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**ASSOCIATIVE FIELD OF THE WORD "NATURE" AS A  
REPRESENTATION OF MAN-ENVIRONMENT INTERACTION**

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***Abstract***

The paper discusses the associative field of the word "nature" in the ecological world view (EWV) of primary school children and high school students in comparison to that of adults (RAD), since the foundation for the world view and individual's environmental culture is laid in childhood and adolescence. It is revealed that the results of a free associative experiment allow identification of the dominants that are relevant to respondents when updating the meaning of the word *nature*. The study of verbal responses to this word helps understand the changes in the ideas of school children about the real world. EWV of a child reflects a certain way of perception, comprehension and understanding of the real world through language units in accordance with one's age and experience. EWV is a synthesis of natural science and human knowledge about nature. Environmentally oriented approach to the concept of "nature" focuses on the analysis of changes that occur during socialization of school children, when the system of ecological knowledge and ways of understanding nature, the value component of the world view, careful attitude to nature and environmental thinking and environmental culture of the person are formed and developed, and EWV of school children is formed in the educational process.

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**Keywords:** Associative field of the word "nature", free associative experiment, primary school children, high school students, environmental education, ecological world view.



## 1. Introduction

One of the global problems today is the environmental issue. The environmental situation, development of the technogenic factor in the modern world have an impact on all spheres of society and force people to rethink the value orientations and priorities of social development (Moiseeva, Kuznetsova, & Kuznetsova, 2017). For this reason, the environmental issues, the problems of interaction of man and the environment, environmental education of the younger generation, ecological world view are the focus of many domestic and foreign scientists. This is evidenced by a large number of studies addressing, for example, the study of the theory of the environment and environmental ethics (Attfield, 2003; Beauchamp, 2001), environment and human health (Warnock, 1994), society's attitude to nature (Zirnsteyn, 1994), ecological world view.

The environmental education of school children in the Russian Federation should take into account international experience in shaping the environmental competence of school children in general education institutions in such countries as the United Kingdom, Austria, France, Canada, etc. (Henderson, 2012). In Western countries, value and cultural-historical approaches, including ideas about the ideals of the relationship between man and nature, are based on national and international traditions. At the same time, Western models are integrated with domestic experience in the following aspects: the model of systematic schooling; environmental education; training in the fresh air; public movements, campaigns, etc. Since the end of the twentieth century, outdoor education has been the leading form of environmental education and training both abroad and in Russia. This form is used at all levels of lifelong learning: from pre-school to university level (Henderson, 2012).

In modern applied linguistics, a rather new study area – ecolinguistics – appeared at the intersection of the fields of psychological, social and philosophical sciences (Dushkova & Kirillov, 2017; Fill & Mühlhäusler, 2006). In linguistics, studies of the concept "nature" are also relevant within the framework of the linguistic world view (Selemenova, 2012), and the concept of "birds" in English. The environmental approach to linguistics involves the study of the man - society - environment relationship, which is reflected in the anthropocentric paradigm and demonstrates the evolution of man's perception and attitude to the environment.

The theory of linguistics traditionally describes three models of the interaction of sciences in these hybrid areas (Moiseenko, 2015): 1) centralist model, when one discipline is the focus of research and the other one is used as an auxiliary tool; 2) pluralistic model; interacting sciences make an equal contribution to the solution of the problems defined, with each discipline maintaining its autonomous and independent status; 3) integration model involves the intersection of interacting disciplines, their object-subject areas, and terminology and methodology. These models are apparently considered a theoretical abstraction, and one or another model can be used to a greater or lesser extent in each particular study. In this study, the relationship between the environment and socio-psycholinguistics, linguodidactics is built according to the first model, and the key issue is the linguistic representation of the man-environment interaction in the associative reactions of the environmental topic. In this case, the environment serves as a donor discipline for methodological principles.

The leading principle of the study is the principle of interaction between the system and the environment. In our case the system is the "associative text" (or associative field (AF) – a set of verbal

responses to the original word) and its constituent components and signs (Maran & Kull, 2014). These components are identified based on the principle of the required diversity, which postulates the presence of an optimal number of components at a given time stage, namely: AF volume and components, participants, the style of their interrelations, the goal, AF structure, language features. These components reflect specifically the interaction of man and the environment, which is determined by the third principle of the ecolinguistic analysis – the principle of emergence, when the "associative text" as a whole system has its specific features not inherent in its constituent components. (Table 01).

