



DIFFERENTIATION OF THE LITERARY IMAGES OF PLANTS AND ANIMALS BY THE SCIENTIFIC DESCRIPTION WITH CHILDREN AT PRE-SCHOOL AND PRIMARY SCHOOL AGE

V. Petrova*, D. Siderova, R. Stefanova, D. Nikolova

Faculty of Education, Trakia University, Stara Zagora, Bulgaria

ABSTRACT

The article traces the influence of the anthropomorphic thinking of children on their conceptions of the natural world. The aim is to define the dynamics with the conceptions of the children from the third group of the kindergarten and the third class of the primary school. The research procedure performed included: individual study of the conception of children from pre-school and primary school age through diagnostic interview; pedagogical observation. The results prove the differentiation of the literary image of plants and animals by the scientific description with children at primary school age.

Key words: anthropomorphic thinking, anthropomorphic personage, literary text, scientific text

MOTIVES FOR PERFORMING THE RESEARCH

At the age of pre-school and primary school the conceptions of the children about their surrounding world are in a process of intensive development. At that age, the concrete image basis on which the mental operations take place is a characteristic peculiarity of children's thinking. According to Piaget, the preoperational stage of thinking is characterized by *syncretism*. This is a kind of thinking through nonsegmented situations in accordance with the preserved image, without its segmentation (1).

Another peculiarity of children's thinking is defined as *anthropomorphism*. Children of pre-school age, especially when playing, talk to their toys, as though they are living and human. This phenomenon is defined through the notion of *anthropomorphic thinking*. From a cognitive point of view, *anthropomorphism* ("humanization": 'anthropos' - human, 'morphos' - form) is a conception about the world, in which human features, experiences and relations are ascribed to living creatures or

imagined ones with the purpose of their explanation. With *anthropomorphic thinking* the actions of animals and physical objects are interpreted as a result of processes which are similar to the ones that man realizes are on the basis of his or her own behaviour: knowledge, motivation, planning and choice. Anthropomorphic thinking is most characteristic of the cases when realistic knowledge proves insufficient (2). That is why this personifying thinking with children is regarded as a *natural transitory stage* on the way to the causal-analytic explanation of reality and in this sense it does not create a problem but should not be maintained for a long time, too.

Children's cognitive experience is *syncretic* by its character. In the kindergarten and the primary school, though, conceptions different in their character and contents are formed about the same objects. For example, in the folklore fairytales the *wolf* is presented as stupid and naïve, while from the scientific descriptions children learn that wolves live and hunt in an organized way and communicate with each other. The question then rises in this educational context: "Are the conceptions of the children about the plants and animals, formed through the literary texts in contradiction to those of the scientific explanations?"

*Correspondence to: Assoc. prof. Vanya Petrova, PhD, Faculty of Education, Trakia University, Stara Zagora, Bulgaria, e-mail: vanja_p@abv.bg

The purpose of the research is to reveal the prevailing type of conception of the objects (as literary personage or of scientific character) under the influence of infant anthropomorphism, as well as to define the dynamics with the conceptions of the children at pre-school and primary school.

Twenty children from the third age group of the kindergarten were studied (8 boys, 12 girls) and 26 students from the third class of the primary school (11 boys, 15 girls) - all from a big city.

TECHNOLOGY OF THE DIAGNOSTICS

The natural objects with which the research was done are as follows: from the plants – birch (a tree) and from the animals: wolf (a

mammal) and stork (a bird). For each of the objects a combination of two texts was offered – a literary text and a scientific text. Literary texts with phyto- and zooanthropomorphic personage were included in the research, but not ones that would “pre-determine” the conceptions of the children for the objects in one or another direction, for example, literary texts from the animal fantasy (3). The scientific texts contain description elements which reveal peculiarities of the outer appearance, the way of life, the way of reproduction and the relations of the natural objects with the environment. The texts used with the two age groups were the same, the aim being not to “model” a different conception about the natural objects (Table 1).

Table 1. Texts used in the scientific activity

Natural objects	Literary texts with phyto- and zooanthropomorphic personage	Scientific texts*
Plants	Bisserka Tanya Kassabova	Birch
Animals	Kumcho Vulcho Fisherman Ran Bossilek	Wolf
	The old stork Konstantin Konstantinov	Stork

*After “A Children’s Book for Plants and Animals” (4)

The research procedure performed included: individual study of the conception of children from pre-school and primary school age through diagnostic interview, pedagogical observation.

In a suitable speech situation the researcher reads the literary and scientific texts about the certain object two times, without touching upon cognitive and/or aesthetic problems. The child is set the following task: „What will you tell about the birch/wolf/stork?“. The task set has a general character, so that its formulation does not lead to a definite type of conception; this is the reason why no visualization is used. The researcher registers in a protocol the text which the child has created about the respective object (the pre-school age). The texts work as a stimulus for the children to create their own text in a written form (in the primary school). When executing the task, the children’s literary and scientific knowledge is not evaluated.

We accept that the created text (in oral or written form) in its contents is evidence of the dominating conception of the child about the object. The following variants at registering the

peculiarities of the children’s conceptions are considered:

- the dominating conception of the object as literary personage;
- the dominating scientific conception of the object;
- the syncretic conception of the object.

