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LEARNING INTERACTIONS: CONSTRUCTING DEVELOPMENTAL ENVIRONMENTS

УЧЕБНОЕ ВЗАИМОДЕЙСТВИЕ: КОНСТРУИРОВАНИЕ РАЗВИВАЮЩЕЙ СРЕДЫ

Development of Social Competencies of Primary School Children in Schools with Different Ways of Organizing Educational Interactions

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The article focuses on the results of the study on the development of social competencies in primary school students studying in schools with different ways of organizing educational interactions. Two types of schools are analyzed: a school that implements a system of developmental learning (the method of D.B. Elkonin — V.V. Davydov), and a school based on traditional teaching methods. The research is based on the principle of activity theory, according to which the development of social competencies in the learning activity is mediated by the ways of organizing learning interactions and forms of communication between children and adults, aimed at a joint search for a common way to solve a certain class of problems. The study involved fourth graders from Moscow schools (258 students). The author's method "The conflict" was used. It allows to study the students' search for a way to solve the visual-logical problem of identifying a system of features and multiplying them. The article discusses statistically significant differences in the results demonstrated by fourth graders from different types of schools. It is shown that the school of developmental learning creates favorable conditions for students to master productive forms of group interaction, which increases the effectiveness of joint problem solving, and ultimately contributes to the development of social competencies in primary school children. In students, studying in traditional schools, the phenomenon of "loss of content" in communicative competencies was revealed: children united in a group to solve a problem lost their focus on analyzing the content of the problem, replacing the process of finding a joint solution by demonstrating the learned rules of interaction.

Keywords: social competencies, schools with different ways of organizing educational interactions, school of developmental learning, “traditional” school, primary school graduates, joint problem solving.

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The theoretical basis for the development of modern education is the Cultural-Historical Theory of L.S. Vygotsky [1]. The fundamental provisions of this theory — the leading role of learning in the process of child development, the direction in development from intrapsychic (divided between participants) to interpsychic (internal, individual) — determine the organizational and methodological framework in which pedagogical innovations in the Russian school are currently understood and designed.

Based on the Cultural-Historical Theory of L.S. Vygotsky, Russian primary education is faced with the task of forming students’ social meta-subject competencies. At the same time, the ability of primary school students to interact with their peers and with adults in the educational process is

considered to be one of the key requirements for the organization of the educational process. This provision is reflected in the new educational standard. Social competencies in it are defined as: "active use of speech tools to solve communicative and cognitive tasks; wish to listen to the interlocutor and conduct a dialogue; willingness to recognize different points of view and the right of everyone to have their own point of view, to express their opinion and argue their point of view and assessment of events; involvement into determination of a common goal and ways to achieve it, ability to agree on the distribution of functions and roles in joint activity and to exercise mutual control in joint activity, to adequately assess their own behavior and the behavior of others; willingness to resolve conflicts constructively by taking into account the interests of the parties and cooperation" [18].

For a school that implements the ideas of developmental learning [3; 4], the inclusion of broad communication (dialogue) and interaction of participants in the educational process is a necessary condition for the organization of learning activity. Numerous studies carried out by V.V. Davydov and his followers have shown the productivity of the "teacher-students" dialogue at the stage of setting a learning problem, i.e., in the case when the object content of the problem is mediated by the search for a joint way to solve it [2; 5; 6; 7; 8; 11; 12; 14; 15; 16; 19; 20; 26]. According to the data, students' communication aimed at finding the objective content of the problem (the action is defined by its object and is aimed at its object) stimulates the implementation of control and reflection. A joint discussion at the stage of joint search for a solution contributes to the implementation of planning and analysis, creates conditions for the development of imagination, mastering the basics of learning independence, search and research activities, as well as self-assessment. Thus, in many years of research, it has been proved that the special organization of joint learning activity is an essential factor in the effective teaching of primary school students.

As the results showed, joint actions are effective, starting from the first grade, because when they are performed, they help students understand different points of view and coordinate them. This makes it possible for the participants of joint activity to consider the content of the problem being solved, taking into account different positions and highlighting the essential features of the objective content of the problem. On the other hand, the ability to meaningfully, in a businesslike way, get out of a conflict situation, having different points of view, allows students to successfully participate in a frontal class discussion and effectively conduct group work [15; 16; 19]. The data obtained are consistent with the results of the study of the features of cooperative learning and indicate the fundamental importance of communication and learning interactions for the development of metacognitive competencies [10; 21; 22; 23; 24; 27].

