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DIALECTIC TRANSFORMATION IN THE HUMOR OF CHILDREN

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Abstract

Purpose of the study: Humor is a complex phenomenon that includes many psychological functions including cognitive processes, emotions, and communication which manifest themselves in various social and cultural contexts. The purpose of this research was to study dialectic mental actions, non-verbal intelligence and actions involved in understanding the humor of children of a preschool age and to reveal the correlations between them.

Methodology: The methods that were used included the author's method of "Funny Plots", the method of "Dialectical Stories", and "Raven's Color Progressive Matrices". The study involved 40 children 5-7 years of age.

Results: The researchers could reveal correlations between the action of transformation according to the humor methodology and the following dialectic actions: closure (r = .48**); change of alternatives (r = .38*), mediation (32*). However, no correlation was found between the indicator according to the "Raven Progressive Matrices" method and the actions involved in creating humor. The study suggests that good development of actions of dialectic thinking in preschoolers allows them to understand the contradictions and inconsistencies that are essential for understanding and creating humor.

Applications of this study: By offering children different versions of contradictory tasks or texts and skillfully combining them with the main types of activities, we can develop children's curiosity and the desire to solve tasks that require the reflection of complex hidden connections and relations between objects. We can also to teach them how to find creative, non-standard ways of completing the tasks. The above factors determine the importance of the study.

Novelty/Originality of this study: The scientific novelty of this research is that the actions involved in children's understanding of humor are identified. Children's understanding of humor depends not only on the level of intellectual development of a child, but also on the dialectical mental actions aimed at establishing mutually exclusive properties and relations and transforming contradictory situations.

Keywords: *Humor, Dialectics, Intelligence, Child, Preschool age.*

INTRODUCTION

Humor is a complex phenomenon that includes many psychological functions including cognitive processes, emotions, and communication which manifest themselves in various social and cultural contexts (Prokhorov, Chernov & Yusupov, 2016). Humorous texts represent intellectual tasks of a special kind. The advantage of such texts lies in the fact that they represent a regular material that every person integrated into the social environment comes across with every day. Tasks with comic content are especially difficult for a child's thinking as they can only be understood if a child finds a discrepancy, contradiction – a deviation or difference from the usual expectations based on the recipient's cognitive patterns. Modern psychology supports intensive research on identification of the connection between cognitive development and understanding of humor (Piaget, 2003; Artemyeva, 2014; Mahmud, 2017; Rivera, 2018; Steiner & Mendelovitch, 2017; Artemyeva & Artemyev, 2018; Prokofieva et al., 2018; Piralova et al., 2020). It has been discovered that the laughter reaction of children is caused by actions that are unexpected or do not correspond to the developing cognitive patterns of a child. According to L.A. Sroufe and J. P. Wunsch (1972), laughter occurs in response to an unexpected or inconsistent event that corresponds to the cognitive level of an infant, but is not consistent with their evolving patterns (Gorbunov et al, 2019). Children tend to laugh at objects or events that do not correspond to their patterns (Martin, 1996). When a child perceives information that is not consistent with the pattern of a particular object or event that he has, he feels a discrepancy (Piaget, 2003).

The qualitative analysis of the cognitive structure of various types of comic texts conducted by O.V. Shcherbakova & M.V. Osorina (2009) showed that their specificity is

determined by the presence of two-sided content. This two-sidedness is expressed by the intersection of two (or more) coordinate systems or contexts within which the subject's thinking has to function. One of these systems is usually based on the traditional or expected interpretation presented in the plot collision of a joke – there is no need for a special mental work to understand it. This work is replaced by the behavioral patterns of the participants of the situation that are well familiar to the subject, as well as by the cultural norms and rules used in everyday life. Another understanding dimension as well as another coordinate system are less obvious and do not have direct semantic similarity with the first context. Its actualization in the mental space of the subject represents the result of a creative transformation of the initial conditions, their mental restructuring and recomposition based on the collection of special "hints" intentionally embedded by the author of a joke in its cognitive structure. Such hints may be represented by keywords or phrases that have multiple meanings and fall into both intersecting contexts due to their multiple meanings. The complete understanding of the meaning of a comic text requires keeping in the mental field both coordinate systems with an emphasis on the point at which they intersect. It also requires free mental movement between and within these systems.

At the current moment, the psychology studies the original line in mental development of children associated with solving problem-contradictory situations. Studies conducted by N.E. Veraksa (2010), L.F. Bayanova and T.R. Mustafin (2015), I.B. Shiyan (2014) are devoted to dialectic thinking with their basis represented by the ability to operate the opposing relations and transform problem-contradictory situations in which the child determines the existence of mutually exclusive properties and relations. The following relations of opposites may be distinguished: transformations, mediations, dialectical transition, conversion, association, change of alternatives according to which dialectical mental actions aimed at establishing mutually exclusive properties and relations are singled out.

