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**ESTABLISHING AND STANDARDIZATION OF DESIGN METHODOLOGIES FOR THE DIAGNOSIS OF THE ENVIRONMENTAL COMPETENCE OF PRESCHOOL CHILDREN**

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**Abstract:** The modern dynamic and fast-paced way of life, the provocative environment, urbanization and the new priorities in our interaction with the surrounding world, require not only the creation but also the effective deepening of the environmental competence of Adolescents from preschool age. This, on the other hand, shows the current issue, for educators as well as psychologists, of examining the ecological competence of preschool children.

Considering the antagonism in the relationships "human - society - nature", we believe that it is entirely appropriate to draw the following conclusion: To date, pedagogical science faces the difficult, but necessary task, to create and approve methodologies for the study of the environmental competence of children at pre-school age.

This article examines the projection methodologies as a reliable and valuable component of pedagogical diagnostics. It is the projection methodologies that provoke impulsive associations in the studied children, which allows to make a more accurate judgment in the diagnostics of the studied area. Not coincidentally, prof. G. Bizhkov summarizes that "Pedagogical diagnostics has no reason not to focus on a wider use of these methods, despite the fact that they rarely lead to the display of coefficients and do not offer great opportunities to use more complex statistical methods"[2].

The occurring theoretical and methodological analysis allows us to deduce that, to date, pre-school pedagogy is missing the methodologies that examine the environmental competence of children at pre-school age. This is precisely why the article proposed the standardized version of the projective methodology for investigating the ecological competence of pre-school children. The scientific-research goal of our methodology is to investigate the emotional intelligence of the child that affects the feeling of experiencing contact with the environment (as a habitat for all living creatures). The suggested diagnostic procedure is a modification of the Index of Compatibility for Children and Adolescents, Brenda K. Bryant.

We believe that the results obtained from the projective methodology proposed by us could effectively serve to determine the ecological competence of pre-school children.

**Keywords:** environmental competence, projective methodology

## **1. ECOLOGICAL COMPETENCE OF PRE-SCHOOL CHILDREN**

In pre-school pedagogics, the term "competence" is not interpreted unambiguously. There is no clearly defined definition of environmental competence.

Different competences researches have different definitions of their essence:

- lasting features and characteristics that determine the performance of a particular action (Raven);
- specific characteristics that distinguish the extraordinary achievements of an individual from those of others (Catano);
- ability to achieve goals (Moloni);
- Internal stimuli of a person, which allow them to present themselves better in a task, role or situation (Spencer).

In pre-school pedagogics, the term "competence" is most often interpreted as a set of knowledge, skills, attitudes and behaviors for achieving results in the performance of a specific task or in the overall behavior of the child.

From the analysis conducted so far, we believe that the concept of "**competence**" in pre-school pedagogy represents **the ability of the child to independently combine and integrate in his behavior elements of the knowledge, skills and experience he possesses.**

The theoretical and methodical analysis carried out allows the conclusion that pedagogical science lacks a precise definition of the notion of "environmental competence".

In the context of the modern approach toward upbringing and education, according to the principles of humanism, environmental competence is interpreted as children's acquisition of basic knowledge, skills, attitudes and behaviors for the purpose of an environmentally friendly way of life.

The modern dynamic and fast-paced lifestyle requires that the notion of "environmental competence" be understood as a set of cognitive, social and emotional-volitional skills and abilities to perceive nature as a "value of life" [4].

Environmental competence determines summarizing the specifics of pre-school age, by focusing mainly on the positive attitude toward "the environmental needs of man (child), nature and society"[6].

We adopt these definitions of **environmental competence**, which examine the mutual relationship "environmental competence - environmentally friendly approach to reality", therefore: environmental competence includes the following components:

- ❖ Mastering concrete environmental ideas about the surrounding world and its complex relationships (mastering the content of the main ecological notions-environment (natural, residential, social), adaptation, equilibrium, food chain, competition);
- ❖ predicting the events (based on the child's life experience), which in turn influences the motives for mastering environmental knowledge and for deepening environmentally friendly actions;
- ❖ the formation of such an environmentally friendly attitude, in which the role of the child's subjective attitude to "self (to his biosystem, personality and sociality), to his surrounding environment and nature" is dominating "(E Yanakiyeva).