In the existing system of education ("traditional school"), the main purpose of the primary school teacher's work is primarily to convey to children a set of certain operations.

In contrast to actions or activity as a holistic process, when a child fulfills simple operations, their meaning, goals, and conditions, in which these concrete operations are adequate or effective, in most cases are clear only to the teacher, but remain complex and inaccessible to children. An example of such training is a fairly long process of teaching a child to write separate sticks and hooks, from which an entire letter will then be formed. This method of exercise based on fulfilling a set of specific tasks is also implemented in teaching multiplication, where multiplication by 2 is the topic of a particular lesson, and multiplication by 3 is the topic of another lesson, etc. The main form of interaction between the teacher and the students is the teacher's indication of the need for the student to perform certain operations, and interaction is reduced to simple communicative exchanges. An example of this type of communication is teacher's giving instructions on how the student should perform the action "according to the pattern".So, in one of the math lessons, we witnessed how the teacher asked the children more than 250 questions on the multiplication table. If the child answered correctly, she asked the next question, if not — repeated the previous one and called another student. To the experimenter's question: "Why don't you talk to the children?" the teacher replied in surprise: "I've been talking to them for a whole lesson! I ask them "3×3=?", and they answer me either correctly — "9", or incorrectly".

With this understanding of educational communication and educational interactions, the content of social competencies is reduced to two interrelated phenomena. On the one hand, when the search for a solution to a problem is reduced to performing a certain sequence of tasks, communication takes on the character of comments such as "solve in a pair" or "do in a group". Since the content and form of presentation of the task do not essentially change, the "interaction with others" does not become necessary for the participants and does not affect the way the children work. On the other hand, working together, students should not "disturb" the others. Therefore, the conditions for organizing joint work include restrictions — certain rules of communication, such as "speak in turn", "give in", "do not interfere with others", etc. The principal feature of a "traditional" school setting is that in teaching-learning situations it is the teacher who determines the goal of the activity, who manages, controls and evaluates the actions of the student, leaving a child the opportunity to perform the necessary operations. It is obvious that in school which uses this method of organizing the learning process, children cannot be expected to fully master meta-subject competencies. The latter is possible only in the context of meaningful interactions between students and adults, when children themselves act as full-fledged subjects of the interaction, directing their actions and their communication to joint search for a solution to the problem.

We believe that the main indicator of the formation of meta-subject competencies in children is that in the process of learning the child not only learns the performed part of the action (operations), but also identifies and fixes those conditions in which these operations are adequate — provides identification of a certain class of problems for which this way of action is specifically general [3]. It means that in different joint problem solving situations students will look for different ways of organizing interactions. The content of a problem assigned to them, determines the type and structure of communication adequate to the search of the way to solve it. In other words, subject

competencies become meta-subject competencies when the child discovers the object of the operations performed, that is the content of a problem and the limits of the way of action. This discovery can happen when the child has an attitude to the task as to performing a specific set of operations not directly, but through interaction with other participants in joint activity. This position became one of the main hypotheses of our experimental study.

The goal of the study was to determine to what extent primary school graduates who have been trained in schools that differ in the way of organizing educational interactions are able to jointly search for a way to solve a problem.

Hypotheses:

1. The association of students in groups in the process of school education increases the effectiveness of the joint search for a way to solve the problem (in comparison with the individual search for a way to solve it).

2. The development of social competencies in primary school is mediated by ways of organizing educational interactions and communication, aimed at joint search for a common way to solve a certain class of problems.

Description of "The conflict" procedure

To evaluate the comparative effectiveness of individual and group solutions of a visual-logical problem, we used a specially developed experimental procedure called "The conflict" [9; 13; 17].

The material of the technique is a matrix of 3×3 cells, in nine cells of which one can place 9 elements — images ("faces"). Images ("faces") are distinguished by four features: "head size", "eye color", "nose shape", and "number of hairs". A properly filled sample matrix is shown in Fig. 1.

A task. The experimenter offered the participants a partially filled matrix of 5 elements, in which 5 "faces" occupied the top row and the left column (see Figure 2), and suggested finding the pattern of the "faces" and filling the remaining four empty cells with suitable elements. The problem was considered solved if all the empty cells of the matrix were filled in correctly.

