pupil creates something new which is based on her/his own knowledge) and evaluation (a pupil assesses the value and justifies her/his choice) (Pasch, 1998, p. 69-77).

4.1. Reflection on the programme in pupils's words

Man is a product of natural evolution and is proud only of their own creativity. Modern man often considers nature as being soulless and having the need to be completed and humanized by culture. However, according to Smajs (2008), nature is sufficiently completed and it is superior to all living beings. People do not understand this, change the natural landscape into a cultural artificial one, thereby severely damaging the system which created humans. Roger Lewin emphasizes the impact of hunter-gatherer way of life on human psyche. The

 $^{^{2}}$ It was necessary to follow the rules regarding the personal data protection (Act no. 101/2000 Sb.).

American anthropologist Mariorie Shostaková, who conducted research of the San people in 1970s, says that although the gathering and hunting has almost disappeared, mankind made its living by these activities throughout most of its existence (agriculture has existed for about 10,000 years and industrial production only 200 years). "The uniqueness of the human species was formed — and the human personality matured — in the environment of hunters and gatherers" (1999, p. 11). Until recently, the San people lived in a region of Dobe at the edge of the Kalahari Desert and they maintained their traditional way of life of gathering and hunting, which caught attention of the pupil called Bohumil: I learned that in Africa there still live people who behave like in prehistoric times. The anthropologists explain this fact by the effectiveness of a modest way of life, which is based on autherina and huntina. Gatherers and hunters do not feel the need to generate surpluses or reserves for tomorrow. In other words, they trust nature and also their ability to find subsistence (Leakey, Lewin, 1984, p. 107). Pupil Anna returns again to this topic: I was really intrigued by three things: the one was that there are people who still live the old-fashioned way, and the other was they simply had to kill the children. And the third is that meat, that it developed the relationships, nice. Both answers express the idea that in the world, there does not exist only one reality of life, the one that makes up pupils' experience. The answers can be regarded as an example of an enrichment of pupils' interpretation of the world and as a new view that encompasses the environmental theme of temperance in relation to nature.

The concept of reciprocal altruism involves a term called natural labour distribution between men and women, as Cyril explains: Well, me, the new thing I learned was probably that only women were the gatherers and that meat worked as a kind of diplomatic relationship. Reciprocity as a model of behaviour of hunters and gatherers, evolutionary strengthened by a common distribution of meat across a troop, is explained to pupils on the example of behaviour of children who are dividing treats. I was intrigued by dividing meat; that meat keeps friendship within the troop and that thanks to meat, good relationships are kept, David emphasizes.

The task of women consists of lifelong care for children. During the discussion about the meanings of the information from the passage, pupils often find the length of time of breastfeeding by San women surprising, as Gustav laconically notes: I didn't know that you can breastfeed for four years. The theme of motherhood represents an introduction of a sensitive issue where the evolutionary imperative of nature and ethical imperative of culture intersect.

In Honza's expressive statement, it is possible to see traces of the unspoken respect for the lot of women, mothers, gatherers which is associated with the unmerciful laws of the evolutionary imperative which may even lead to the infanticide of a younger child: For me it was quite shocking that the women, when they have two children, they must kill one of them so that the other could live. And that they carry them on their back, and they carry the same weight as they weight themselves. In the event that a new-born child does not threaten the existence of an older sibling and survives, women carry them in leather bags along with what they had

³ Shostaková mentions that at the time of her second research (1975), the traditional way of life of the San people had been irreversibly influenced by contact with the environs, especially with the pastoral ethnicity of the Herero (1993, p. 283-286). The dangers for the San people, who are being driven off their hunting grounds and forced to serve at farms where they suffer from illnesses and have problems with alcohol, were pointed out even Emil Holub at the 19th century (Sklenář, 1998, p. 446).

gathered. The older the child, the heavier the burden is. It offers an opportunity to look differently at the construct of feminineness (Lenderová et al., 2009) within the community of people, which is primarily determined by the environment in which the people live.