Foreign and domestic studies also suggest the need to study the emotional aspects of humor, their relationship with the cognitive aspects of humor (Aillaud & Piolat, 2013; Stankin, 2007; Chernyavskaya et al., 2016). Researchers suggest that laughter is the strongest emotion which has public importance. According to the nature of the emotions caused by a certain type of humor, laughter can be subtle, cruel, love, acrid, sarcastic, tormenting, touching, contemptuous, rude, tragicomic, healthy, sick. Overly strong emotions, such as pity or sympathy can "kill" laughter. R.A. Martin (2009) emphasizes that humor is a mechanism for regulating emotions (Martin, 1996). It can cause an increase in such positive feelings as a feeling of well-being and satisfaction. It can also promote emancipation, and lead to the weakening of negative feelings, anger and anxiety. Psychological studies note the role of humor in strengthening interpersonal and group relationships. Positive emotions are considered as adaptation mechanisms that strengthen mental and physical health of a person and create physical, intelligenceual and social resources that a person can use to overcome one's life difficulties. However, excessively strong or negative emotions, on the contrary, can lead to conflicts and difficulties in interpersonal relationships (Artemyeva, 2018a; Kolojarceva & Artemyeva, 2017; Artemyev & Artemyeva, 2018).

Russian researchers write about the need to comply with a measure of using humor. A positive attitude towards a person or a subject is expressed in a humor, in a soft-hearted laugh and a friendly smile; supportive geniality; mildly playful attitude of the author to the subject of the statement (Kolojarceva & Artemyeva, 2017). However, a crime or a misfortune cannot be the objects of humor: grief, suffering, misfortunes of people turn laughter into an ethically unacceptable act. In this case, according to M.I. Stankin (2007), when aggression goes beyond coarseness and cynicism, laughter is no longer a blessing.

According to L. Kugler and C. Kuhbandner (2015), a humorous reappraisal can reduce negative emotions since humor can help us feel better when we are confronted with negative stimuli. Good perception of emotions and their regulation skills can contribute to a greater perception of humor in everyday life (Kugler, 2015). B. L. Fredrickson and C. Branigan (2005) proposed the "expand and create" model which describes the psychological functions of positive emotions such as joy. The author believes that positive emotions and states expand the focus of an individual's attention, allowing them to creatively solve problems and expand the range of behavioral responses in contrast to negative emotions that tend to narrow the focus of attention and discourage a person to participate in certain actions. Positive emotions can play an important role in regulating interpersonal relationships, as noted by M.N. Shiota (2004). The emotion of joy is effective in intergroup relations, in romantic and friendly environment. The joy associated with common laughter can help identify people with common interests, choose and attract partners (Shiota, 2004). The research by J. M. Havigerova and E. Holeckova (2015) aimed at studying the humor in the preschool years analyzed 223 comic situations. It was discovered that preschoolers laughed at situations that were classified as jokes: accidents caused intentionally by another person (Dowling, 2014; Martin, 2009; Artemyeva, 2018b).

MATERIALS AND METHODS

The study was aimed at identifying the level of non-verbal intelligence of children of preschool age, studying dialectical actions involved in understanding children's humor, and studying the correlation between these indicators. The following methods were used:

- Raven's color progressive matrices designed to examine the nonverbal intelligence of 5 - 9-year-old children.
- The method of "Dialectical actions" (Shiyan, 2014) which helps to evaluate the good development of dialectical actions in children of preschool age: the actions of conversion, mediation, union, closure, change of alternative.
- The "Funny Plots" technique (Artemyeva, 2018b) allowing to study which actions – transformation, figurative inconsistencies, falling, interaction, actions of a physiological type or direct actions – are used by a child in perceiving and understanding the comic plot.
- SPSS Statistics 23 statistical program.

The study involved 40 children aged 5-7 years who attend educational institutions of Kazan. Parental consent for working with their children was obtained.

We used SPSS 21 statistical program for processing the results of the research. The results of an empirical study are presented in Table 1.

Table 1. Descriptive statistics on indicators of techniques

Techniques	*Indicators of techniques (actions)*	*Descriptive statistics*			
		Minimum value (min)	**Maximum value (max)**	**Average**	**Standard deviation**
Raven's Matrices		7.00	30.00	20.78	5.76

Dialectic actions	Conversion	.00	4.00	0.62	1.00
	Mediation	.00	4.00	0.50	1.34
	Association	.00	7.00	0.93	1.82
	Closure	.00	8.00	1.90	2.22
	Change of alternative	.00	2.00	0.35	0.77
Funny plots	Direct	.00	3.00	1.23	0.90
	Physiological disorders	.00	2.00	0.85	0.62
	Fall	.00	3.00	2.28	0.93
	Interaction	.00	3.00	1.18	1.03
	Disruption of an image	.00	3.00	1.55	0.71
	Transformation	1.00	3.00	1.85	0.66

360 children's choices were analyzed using the "Funny Plots" method. The children's responses revealed the actions involved in creating comic content: transformation, disruption of an image, falling, physiological disorder, interaction, or direct actions. 200 responses of children were processed using the "Dialectical stories" method. 63 of the children's responses contained dialectical actions: conversion, mediation, association, closure, change of alternative. The quantitative and qualitative analysis of children's responses is presented below.

