

## FEATURES OF COMMUNICATIVE SPHERE OF PRESCHOOL CHILDREN COLLABORATIVE THINKING ACTIVITY

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**Abstract:** This article presents research devoted to the issues of the collaborative thinking activity in preschool age. The approach to the study of the collaborative thinking activity as a system that operates on different levels is shown. There is a detailed analysis of the communicative sphere of preschool children collaborative thinking activity provided in the form of some of the characteristics of dialogue.

**Keywords:** collaborative thinking activity, spheres of collaborative thinking activity, communicative sphere of collaborative thinking activity, dialogue.

Theoretical analysis of the literature indicates that a study of the collaborative thinking activity affects a wide range of issues connected with the certain peculiarities of the participants' functioning in the collaborative thinking activity. For example, it addresses such issues as: the reflexive abilities of the collaborative thinking activity participants [7], the analysis of the sense formation in the individual and collaborative solutions of the cognitive tasks [6]; sense transfer means in the collaborative thinking activity [9]; choice of the functional roles of participants in collaborative thinking activity [5]; individual personality traits of the collaborative thinking activity participants [4] and others. Studies of the collaborative thinking activity, as a system that operates on different levels, are quite rare [2].

We have attempted to study the collaborative thinking activity as a system in the unity of its constituent elements, levels, spheres. Considering the collaborative activity as a system one can

identify its constituent elements or subsystems. In the terminology of A.V. Rastyannikov, S. J. Stepanov, D. V. Ushakov in the collaborative activity one can single out spheres [7]. A.K. Belousova writes about the levels of the existence of the collaborative thinking activity [2]. I. N. Semenov identifies the hierarchically organized levels in the structure of the thought process [8]. Integrating the research data, we represent an experimental model of the preschool children collaborative thinking activity:

1) Intellectual sphere - a sphere of transformation (development, decision or finding the answer, etc.) of the subject content of the collaborative creative work associated with the performance of various operations by the subjects.

2) Personal sphere is shown, on the one hand, in the conceptions of the group subjects on their abilities to solve the problem, on the other - in the personal self-expression of the group members. The personal sphere of the collaborative thinking activity can be represented by the personal qualities of the interaction subjects, complicating the process of communication and cooperation.

3) Communicative sphere includes the aspects of the subjects' communication, including the ways of understanding and building the relationships among the participants. Communicative sphere of preschool children may also be presented by the peculiarities of the dialogue in the process of problem solving.

4) Cooperative sphere - these are the ways of group members' cooperation, embodied in a various organizational forms, as well as the functions that the participants perform in the collaborative thinking activity, taking on this or that role.

From this perspective, we studied the collaborative thinking activity of preschool children in the unity of its constituent spheres. The aim of this study - the analysis of the identified features of the cooperative sphere of the preschool children collaborative thinking activity. 84 children of the preschool age took part in the experiment - 44 girls and 40 boys. The average age of the subjects - 6.5 years. Preschoolers were asked to choose a couple and to solve the puzzle together. Thus were formed and studied 58 dyads. In addition to the experiment and the method of reasoning out loud, in order to study the features of the communicative sphere of the collaborative thinking activity, the method by G. M. Kuczynsky has been applied, allowing to identify the characteristics of the external dialogue of the preschool children in the collaborative thinking activity. We analyzed 2315 speech utterances of the preschoolers. We identified forms of addresses to the partners of collaborative thinking activity: 1119 statements (48.3%), 761 questions (32.9%), 435 incentives to action (18.8%). To obtain the objective rates of the characteristics of the communicative sphere of the collaborative thinking activity, the coefficient of the communicative richness (R) by E. V. Tsukanova [10] was calculated. In order to calculate the significance of differences at the level of the studied characteristics we used the nonparametric statistical criteria of H-criteria of Kruskal-Wallis test.

Thus, the study identified a number of important characteristics of the

communicative sphere of preschool children collaborative thinking activity:

1. 48.3% of the total number of addresses in the collaborative thinking activity of the preschoolers were statements. Despite the fact that at the preschool age there is a pronounced focus on the peer and the pursuit of the collaborative decision, the statements in the process of the collaborative thinking activity are often short, non-deployed, externally non-directed at the peer, untargeted.

2. The questions asked by the preschoolers in the process of the collaborative problem solving, in 50% of cases remain unanswered. We can assume that some of these questions relate to the so-called "false" questions, i.e. questions that do not require an answer. Preschoolers answer the questions if they are targeted (for example, the name of the communication partner was said) or, if a child insists on the answer (for example, by repeating the question several times).