4.2. The Educational Potential of Still Pictures

Preparation and presentation of still images is considered as a realization of the concept of dialogic teaching (Alexander, 2006 in: Šeďová, Švaříček, Šalamounová, 2012, p. 171). The following discussion over their meanings is represented by "thinking about what has been done" which forms basis of the discourse. It is the discursive nature of reflective activities that represents a key feature of the TEC programmes. A critical discussion about the form of a still image (and its possible meanings) develops, based on "careful argumentation by pupils", often containing "a conflict of opinions" that makes pupils think their arguments through" (Švaříček, 2011, p. 43). "The requirement of negotiation of meanings between creators and the audience arouses the dialogic nature of teaching which leads to higher cognitive demandingness and it develops pupils' visual literacy" (Rodriguezová, 2012, p. 84).

Now let's see how a group of students performed one day in life of a prehistoric hunter on the basis of information gained from reading of the passage and the subsequent discussion. Still image descriptions are the result of the debate between the audience during the presentation of images which was captured in the form of field notes.

Example no. 1:



Picture 1. Morning in the camp (Source: Rodriguezová, 2012, p. 105)

Description: In the centre of the scene, there is a chief lying on a bed, covered with fur, represented by blankets. One hunter is waking the chief up. On the sides, there are two other hunters, one is invoking the Gods of hunting, the other is preparing weapons — here it is arrows which are dipped in poison.

The boys present a wide range of activities, which may be performed by hunters before they go hunting, including not only the factual account of hunting, but also the interpersonal relationships. In previous phases of the programme, pupils were familiarized with the details of spiritual life and religious beliefs of prehistoric people and also with the likely details of their everyday life.

Material culture of hunters and gatherers is determined by the weight of things that these people (especially women) are able to carry. Possession of the !Kung people is limited to the necessary items that together weigh around 10 kilograms. That does not mean that their mental world is poor. Lewin notes that "hunter-gatherers prefer to bear culture in their head rather than on their back". It is a rich world of oral transmission of songs, stories and ritual dance (Leakey, Lewin, 1984, p. 100; Shostaková, 1993, p. 26, 290-303). However, they left behind some lasting material traces in the form of rock paintings (Lewis-Williams, 2007, p. 162-196).

A unique manifestation of the San art are the so-called petroglyphs, "paintings carved or knocked out to the surface of a stone," which were examined in the 80s of the 19th century by a Czech explorer Emil Holub. He divided them chronologically into four phases. His work was followed by archaeologists and art historians of the 20th century, for example Émile Cartailhac abbé Henri Breuil who was nicknamed "the Pope of prehistory" (Sklenář, 1998, pp. 444-455; Lewis-Williams, 2007, p. 38-52). The first more complex information on the San people was collected by a German linguist W.H.E. Bleek and his sister-in-law L. Loyd. Their unreleased material from the late 70s of the 19th century (which Holub probably did not know about), contains unique information. In the 50s of the 20th century, American industrialist L. Marshall continued the anthropological research (Lewis-Williams, 2007, p. 162-166). Current research of the San people began in the 60s of the 20th century and it was initiated by Richard Lee and De Vore Irven from Harvard University; they were followed by many others, including M. Shostaková.

Anthropologists exploring the life of the San people outlined the conditions and the course of the hunt which puts great demands on hunter's skills. He must be able to trace the animal, get closer to him stealthily so that he does not get hurt, but also so that the animal does not run away and the hunter must hurt it mortally. He must know how deep the arrow penetrated and how long it will take before curare kills the prey. Then the phase of tracking the wounded pray occurs. It can take several days and the hunter never knows where the animal will take him. A hunter must be able to transport the catch from an unknown, remote location. The San people place great emphasis on modesty and humility in the behaviour of hunters; arrogance and boasting are considered impolite. They use a number of securing mechanisms for balancing the social tension. One of them is a mutual exchange of arrows among hunters. The caught animal does not belong to the person who hit it, but to those to whom the deadly arrow belongs (Shostaková, 1993, p. 74-76).



Picture 2. Following the trace (Source: Rodriguezová, 2012, p. 107)

Description: School slippers represent traces of the animal. All four hunters are bending down and examining the traces.

Boys used a substitutional prop to depict animal traces which is, apart from the imaginary and the real prop, one of the means to grasp the examined topic visually. Their idea is not very original (in a good sense), the track had been depicted in this way by a number of boys 'hunting' troops before. However, the remarkable fact is that this idea is always the result of a common thinking within the group into which the teacher does not intervene. This repetition shows how our mind is subjected to the Saussure's model of perception of the world, whose central category consists of a sign and a symbol as the basis of our language and thought creativity. The school slippers works here as an icon which is characterized by substantial similarities with what it represents (Sztompka, 2007, p. 85). An important component of this iconicity is hyperbole and humour, which are based on transferring the meaning of animal traces on school slippers. Within the context of hunting, the animal traces refer to the topic of danger, physical discomfort or even life-threatening situations, school slippers connote safety, warmth and calmness, the characteristics which are far away from the world of prehistoric hunters and gatherers.