RESULTS

Qualitative Analysis of Children's Understanding of Humor

Children often enjoyed and considered funny the falling situations and other accidents (M = 2.28): E.M. (6.1) “He was building a tower and it suddenly collapsed”; “He was driving and wasn’t looking around so he fell”; "He was running, squeezed the ball and missed the mouse"; A.I. (6,4) "He was building the tower and it fell"; S.Z. (6.0) “The bunny lost his grip and fell into a snowdrift. After all, this is a funny tale – no need to keep it kind; V.G. (7.2) "The bunny was catching a snowflake, he did not catch it, the ice cracked, and he fell through the ice"; B.E. (7.1) “It’s definitely not funny how the boy rejoices, but as the tower collapsed, the boy even opened his mouth in surprise and said “No!”; D.M. (6.5) “It’s funnier how the castle collapsed – what’s funny in how the boy was building?”

Very often, the transformations in the proposed situations (M = 1.85) seemed funny to children: E.M. (6) “It’s the opposite”; C.S. (6.5) "First, the tiger ran after her, then the fox ran after her"; V.G. (7) “It's funny how a fox rushed. If at first it was the tiger was chasing her, now everything has changed.”

The disruption of the attitude towards the image also seemed funny to the children (M = 1.55): I.G. (6) “Dogs look like babies”; Adeline G. (6) "Dogs are like babies"; P.S. (6.5) “It’s funny how they put on diapers. We went to the circus, there was a clown in diapers, he acted like a little kid”; B.E. (7 years old) “It is very funny, the dogs are adults, and they put on diapers like small babies and suck the nipple”; C.V. (6) "Because what seems wrong is funny."

The preschoolers explained the positive end of funny stories as follows (M = 1.85): C.S. (6.6) “When friends play together, it’s good”; P.M. (6.5) “It will be better this way, but the evil chanterelle is wrong”; U.F. (6,8) "A cat and a mouse are playing with each other, this is friendship"; S.Z. (6.5) “A tiger and a fox enter the house together because the tiger has fallen in love with a fox. This is a good tale”; "The cat with the mouse began to be friends and play football."

Less often, the children offered to complete funny plots with actions that do not contain a humorous context: Amir (6) “He ran to his mother”; C.S. (6.5); "Bunny opened his mouth so funny "; A.M. (6) “He shows dirty tongue”; V.G. (7) "He fell and became all dirty"; V. F. (5.10) "The bull is in the mud, he became like a pig."

Qualitative Analysis of the Good Development of Mental Dialectic Actions

Table 1 presents the maximum values for the dialectic mental actions of the “Dialectic stories” method and average values obtained for each dialectical mental action. The children gave the following answers:

"Pinocchio" task

A.I. (6) “Pinocchio fishes. The sun goes to sleep. Pinocchio prepared and began to sleep / Pinocchio was still asleep. Then he woke up. Sun rose. And he began to fish again”.

K.S. (5.6) “Pinocchio catches fish. The sun goes down. He sleeps / Pinocchio is sleeping. The sun rises. He is fishing.

A.Z. (5,5) “He came to fish. And then the evening came. At night, Pinocchio went to sleep. / It was night. And as the morning came, he began to fish. "

“The Prince and the Princess” task

A.I. (6) “Throw off the rope, it will fall, and he will pull it.”

D.G. (7) "it is necessary to cut down the tree"

B.E. (7) "It is necessary to unhook the chest and pull it down."

M.L. (7) "Cut the chain with a sword and the chest will fall and the prince will marry."

“Tail of Eeyore”task

C.S. (6.5) “It can be a gift. If they took it, then it is not a gift”.

D.A. (5.10) “A gift. It’s not a gift, it's his tail”.

"Dunno and the Goldfish"task

B.E. (7) "To teach the fish to come on the call."

S.F. (7.10) “Take a picture with a fish and let it go”.

M.L. (7) “You can draw a fish, take a picture of it. Does she fulfill wishes? Then you can ask the fish to create the same one”.

"Cheburashka and Gena the Crocodile" task

A.I. (6) "Maybe we should call it "the club for all animals."

D.S. (6) "Happy Home".

"The Snow Queen" task

M.L. (7) “Ask them “Who is the snow queen here?”