3. Incentives to action in the structure of the preschool children communication in the collaborative thinking activity are presented in the least quantity. However, they differ in the outstanding targeting, orientation, expressiveness. While the incentive to action can have several forms (offer to act in a certain way, command and request), in preschool age the incentive to action is primarily in the form of the command.

4. A large number of preschoolers' addresses are unanswered by the communication partners, i.e. do not form cycles. So, 561 statements, 341 questions and 249 incentives to action did not form cycles, i.e. they appear to be in the form of monologue speech or internal dialogue (see Fig. 1.).

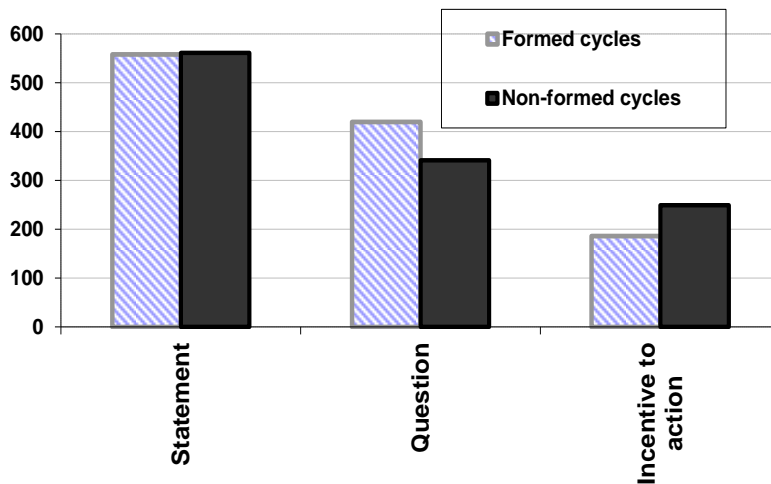


Figure 1. The quantitative ratio of addresses that formed and did not form the cycles

5. The greatest quantity of cycles is devoted to the discussion of the substantive actions of the interaction subjects or to the verbal acts of the partners, i.e. procedural. It has been observed, the more successful collaboration and productive process of problem solving, the more the subject cycles, i.e. cycles with the theme of the subject, which discusses the task or conditions of the task. A distinctive feature of the preschoolers' dialogues is a small amount of the personal cycles, i.e. cycles, which discuss the subjects of the communication and their relationship, despite the fact that the couples were formed on the basis of mutual positive choices. This can be explained by the fact that in the elder preschool age the cooperation is directed at the business relationships, and a peer is considered by the preschooler in terms of capacity and

capabilities to meet their needs in the communication.

6. Calculation of the coefficient of the communicative richness by E.V. Tsukanova lets us divide the studied dyad into 4 groups with different value of the coefficient: Group 1 -  $R = 0.2$  to  $1$ , minimum low coefficient of the communicative richness, Group 2 -  $R = 1$  to  $2$ , low coefficient of the communicative richness, Group 3 -  $R = 2.13$  to  $5.25$ , average coefficient of the communicative richness, Group 4 -  $R = 6.3$  to  $24$ , high coefficient of the communicative richness;

These groups showed the statistically significant differences in the intensity indices of the dialogue that characterize the communicative sphere of the collaborative thinking activity of the preschool children (see Table 1)

Table 1. The significance of differences in the intensity indices of the dialogue in groups of preschoolers with different communicative richness coefficient

Feature	$p=0,01$	$p=0,05$
Statements	Differences are not significant	
Questions	H=11,502	
Incentives to action	H= 22,970	
Cycle of statement - attitude towards it	H=8,217	
Cycle of question -	H=12,712	

answer	
Cycle of incentive to action	- H=14,576
implementation	
Complex cycles	H=17,652
Subject theme of cycles	H=10,460
Procedural theme of cycles	Differences are not significant
Personal theme of cycles	H=15,112
Work time of dyad	H=14,439

As a result of using this criterion was identified the significance of the difference in the groups of preschool children with the different communicative richness coefficient for all the features, except for the statement and procedural theme cycles.

Thus, the analysis of the objective characteristics of the preschool children communication in the collaborative thinking activity allowed to identify the following: 1) from the total number of the speech utterances, 49.7% is monologue speech (in the form of external or internal dialogue); 2) Cycles of the dialogue formed to a large extent the questions, rather than statements and incentives to action. The presence of the question-answer cycles favor the formation at the preschool age of the intellectual dialogic interaction because the question of a child stands for a certain cognitive task, which can be solved through dialogue of the preschooler with the peer. Thus, in the collaborative thinking activity, the process of reasoning, being in the individual activities as a particular inner intelligent act, passed into the external plan and presented in the form of the dialogue.

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