Tensions between the implicit content (universal animal trace) explicitly expressed by (specific and real shoe) includes convention of exaggeration which is understood by both sides: those who perform the image as well as those who look at it. It leads to fixation of the information communicated both at the level of specific action (it is necessary to trace the animal) and at the level of general regularities (hunting is not a simple activity, it has its time and rules and may be associated with failure).



Picture 3. What happened during the hunt (Source: Rodriguezová, 2012, p. 108)

Description: The wounded animal, in the latest surge of its forces, is clenching his claws into the chest of the hunter who is beating him over the head, the other hunter is shooting an animal from the bow, the third (outside the photo) is throwing a spear at him.

Hunting is dangerous, and therefore the !Kung people utmost avoid direct confrontation with the animal, especially when it is injured. Reasonable caution is not regarded as cowardice. Shostaková gives an example of a conflict of our ideas about hunting with the reality of the African wilderness. Twelve-year-boy told her a story of how during a hunt which he attended with adult men, he rather climbed a tree. The anthropologist began to tease him for cowardice, but the reaction of the boy and his father showed that this behaviour is considered by everybody to be correct, because "he is still a child and he could get hurt." Boys catch the first animal between the age of fifteen and eighteen; men usually manage one catch within four days of hunting (Shostaková, 1993, p. 75).

This information was conceived by boys within the third image that shows the dangers of hunting. Hunters caught an animal by following its spoors that it left behind. One is trying to hit it by a well-aimed shot from a bow, the other is beating him at close quarters by an unidentifiable weapon (perhaps a stone axe or a mace, maybe just a stone). The animal is trying to fight back with its remaining strength, it fights with its claws and causes injury to the hunter. In terms of the story line, the focus is on the hunter who in the first picture was praying for a good hunt. Viewers debated whether the hunter, stricken by animal claws (due to his own

carelessness: he approached the wounded animal too much) may die as a result of an infection, even if the wound is not necessarily deep.

The still image allows direct work with the subject matter, "it lies in the immediate knowledge", it includes work with intuition. According to J.S. Bruner, an intuitive way represents an independent and original solution which "reveals the relationships between phenomena" by not following "explicitly determined steps", but the system enters the structure at once (Bruner in: Skalková, 2007, p. 160). Creating a still picture requires the involvement of a higher-level of cognitive processes, particularly the application of information, analysis and subsequent synthesis.

As an example of running higher levels of cognitive process, we can consider the thoughts of the pupil called Jakub which he presented in the final reflection: But if a hunter dies, the troop is really weakened and there is sadness. But when they killed the child, the troop could have been weakened as well. Because this child could have once grown into a hunter too. The pupil connects information which he met separately (the dangers of hunting and infanticide) and which are not connected within the programme. He performs an independent synthesis, and thus he raises an imaginary arc between reason and emotion: he deepens the learnt facts about the conflict of the natural and cultural imperative by the expression of empathy with the lot in life of gatherers — hunters. The result is an individual consideration which includes the chronological aspect of human life in a surprising integrity. We believe that the answer can be considered as evidence of implementation biophile-oriented education.

5. Conclusion

Our goal was to enrich the view of the requirement of the biophile approach to education by a concrete example of actual teaching, grounded in the conducted research. Still images do not represent only an illustration of the educational content, but they are a unique artefact which allows a dialogue between internal cognitive structure and new information which are coming from the outside. In a joint creation of a still image, pupils first perform "cognitive cleaning", i.e. they are forced to "rearrange the structure of knowledge" which they subsequently formulate and they "present it in a new form" (Moon, 2012), which is further verbally reflected, thereby deepening the learning cycle. A still image represents a symbolic expression of the examined reality; reflection of its meanings allows to maintain the veracity of the facts and at the same time to realize the eternal relativity of our human knowledge.

References

Alexander R. (2006). Towards dialogic teaching: Rethinking classroom talk. Cambridge: Dialogos.