D.M. (6) "Kai told what she, the Snow Queen, is like and Gerda will recognize her."

"Hedgehogs" task

B.E. (7) “Hedgehog went to the forest, he picked up some apples. He saw another hedgehog and treated him to apples and went back empty-handed / The hedgehog was going to the forest. He saw another hedgehog and asked him for an apple and he gave it to him. And he went with a load back from the forest. It ends differently. "

"Winnie the Pooh" task

C.S. (6.5) “Master may be a guest because he knocked like a guest”

Quantitative Analysis

Using the Pearson criterion, we revealed the correlations between the indicators of the methods used in the study. The results of the analysis are presented in table 2. The table includes only those indicators that were linked at 0.05 and 0.01 levels.

Table 2. Correlational links between indicators of techniques

Techniques		Dialectic actions					
		Conversion	Mediation	Association	Closure	Change of alternative	General indicator of the technique
Funny plots	Interaction			-.52**			-.56**
	Transformation		.32*		.48 **	.38 *	.48**
Raven's Matrices		.44*				.39 *	

Note:
*. The correlation is significant at the level of 0,05
**. The correlation is significant at the level of 0,01

DISCUSSION

We have found a rather high level of non-verbal intelligence in children of preschool age (M = 20.78). However, no dependencies were found between the indicator of the Raven Color Matrix method and the actions involved in creating a comic context; children with high levels of intelligence did not always use actions of transformation or a disruption of the image at the end of humorous plots.

We have also revealed the frequency of using various actions when understanding comic plots. Most often, children chose a fall action (M = 2.28) and used negative humor to cope with everyday stressful situations involving interpersonal relationships in various life situations. Similar results were shown by the Havigerova's study (Havigerova & Holeckova, 2015): it was discovered that children of preschool age were laughing at situations that were classified as jokes: accidents caused intentionally by another person. The second most frequent act that children used was the act of transformation (M = 1.85): children chose the end of the plot which disrupted the presentation of events in a usual course and was opposite in its content to the one which should have followed the logic of the story. As no similar studies have been conducted, these results became possible due to the development of the author's technique called "Funny Plots" (Artemyeva, 2018a).

Quite often, children chose options associated with disruption of an image (M = 1.55) and interaction of plot characters (M = 1.18). The discrepancy between the invented image and the real one seemed funny and amusing to the children. They chose the ending of the plot which disrupted the historically established ideas of the object and phenomenon image. Great importance at the end of funny stories was given to positive emotions. The use of positive humor in situations of interaction among younger schoolchildren has a pronounced communicative function and helps to establish contact and communication with each other. As noted by M.N. Shiota (2004), the emotion of joy is effective in intergroup relations.

We have revealed correlations between the action of transformation and the general indicator of the "Dialectic stories" technique (r = .48 **), as well as between the action of transformation and 3 mental dialectic actions: the action of the closure (r = .48 **); change of alternative (r = .38 *), mediation (.32 *). Conversely, negative relationships were found between the action aimed at interaction and communication and the generalized indicator of the "Dialectic stories" technique (-.56 **) and dialectical action of association (-.52 **).

Previous studies aimed at identifying the actions of dialectical thinking involved in the understanding of comic texts by children of primary school age (Artemyeva, 2014; Kolojarceva & Artemyeva, 2017). also revealed the correlation between the actions of dialectical thinking and understanding of humor. We found significant direct correlations (p = 0.01) between humor and dialectic action of association (r = .82), between dialectical action of the content serialization (r = .70) and the dialectical action of the change of alternative (r = .53). The studies suggest that the good development of dialectic thinking actions (association, meaningful serialization, changing alternatives) in children of primary school age allows them to understand the contradictions and inconsistencies that are essential for understanding and creating humor.

These research directions allowed to suggest that children's capability to understand contradictions and inconsistencies in the comic content is determined by the good development of actions of dialectical thinking: the actions of unification, meaningful serialization, and the change of alternatives.

CONCLUSION

The study confirmed the absence of a correlation between the level of non-verbal intelligence and the actions involved in creating a comic context; children with a high level of intelligence did not always use the actions of transformation or disruption of image as the ending for humorous stories.

We have revealed the actions which preschooler most often use when understanding humor: the action of transformation, the fall, the disruption of the image of a real object.

When solving the tasks of the "Dialectic Stories" technique, preschoolers used actions of conversion, mediation, association, closure, and change of alternative.

The study revealed that a large role in the perception and understanding of the humorous context is played by the good development of mental dialectic actions in children (closure, change of alternatives, mediation).

The data collected during the study allow us to expand the understanding of the comic content and understand the nature and mechanisms of understanding the comic content in children.

LIMITATION AND STUDY FORWARD

This study was conducted only on children in Russia. While this research can be done globally to get more accurate and general results.

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