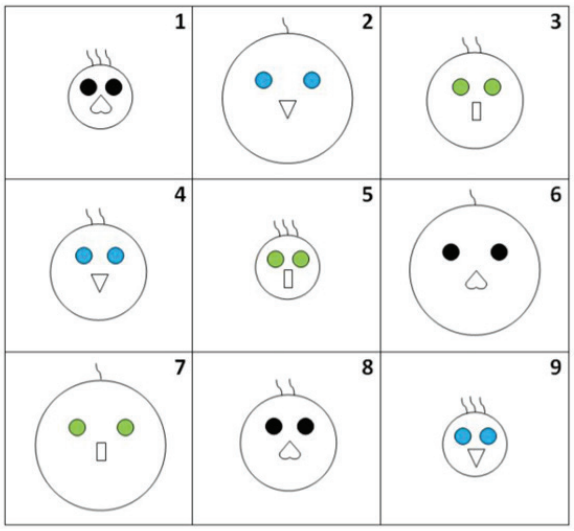

Fig. 1. A filled matrix of 9 elements ("faces"), which differ in 4 features ("head size", "eye color", "nose shape" and "number of hairs")

To solve a problem correctly, it is necessary, first, to identify and correlate the essential features of the matrix elements ("faces"), and, secondly, to assume ("predict») changes in these features in a given coordinate system horizontally, vertically, and diagonally (i.e., essentially find a general rule for the arrangement of elements). In a two-dimensional matrix, only two attributes can change. Therefore, in our problem, the four features are combined in pairs (one pair is "head size" and "number of hairs", the other is "eye color" and "nose shape"). The increase in the number of signs made it difficult to make a decision and created prerequisites for extensive communication. If the group's work was aimed at finding a common method (rule) for the arrangement of elements in the matrix, then the relationship of features that determines the place of each element was found by these children. If the participants solved the problem without analyzing the relationship of features in the system, then each feature was considered independently of the other. Identifying a set of essential features is the first step in solving the problem. Next, one needs to determine which rule changes the features in the matrix. If students analyzed only a column or only a row, they could correctly determine the set of "faces" for solving the matrix, but did not have enough information to correctly place them in the cells of the entire system of elements. Only if the patterns of changes in the attributes of elements in the column, row and diagonal were determined simultaneously, the correct "faces" fell into the corresponding cells of the matrix.

Procedure of the experiment

The study using "The conflict" procedure was conducted in two stages.

The first stage was individual work. Each child was given a form with a matrix (Fig. 2) and a set of 10 numbered images — "faces" (Fig. 3), four of which were suitable for solving the matrix, and the rest were not. There were only four such sets, and they differed from each other by having the same "faces" under different numbers.

At the first stage, the children were provided information about the task that they should complete. "You have two sheets with "faces". On one of them, all the "faces" are in their places, correctly. There are also 4 empty cells left here. Your task is to select the appropriate "faces" for each cell from the set and enter their numbers."

The second stage was group work. Immediately after the individual completion of the task, the students were split into groups of 4 (those sitting at one desk turned to those sitting at the next desk). They were given a new group form with the same matrix as in the first stage.

At the second stage the task was formulated as follows: "This is a sheet of paper in which you need to write down your general group solution to the same problem. Discuss it. If you all agree on what "face" should be in an empty cell — draw it. If somebody disagrees — you don't need to draw. Then fill the empty cell with your names and numbers of the "faces" that you think are correct. You will find these numbers in your individual sets".

Starting to work in a group, students found out that their individual results were different from those of the

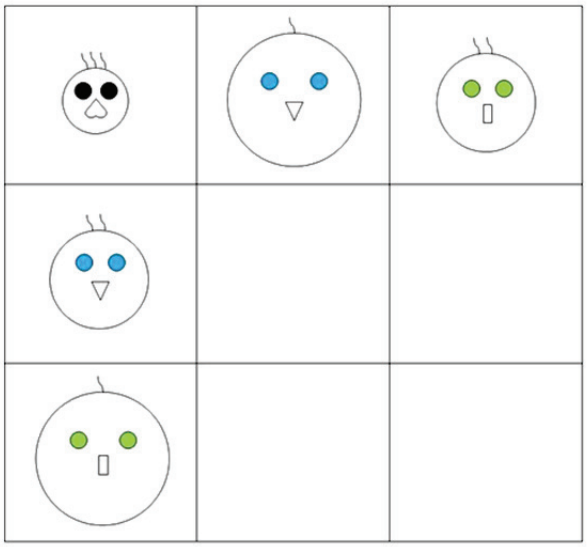

Fig. 2. The material of "The conflict" method (a matrix to be filled in at the individual and group stages)