RESULTS AND DISCUSSION

I. Results regarding the prevailing type of conception of objects:

1. The anthropomorphic conceptions about the birch with pre-school children are more enhanced in comparison to the anthropomorphic conceptions of animals (38,89 % - for the birch, 7,69 % – for the wolf and 6,67 % – for the stork), in spite of the weaker tendency to identification of plants because of the lack of movement, way of feeding, the specifics of reproduction. This result can be explained with the use of the literary text with a metamorphosis in the fiction work (“The birch has turned into a girl” – Stanislava, 6 years old).

2. The anthropomorphic conceptions with 5-6 year-old children are definitely behind **the scientific conceptions** about the objects, especially as far as the *wolf* is concerned (76,92 % of the registered conceptions). The result is registered in spite of the fact that the children demonstrate an increased activity at the contact with fictional literature.

3. At *pre-school age*, when compared to the other objects, an increased **syncretic conception** is registered with the *stork* (46,67 % of the registered conceptions). The same relative share has the conceptions about that object with scientific character. The syncretic character of the conceptions may be explained with the influence of the literary text (“The old stork”) which, together with the moral problems and the emotional reaction it brings, also carries cognitive contents (the old ones do not fly to south for the winter).

4. In *the primary school*, **the conceptions of the children as literary personage** regarding the three studied objects is even (31,82 % - for the birch, 36 % - for the wolf and 33,33 % - for the stork). **The conceptions of scientific character** are dominant (63,63 % - for the birch, 48 % - for the wolf and 58,33 % - for the stork), and this is in spite of the fact that literary texts with bright anthropomorphic characteristics have been used in the research. In the third class a tendency towards establishing a model for perception of objects is noticed, which is an expression of already formed individual preferences to fictional literature or to scientific knowledge.

II. Results regarding the age dynamics with children’s conceptions:

1. With both age groups the relative share of **conceptions of the objects as part of the natural world** remains stable, not showing considerable

increase (52,17 % of the registered conceptions at pre-school age and 56,34 % - at primary school age). When making a description with a scientific character, the children who took part in the research restored their initial perceptions from direct observation of the object. The students from the third class operate with concepts; while at pre-school age the text created by the children is based on the imagery.

2. The increase of the relative share of **the conceptions of the object as literary personage** with children at primary school is at the expense of the considerable decrease of the number of the **syncretic conceptions**. Primary school children already perceive the aesthetic aspects of literature as art, as well as the difference between the direct reality and its fictional expression in the literary text. (“If I could go into the world of the fairytales, I would embrace the Old stork and would greet him for loving and caring for his mother land”- Svilena, 10 years old; “In the fairytales the Wolf is stupid, in real life, this is not so” – Ivelina, 10 years old).

3. Children with **syncretic conceptions** outline both scientific and anthropomorphic characteristics of the object (“The wolf is stupid and naïve. He can run at 60 km and hour”– Nelina, 10 years old). The differentiation of the conceptions of the children from the third class (the conception of the object as literary personage or an object from the natural world) is strongly expressed, that is, the syncretic conceptions are minimized (28,26 % - at pre-school age and 9,86 % - at primary school) (Table 2).

4. **The same type of conception** is registered for the three objects (either as literary personage or of scientific character) with 34,62 % of the students at primary school age. With children from the pre-school age this percentage is only 15 %.

Table 2. Dynamics of the children’s conceptions of objects

Studied groups	CONCEPTIONS OF OBJECTS					
	Dominating conception of the objects as literary personage		Dominating scientific conception		Syncretic conception	
	Number	Relative share (%)	Number	Relative share (%)	Number	Relative share (%)
Children at pre-school age	9	19,57	24	52,17	13	28,26
Children at primary school age	24	33,80	40	56,34	7	9,86

EDUCATIONAL IMPLICATIONS

The process of differentiation of the literary image of plants and animals by the scientific description can be helped by the following:

- Work for *balancing the emotional-imagery attitude* of the child towards the literary personage and the *analytical-evaluative attitude* towards it.
- Preventing from prolonged accentuation upon the emotional part of the children's interest towards plants and animals and focusing upon *the environmental friendliness of their characteristics*.
- Presentation of *examples* showing discordance between the evaluation of a plant and animal as literary personage and their scientific one (for the vulture, the wolf, the cricket, etc.).
- Increased use of *scientific texts* in the educational process, as through them a stimulus is created for a research attitude of the child towards the nature.
- Differentiation through *comparison of fictional and scientific texts* about the same

natural object, using different information sources (textbook, reference book, encyclopedia).

- Study of different *strategies for reading scientific texts*, which is related to the forming of the information competence of the children, as well as developing their literary competence.

REFERENCES

1. Piaget, J. Selected psychological works. Moscow, 1969.
2. Corsini, R. (editor). Encyclopedia of psychology. Sofia, 1998.
3. Slavova, M. Zooanthropomorphic personage in the children's fairytale prose - In: Metamorphoses of the fabulous. Plovdiv, 1997.
4. Boev, N., S. Petrov, P. Krastev. A Children's Book for Plants and Animals. Sofia, 1974.