## 2. NEED TO DIAGNOSE THE ENVIRONMENTAL COMPETENCE IN PRE-SCHOOL AGE

To date, the issue of the successful deepening of environmental competence of preschool children is important and particularly pressing, and not only pedagogues face it.

In today's dynamic, highly technological, often provocative reality, we are all, to some extent, responsible for solving environmental problems, especially when interacting with the surrounding world. This in turn determines not only the creation but also the effective deepening of environmental competence.

In the projective methodology for diagnosing the ecological competence of pre-school children, established and standardized by us, the environmentally friendly attitude is interpreted as a conscious, subjective attitude towards the surrounding reality.

## 3. PROJECTIVE METHODS - RELIABLE COMPONENT OF PEDAGOGICAL DIAGNOSTICS

The term "projection" has Latin etymology and it literally means to throw, toss.

The projection methods, by their nature, represent the researcher's display of stimuli (whether actual or nonexistent, different in content – drawings, diagrams, maps, spots).

The projection methods allow for a deeper "insight" into the value orientations of the investigated persons, in the deeper meaning and meaning of a particular statement, action, act.

The diagnostic properties of the projection methods range from the possibility of exploring private phenomena to the possibility of exploring widely generalized phenomena.

Not coincidentally, prof. G. Bizhkov summarizes that "Pedagogical diagnostics has no reason not to focus on a wider use of these methods, despite the fact that they rarely lead to the display of coefficients and do not offer great opportunities to use more complex statistical methods"[2]. In summary, we would add that particular, despite often underestimated, merit of the projection methods is to easily establish contact with the children to be diagnosed. It is the projection methods that provoke impulsive associations in adolescents, which allow to make a more accurate judgement in diagnosing children in the studied area.

## 4. STANDARDIZED PROJECTIVE DIAGNOSTICS OF THE CHILD'S EMOTIONAL INTELLIGENCE AFFECTING THE MANIFESTATION OF FEELINGS OF EMPATHY IN CONTACT WITH THE SURROUNDING ENVIRONMENT

The proposed diagnostic procedure is a modification of the empathy index in children and adolescents, Brenda K. Bryant

*Scientific-research goal:* to study the emotional intelligence of the child, affecting the manifestation of a sense of experience in contact with the surrounding environment (as habitat of all living things)

*Materials:* questionnaire, images of a smiling and frowning face



Img. # 4



Img. # 5

*How to proceed:* The research procedure runs individually with each child. The child is read two test sentences that have no relation with the sentences in the questionnaire. When the child learns what to do, work on the methodology begins. The instruction reads: "We will play a game, I'll read what a child from another kindergarten says. If you

agree with what the child says - show the smiling face. If you do not agree with what you hear - show the frowning face. Lets play!?”.

**Test sentences:**

1. I brush my teeth every morning.
2. In the evening, I always eat the same thing.

**Questionnaire**

1. It saddens me to see a stray animal.
2. *People who care about homeless animals are stupid.*
3. *The boys/girls who are sad when they see crushed flowers in the gardens are stupid.*
4. I do not dump my belongings in the forest and I am very angry with the people who do it.
5. It saddens me when I see a cut down tree in the woods.
6. I am angry when I see trash in the sea.
7. When I see Mom watering flowers at home, I go to water them too.
8. Before the migratory birds return, I put houses for the sparrows in front of our home.
9. *If a boy/girl sees a worm and steps on it with his foot, the boy/girl does something very cool.*
10. *I can not understand why Dad does not allow me to ruin the nest that the pigeons have made on our roof.*
11. I'm upset when my friends kick street cats.
12. It's sad when I see a stork in the winter because he could not fly away with the other storks.
13. When I see the neighbors go out on the street to collect garbage, I go out to collect too, even though I haven't littered.
14. I'm sad when I see someone cutting a real tree, just to decorate it for Christmas.
15. *Adults are sometimes sad when they see a hotel being built on the beach.*
16. *It's pointless to heal animals, they don't feel pain as humans do.*
17. *I get angry when someone plucks flowers for a bouquet with the roots.*
18. *Driving a motorbike pollutes the air less than riding a bike.*
19. I really want to plant a tree in front of our home and take care of it.
20. *I think it's funny that some kids cry during a sad tale about animals.*
21. *I can eat a sandwich, even when I see an animal that looks at me and wants me to give it to him*
22. I don't feel sad when I see a child kill a worm – worms are annoying and disgusting!