Thus, the issues of environmental education, ecolinguistics are of interest to many scientists, however, with all the variety of approaches and concepts, the problem of environmental education of the child and the formation of the school children's ecological world view is not well studied.

**Table 01.** Results of the free associative experiment

No	Thematic groups	Occurrence (%)		
		Pre-schoolers 3–4 grades	High-schoolers 9–11 grades	RAD (university students of 1–5 year)
1	Flora	82	78	61
2	Fauna	74	63	52
3	Characteristics of nature	32	24	44
4	Atmosphere	27	40	18
5	Hydrosphere	25	51	32
6	Nature Conservation	24	17	17
7	Nature and man	17	17	8
8	Landscape, relief, scenery	15	52	61
9	Perceptual area	12	27	38
10	Outdoor recreation	8	24	34
11	Meteorological phenomena	8	37	16
12	Seasons, time of day	7	14	15
13	Minerals	6	10	18
14	Food	5	3	7
15	Science of Nature	5	27	24
16	Occupation, profession	2	4	8
17	Gender metaphorization- generalization	-	-	6

## 2. Problem Statement

The analysis of the studies shows that a characteristic tendency of the beginning of the XXI century is, on the one hand, greening of public consciousness, and on the other hand, the return of man to culture and reproduction of the values that formed the personality and kept the society sound. However, the analysis of the theory, pedagogical practice and personal experience shows that pedagogical work in this area

performed in schools is not efficient. It is particularly relevant to study the problem of forming EWV in school children, since the foundation of personally significant initial world view, and, hence, value orientations are formed in childhood and adolescence. To date, the priorities in the framework of the environmental education are identified (Ivanova, 2013); features of the formation and development of environmental literacy are revealed in preschool children (Palmer, 1993) and primary school children (Novolodskaya, 2017; Salikhova, Rublik, 2004), in adolescents (Gordeeva, 2017; Salamatov, 2017) and university students (Natarova, 2017). However, a comparative study of EWV in different age groups – primary school children, high school students and adult native speakers – was not the focus of the study

### **3. Research Questions**

Modern science does not provide a single definition of the term "ecological world view." This term implies ideas about matter, which are concretized based on fundamental ideas and principles of the natural sciences. EWV is one of the aspects of the scientific world view and the result of philosophical understanding of scientific knowledge about nature and its preservation (Ivanova, 2013; Moiseeva et al., 2017). Science considers the world view as ideological knowledge; however, education is expected to consider the main goals of understanding the real world and methods of EWV formation. According to E.V. Ivanova, EWV in this study means "a holistic, dynamic image of the surrounding world resulting from a person's knowledge of animate and inanimate nature and interaction with it" (Ivanova, 2013 p.83). Its formation is a purposeful multi-stage process with mechanisms specific for each stage proceeding during a period of time individual for each person. At the same time, the leading ideological ideas arising from the ecological world view are: recognition of the integrity, unity of the world, and man as an organic part of the biosphere and space; the responsibility of man for nature, the dialogue between nature and man; humanism in the context of the environmental culture of an individual as recognition of the priority of natural factors of human being over the social ones. We consider that the child's EWV reflects a certain way of perceiving, comprehending and understanding the real world by means of units of language, in accordance with his age and experience, and EWV is a synthesis of natural and humanitarian knowledge about nature.

Thus, the above characteristics of the concept of "ecological world view" indicate the complexity and multidimensionality of this phenomenon; and the focus of scientists on the term of ecological world view indicates the objectivity of the existence of this phenomenon, and all the existing definitions mutually complement and clarify each other.

### **4. Purpose of the Study**

The purpose of the study is to consider the associative field of the word *nature* in the ecological world view of school children living at the beginning of the XXI century in the linguistic-cognitive, linguistic and socio-psycholinguistic aspects. It is important to find out the place of the environment in the world view of primary school children and high school students. The study puts forward the hypothesis that the system of the environmental knowledge and methods of cognition of the environment by school children, the environmental culture of a person, responsible attitude to the environment and EWV as an integral image of the real world are formed and developed in the educational process.