Bertrand Y. (1998). Soudobé teorie vzdělávání. Praha: Portál.

Ejzenštejn S.M. (1998). *Umenie mizanscény*. Bratislava: Národné divadelné centrum.

Habermas J. (1995). The Philosophical Discourse of Modernity. Twelve Lectures. Cambridge: Polity Press.

Horká H. (2011). Příroda ve školní výuce. In: J. Šmajs. Aby země nebyla jen hrobem. Literatura, kultura, příroda (pp. 123-132). Praha: Obec spisovatelů.

Leakey R., Lewin R. (1984). Lidé od jezera. Praha: Mladá fronta.

Lenderová M., Kopičková B., Burešová J., Maur E. (Eds). (2009). *Žena v českých zemích od středověku do 20. století*. Praha: Lidové noviny.

Lewis-Williams D. (2007). Mysl v jeskyni. Vědomí a původ umění. Praha: Academia.

Nezvalová D. (ed). (2006). Konstruktivismus a jeho aplikace v integrovaném pojetí přírodovědného vzdělávání. Olomouc: Přírodovědecká fakulta univerzity Palackého.

Nehyba J. (2011). Zkušenostně reflektivní učení a komfortní zóna. Pedagogická orientace, 21 (3), 81-97.

Pasch M. (1998). Od vzdělávacího programu k vyučovací hodině: jak pracovat s kurikulem. Praha: Portál.

Piaget J., Inhelderová B. (2007). Psychologie dítěte. Praha: Portál.

Rodriguezová V. (2012). Vzdělávací potenciál programů tematické kooperativní výuky v kontextu didaktiky dějepisu a dramatické výchovy: disertační práce. Brno: Masarykova univerzita, Fakulta pedagogická, Katedra pedagogiky, 248 1., 57 1. příl. Vedouá práce prof. PhDr. Jaroslav Vaculík, CSc. Dostupné z http://is.muni.cz/th/34241/pedf d/.

Shostaková M. (1993). Nisa, dcera Kungů. Intimní život ženy mizejícího světa. Praha: Mladá Fronta.

Skalková J. (2007). Obecná didaktika. Praha: Grada Publishing.

Sklenář K. (1998). Z Čech do Pompejí. Praha: Československý spisovatel.

Slavík J. (1997). Od výrazu k dialogu ve výchově. Artefiletika. Praha: Karolinum.

Svozilová D. (2005). Analýza strukturované dramatické hry v kontextu dramatické výchovy. Brno: JAMU.

Sztompka P. (2007). Vizuální sociologie. Praha: Sociologické nakladatelství (SLON).

Strauss A.L., Corbinová J. (1999). Základy kvalitativního výzkumu. Postupy a techniky metody zakotvené teorie. Boskovice: Albert.

Šeïová K., Švaříček R., Šalamounová Z. (2012). Komunikace ve školní třídě. Praha: Portál.

Šmajs J. (2008). Potřebujeme filosofii přežití? Úvahy o filosofii, kultuře, poznání, vzděláním řeči a popularizaci vědy. Brno: Doplněk, 101 s. ISBN 978-80-7239-221-6.

Švaříček R. (2011). Funkce učitelských otázek ve výukové komunikaci. *Studia paedagogica*, 16(1), 9-46.

Valenta J. (2008). Metody a techniky dramatické výchovy. Praha: Grada Publishing.

Streszczenie

Sposób życia prehistorycznego ludu jako źródło wiedzy o środowisku uczniów klasy czwartej szkoły podstawowej

W artykule przedstawiono przykład współzależności edukacyjnej między programem historii narodowej i geografii a problematyką edukacji środowiskowej. Analiza jakościowa przeprowadzona przez autora programu edukacyjnego *Prehistoria — życie zbieraczy i myśliwych*, opracowanego na zasadach konstruktywistycznych z uwzględnieniem psychosomatycznego udziału uczniów, wskazuje na możliwość łączenia potencjału instruktażowego i edukacyjnego wybranych zagadnień tematycznych. Uzupełnienie końcowej refleksji słownej stanowią fotografie pokazujące w żywych obrazach wymiar poznawczy edukacji w szerszym kontekście środowiskowym.

Słowa kluczowe: program edukacyjny, zbieracze i myśliwi, teoria ugruntowana, pedagogika wczesnoszkolna, związek między naturą i kulturą