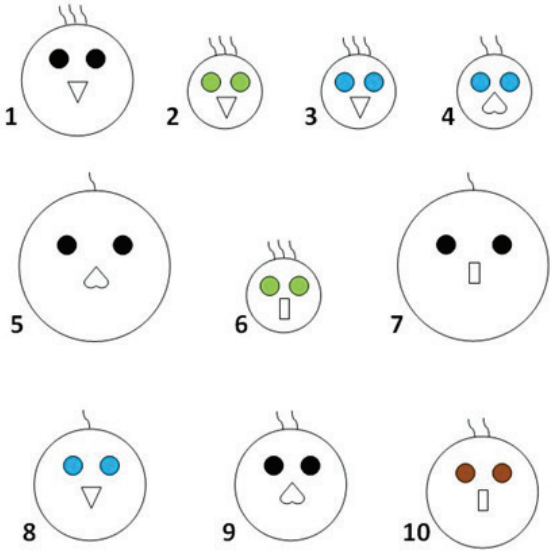

Fig. 3. One of the 4 sets of elements — "faces", which was used at the first (individual) stage of solving the problem (filling in the matrix)

other participants, i.e. the empty cells were filled with different numbers. The discrepancy between individual results was ensured by providing participants with different sets of numbered elements — "faces" at the first stage of the work (Fig. 2 shows one variant of the four sets used). It created a situation of a socio-cognitive conflict.Initially, at the individual stage of the work, the children developed their own point of view in relation to the solution of the problem, and then, at the second stage, when solving the same problem together, their individual positions collided. This type of organization of joint activity leads to a meaningful conflict, in which the analysis and comparison of points of view becomes more active, bringing it up to their reasonable separation or agreement, or to the development of a new unified group position [see, for example, 10; 13; etc.]. In such a situation, the task of the group was to fix and coordinate the positions of individual participants and agree on which specific element would be placed in each cell.

The experimenter observed and recorded how the group builds interaction in the process of solving the problem. The activity of group members, nominating a leader, conflicts and characteristics of social interactions were recorded (whether individual solutions are used in joint problem solving, whether they detect mismatch of numbers in their individual results, how many features are discovered in the matrix, whether a column, line, or diagonal is analyzed, the content of individual participants' statements in the process of solving the problem).

The analysis of individual and joint problem solving results, as well as the protocols of monitoring the work of the group, allowed us to study the processes of organizing the participants' interactions and the features of overcoming their socio-cognitive conflict, to assess the impact of interactions and communication on the effectiveness of solving the problem quantitatively and qualitatively. So, the nature of filling in each cell of the matrix (with a drawing or individual names), the number of drawings and individual names, as well as the correctness of filling in each empty cell are the indicators of setting a common goal, agreeing on a solution method and the effectiveness of a group solution for us. For example, from Figure 3, it follows that in relation to two cells of the matrix, all participants of the group held a common goal and agreed on solutions (the presence of a picture), in the third case, only two participants agreed on a common solution (two names are circled together), and in the fourth case, there was no agreement and four answers were given. As for the way out of the conflict situation, it was possible to state its instability, since the agreed solution was achieved in relation to only two cells out of four (two cells are filled with drawings). However, these drawings are also made by the group incorrectly. This meant that, in overcoming the conflict, the participants attached more importance to the agreed choice of the answer than to the joint analysis of the content of the task