## 5. Research Methods

The study employs the methods of statistical data processing, comparative analysis, observation and description, and the method of free associative experiment, which will be discussed in more detail. Recently, the method has been widely used in cognitive linguistics, cultural linguistics, psycholinguistics, and sociolinguistics, which is evidenced by a large number of studies addressing the specificity of using the free associative experiment in different areas of linguistics (Isaev, 2015), the investigation of the linguistic world view (Kozlova, 2015; Salnikova, 2014), associative fields (Kasatkina, 2016; Salikhova, & Rublik, 2004), the compilation of an associative dictionary (Ufimtseva, 2014; Ufimtseva, 2016), and others. The associative experiment involving a large number of respondents helps identify associations typical of a certain group of people.

The paper presents the study of the EWV in primary school children and high school students based on the data of the free associative experiment (FAE), which aimed to identify the specificity of the attitude of primary school children and high school students to the world of nature through the analysis of associations to the word *nature*.

Organization and conduction of the experiment. The material for the analysis was the data obtained in the FAE conducted in December 2017. The RAD data (1994–1998) were given for comparison. The experiment involved 200 respondents, of which 100 respondents were schoolchildren from grades 3–4 (children 9–10 years old), 100 respondents were teenagers from grades 9–11 (teenagers 15–17 years old), and 512 respondents were university students (17–25 years old). The FAE procedure: during the experiment, each respondent was offered a sheet of paper with a printed stimulus word (hereinafter S) *nature*. The experiment implies response (hereinafter R) of participants to the proposed S-word using any word that comes to mind.

## 6. Findings

In the free associative experiment, a total of 156 responses were received to the S-word *nature* from primary school respondents, 277 R-words were given by high school respondents, and 512 R-words were received from adults, which made up 17 thematic groups (Table 01). Characterize some of the thematic groups.

### 6.1. Thematic group *Atmosphere*

(27/40/18%; hereafter (1) indicates the number of R-words received from primary school respondents, (2) indicates R-words from high school respondents, (3) indicates the RAD data) of the total number of R-words. The group includes the following R-words: *air* (15), *clean air* (3), *sun* (10), *sky* (7), *stars* (4), *cloud* (4) // *air* (23), *sun* (19), *fresh air* (18), *sky* (18), *clean air*, *cloud* (6), *stars* (2), *dust* (1) // *air* (3), *crystal air* (1), etc. In the considered group, there are from 6 to 15 names in different groups of respondents. The most frequently encountered word in all groups is *air*.

### 6.2. Thematic group *Nature Conservation*

(24/17/17%) comprises such words and phrases as *be careful with nature* (10), *do not break branches*, *people must protect nature*, *feed birds*, *do not pollute* (3), *do not pick flowers*, *put out a fire*,

water flowers, behavior in nature, cleanliness, do not kill animals and insects, take care of animals (2), do not listen to loud music in nature (1) // cleanliness (8), ecology (4), clean, cleanly, problem of garbage, pollution, Greenpeace, reserve, where there is no industry, when there is no harm to nature, endangered species (1) // it waits for favors from people, it's a pity, it does not forgive us, it need us (1), etc. In the considered group, there are from 13 to 11 names in different groups of respondents. Primary school children mark what should not be done in nature, what causes harm to nature, whereas high school respondents and adults indicate the existing environmental problems. Primary school respondents emphasize the importance of caring for nature. This group features active derivational relations (*cleanness, cleanly, clean*).

### 6.3. Thematic group Perceptive Sphere

(12/27/38%) is represented by the following R-words: *green (11), fresh (4), smell, yellow, orange color (3), smells delicious, yellowish (2), greenery (1) // green (22), greens (10), blue, scent (3), light, babble of the brook, noise of leaves, birds singing (2), grass rustling, birds chirping, brightness, sounds, rustling, singing, birds singing, make noise, ultraviolet, the breath of the earth, scent, babble, yellow, white, multi-colored (1) // native (21), living (10), beautiful (5), green, blooming (3), unique, virgin*, etc. In the considered group, there are from 9 to 23 names in different groups of respondents. In primary class respondents, color and scent are prevailing R-words, which indicate visual and olfactory perception of the surrounding world. However, high school respondents and adults report not only color and scent, but also light and sound, and color and auditory perception of the natural world and sense of blood relationship to nature are dominating. The most frequently used word in the first two groups is *green*.