**Method of reporting and interpretation of the results:**

The Bryant methodology we modified included 22 allegations.

The answers received by the tested children are plotted in reports prepared individually for each child.

*Report on the individual results of the test "Think and show a face"*

Name of the child. . . . . Age. . . . . Date of the survey. . .

Statement	Answer	Total points
Statement No. 1		
Statement No. 2		
Statement No. 3		
Statement No. 4		
Statement No. 5		
Statement No. 6		
Statement No. 7		
Statement No. 8		
Statement No. 9		
Statement No. 10		
Statement No. 11		
Statement No. 12		
Statement No. 13		
Statement No. 14		
Statement No. 15		
Statement No. 16		
Statement No. 17		

Statement No. 18		
Statement No. 19		
Statement No. 20		
Statement No. 21		
Statement No. 22		

The evaluation of the questionnaire uses a dichotomy scale – the children surveyed answer "yes" or "no" questions. The reporting of results is meaningful and it is done by awarding points for the results shown.

Study Criterion:

**Criterion 1** - manifests a sense of empathy towards the living nature.

**Indicator 1.1** - the child exhibits a sense of empathy towards specific representatives of living nature (plants, animals). In the case of expressing a feeling of co-experiencing to a particular representative of the living nature the child receives 1 point. If the child does not show a sense of empathy towards the particular representative of the living nature, a point is not awarded.

**Criterion 2** - perceiving nature as the habitat of all living creatures

**Indicator 2.1** - The child manages to recognize the unfavorable anthropogenic factor on nature as an environment of habitation of all living things and feels compassion for the wronged representatives of the living/non-living nature. If the child expresses sympathy for the particular wronged representative of nature, he receives 1 point. If the child does not express sympathy for what was read by the Researcher, the point is not awarded.

**Criterion 3** - Conscious desire to care for different representatives of the living and non-living nature

**Indicator 3.1** - The child wishes to do so that it does not harm a particular representative of living/non-living nature. If the child shows an initiative to help (depending on his abilities) a specific type of living/non-living nature he is awarded 1 point. If the child has no reaction to a situation harmful to the representatives of the living/non-living nature, points are not awarded.

The results are sorted in ascending rank order.

**The maximum number of points** is 22 and it sets **five intervals:**

1. **High level** of emotional intelligence of the child affecting the manifestation of a sense of co-experience in contact with the surrounding environment – a result between 22 points and 20 points;
2. **Average level** of emotional intelligence of the child affecting the manifestation of a sense of co-experience in contact with the surrounding environment-a result between 19 points and 17 points.;
3. **Satisfactory level** of emotional intelligence of the child affecting the manifestation of a sense of co-experience in contact with the surrounding environment-a result between 16 points and 14 points.;
4. **Unsatisfactory level** of emotional intelligence of the child affecting the manifestation of a sense of experience in contact with the surrounding environment-a result between 14 points and 12 points.;
5. **Lack of any** emotional intelligence of the child affecting the manifestation of a sense of experience in contact with the surrounding environment-a result between 14 points and 11 points.;

**5. CONCLUSION**

The projection methods are conducive to obtaining individual answers and the freedom of the person surveyed when choosing a response. The research takes place in an atmosphere of trust and goodwill. The original response of each subject is determined by conscious and unconscious elements, as is his own personality.

Our proposed standardised version of the project methodology is to investigate the emotional intelligence of the child affecting the feeling of co-experiencing when in contact with the environment (as a habitat of all living creatures) and to establish the results after conducting a pedagogical experiment related to the deepening and development of environmental competence.

Both during the creation and during the approval of the projective methodology, we were guided by the perception that "the right thing does not mean artificially grafting others' ideals, feelings and moods onto children. It is appropriate to awaken what is already in the child, to help him develop and to direct this development in a certain direction. " [3.]

The resulting data can serve to determine the environmental competence of preschool children

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