R-words *snow (7), light snow (1), wind (6), thunderstorm, rain (4), volcano (3), snowflakes, thunder, hurricane, tsunami, leaf fall (2) // wind, snow (14), volcano, rain (11), summer rain (1), tsunami (6), thunderstorm, lightning, leaf fall (5), dew, hurricane, rainbow (4), snowflakes, storm, thunder (2), snowstorm, blizzard, frost, storm, geyser (1) // weather (7), wind (3), snow (2), in the rain, frost*, and others are included in thematic group **Meteorological Phenomena** (8/37/16%). In the considered group, there are from 11 to 20 names in different groups of respondents. In this group, there are also active derivational relations (*snow, light snow, snowflakes*). The most frequent words are *snow – wind, snow*.

### 6.4. Thematic group Seasons, Time of Day

(7/14/15%) includes the following R-words: *summer (4), winter, spring (2), autumn (1) // summer (12), spring (11), winter (8), autumn (6), seasons, day, evening, sunset (3), dawn (2) // summer, dawn, winter, sunset, evening, sunrise (1)*, etc. In this group, there are from 4 to 10 names in different groups of respondents. The most frequent word in all groups is *summer*, and this is likely due to the fact that pupils have their longest holidays and most adults have their vacation in summer.

### 6.5. Thematic group Mineral Resources and Minerals

(6/10/18%) includes the following words and expressions: *mineral resources (5), gold (2), gas, oil, peat, cut diamonds (1) // mineral resources (4), minerals, petroleum, natural resources, amber (2) // mineral resources (4), petroleum, gas (2), uncut diamonds (1)*, etc. In the considered group, there are from 6 to 5 names in different groups of respondents. The most frequently used expression is *mineral resources*.

## 6.6. Thematic group Occupation and Profession

Thematic group Occupation and Profession is small and makes up 2/4/8% of the total number of responses. It includes such words as *ecologist* (2), *hunter* (1) // *hunter* (2), *forester*, *ecologist* (1) // *ecologist* (5), *forester* (2), *guard*, *Ministry of Emergency Situations*, and *fireman* (1). R-words of school class respondents and adults are professions that imply nature conservation.

**6.6.1. Thematic group Food and Edible Products** (5/3/7%) consists of the following words: *food* (5), *honey* (1) // *milk* (3), *birch sap*, *hay*, *all natural* (1) // *food* (3), *meal* (2), *ecologically clean*, *tasty*, etc. R-words of different respondents include names of food intended not only for humans, but for animals.

**6.6.2. Thematic group Gender Metaphorization-Generalization** is available only in ASD and includes R-words such as *mother* (69), *woman mother*, *mother*, *our mother*, and *mother*. *Mother! our mother* (1) makes up 0.15% of the total number of responses given.

Thus, AF of the word *nature* was formed based on the R-words received from high school respondents and adults. In this group, *animals* are nuclear and predictable R-words (42 R); the nearby periphery consists of *flowers* (from 27 to 38 R), *plants* (from 25 to 33 R), *birds* (from 26 to 34 R); the distant periphery is represented by the R-words *grass*, *insects*, *air*, *water*, *lake*, *animals*, *green*, *butterfly*, *wolf*, *river*, *mushrooms*, and others; the outer periphery includes various R-words that occur 6 to 1 times (*plant trees*, *nature reserves*, *petroleum*, *cleanliness*, *greenery*, etc.).

AF of the word *nature* was formed based on the R-words received from high school respondents and adults. In this group, *forest* (51 and 34 R) and *animals* (45 R) are nuclear and predictable R-words; the near periphery includes *river*, *trees*, *grass*, *plants* (from 31 to 37 R); the distant periphery is represented by the R-words *lake*, *man*, *rest*, *cleanliness*, *air*, *green*, *cleanliness*, *wind*, *summer*, etc.; the outer periphery includes various R-words that occur 6 to 1 times (*stars*, *ecology*, *yellow*, *rainbow*, *geyser*, *ecologist*, etc.).

## 7. Conclusion

The analysis of the structure of AF for the word *nature* yielded the following results:

1) In primary school respondents, thematic groups Flora, Fauna, Characteristics (Assessment) of Nature are most diverse and numerous R-words. They are followed by the groups Nature Conservation, Atmosphere, and Hydrosphere. However, the groups Science of Nature, Mineral Resources, Meteorological Phenomena in their EWV are small in number, which seems to be quite natural: due to the age of respondents and their limited knowledge, since scientific knowledge about the world just beginning to form in younger respondents. The representation and diversity of R-words in these groups are observed to increase at high school.

2) The most frequent responses to the S-word *nature* are *animals*, *trees*, *forest*, *birds*, *plants*, *insects*, *grass*, *air*, *water*, *green*, *lake*, *wolf*, and *river*. Experimental research confirms the opinion of psychologists, teachers, sociologists, and culture experts that nature is an important component of the life of a modern child despite changes in society and enormous influence of a technogenic factor.

3) In almost all thematic groups, substantive vocabulary predominates, and adjective and verbal vocabulary is less numerous, which indicates the peculiarities of the EWV formation in a child of this age group: the ideas about the subject world are initially formed in a child's mind, since his thinking has a subject-shaped character. Later, this world view expands and obtains an appropriate characteristic by naming features, actions, and processes.

4) In group *Perceptual Sphere*, the most frequent R-word is *green*, and EWV of the respondents contains adjectives with the meaning of color (*yellow, yellow, orange*), which are called "warm" shades of color; the presence of R-words *fresh, cool, it smells tasty* also indicates a positive assessment of the surrounding world in the respondents of all age groups. The nominations associated with visual and auditory perception of nature prevail in EWV of high school respondents and adults.

5) The presence of R-words like *you are not allowed to throw bottles into the water, to litter, to kill animals, to break branches*, etc. evidence that respondents are aware of the changes in the attitude of modern society to the environment, and this is reflected in EWV of a child living in the 21st century. These circumstances are "the cause of the signs of spiritual impoverishment of a person observed today, devaluation of moral and aesthetic values, loss of cultural and historical memory, and departure from nature" (Salnikova, 2014, p.265). We believe that the main factor of compensation for the excesses of the scientific and technological revolution is the humanization of a person and society aimed at preserving cultural traditions and educating personal environmental culture.

6) During socialization of a child, ecological thinking, environmental culture and ecological literacy of a person, who is well-informed about the modern natural environment, are formed and developed; schoolchildren's EWV is formed.

International experience in the formation of the environmental competence suggests that environmentalization of the learning process gains the importance of an educational principle and constitutes the intellectual basis for the relationship between nature and man. Our research increases the efficiency of the formation of the environmental competence in students through new environmental behavior and acquisition of communication standards towards nature.

EWV is focused on the present and the future, without concern for which a person cannot survive. Verbal associations are an indicator that reflects the level of their environmental culture and education. Experimental study of associations helps to understand the changes in students' perceptions of the world that motivate their behavior. The study is of practical relevance since its results can be used in cognitive linguistics, cultural linguistics, ecolinguistics and sociology, socio- and psycholinguistics, as well as in Russian and foreign educational practice. Based on the study, a number of promising areas of interest can be identified for further investigation: 1) the identified components are integrated into a comprehensive model of human-environment interaction covering two levels: the first level (superficial) shows the context of a specific environmental situation, including the linguistic aspect of the situation presentation; the second level implies the ideas of the respondents about the environment and ecology; 2) the ideas of modern students about the environment and ecology can be reduced to a rather narrow wording "dirty – clean", whereas this concept is interpreted more broadly in the verbal-thinking practice of an adult. So, in addition to the biological component, it includes social, spiritual, cultural, cognitive and linguistic aspects: *society, man, the purity of communication* – according to RAD data

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