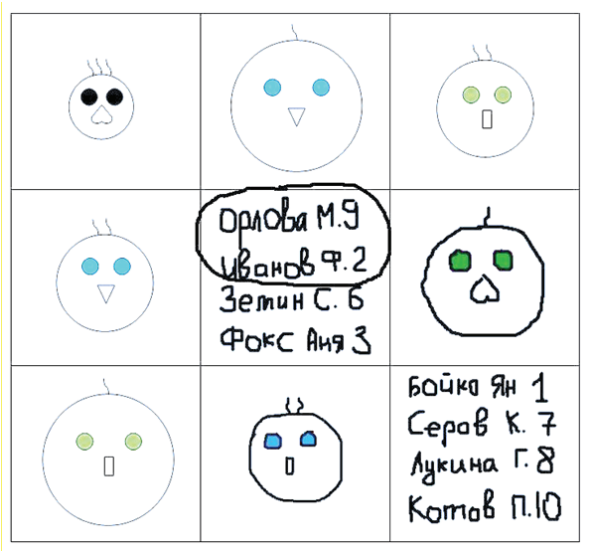

Fig. 4. Example of filling in the group protocol by 4 participants

itself. A general way to overcome the conflict is based on two components — the ability to agree on interaction between the participants and the ability to direct this interaction to find a solution to the problem — to identify and fix the subject content (the features of the matrix elements and the direction of changes in these features in a given coordinate system). Thus, if a group finds the correct solution for all the empty cells, it means that it successfully coped with the conflict of individual solutions in joint searching for the content of the problem.

Description of the test samples

The study involved students from three Moscow schools: a school of developmental learning (School-1), a traditional school (School-2) and a special school for "gifted" children (School-3). The fundamental differences in teaching in these schools lie both in the selection, organization and structure of the content of education, and in the organization of the learning activity itself, primarily in the content of educational interactions and the style of communication between students and between the teacher and students.

"School-1". In this sample, we included graduates of primary school No. 91, which implements a program of developmental learning. These students did not pass any special selection for admission to the school, and for 4 years they studied according to the well-known system of developmental learning of D.B. Elkonin and V.V. Davydov. The main distinguishing feature of the system of developmental learning is that the content of school subjects is organized as a system of learning problems. Looking for general ways of solving a class of problems permits to master scientific concepts. The organization of meaningful interactions of students with each other and with the teacher in the process of mastering the educational content is a necessary condition of developmental learning. The study of students of this school was conducted in 2016, 2017 and 2019. It was attended by 135 people.

"School-2". This sample presents diagnostic data for graduates of an elementary school in Moscow that implements traditional teaching methods. It is based on the special features of interaction of the subjects of the educational process, when the organization, management and control remain with the teacher, and the child is transferred to performing actions and operations. Accordingly, communication in such an environment is initiated and managed by the teacher. A total of 78 students from this school participated in the study (data from 2021).

"School-3". A school where children with a "high level of intelligence development" are taught. The involvement of this school data is important for the following reasons. First, the solution of the visual-logical problem proposed in "The conflict" method, as shown above, requires an analysis of a system of features of the matrix elements with simultaneous consideration of several variables (complex multiplication of features). Therefore, the factor of intellectual abilities could be essential for finding a solution. Secondly, the educational situation in this school is mainly focused on the individual activities of students. Every year, the school conducts a strict selection of children in the first grade, using special tests. Education in this school is conducted according to the author's programs. The educational environment is characterized by in-depth educational content, attention to the student's personality, and a variety of forms of activity. The organization of the learning process creates favorable conditions for the formation of competitive motivation of students. The diagnosis of social meta-subject results in the graduates of this primary school was carried out in 2018. The study involved 45 people.

A total of 258 students from three schools (65 groups) participated in the study. We compared individual and group solutions to the same visual-logical problem "The conflict" in these three samples of students.

Results of the study

The evaluation of the effectiveness of individual and group solutions was carried out in points. For the correct filling of one cell of the matrix, 1 point was awarded. Thus, the minimum number of points when filling in 4 cells is 0, and the maximum is 4. The results of the samples were compared by means of the average values and standard deviations. Mastering of joint forms of problem solving was determined by comparison of the correctness of individual and group solutions. The statistical significance of the differences between the indicators of individual and group decisions and the data on different samples of students was determined by the Student criterion. The degree of consistency of the group solution was determined by the nature of filling in the empty cells: a single drawing as the group's solution or separate solutions of individual participants in the group work form (names and numbers form individual sets). The strategy for overcoming group disagreements was determined by the social parameters of interaction, which were fixed in the process of observing the work of the group.

The indicators of the correctness of individual and group solutions in three schools that implement different ways of organizing educational interactions are shown in Table 1.

According to the results presented in the table:

1. In all schools the results of a group solution of a visual-logical problem are higher than the results of its individual solution. In general, this fact confirms our first hypothesis — the positive impact of the fact of combining students in a group on the effectiveness of solving the problem.

2. The problem of identifying a system of interrelated features in the matrix is available to all primary school graduates and does not require special abilities to solve it. This was evidenced by the fact that the individual results of the students of "School-3" (for "gifted children") were lower than the individual results of the students of the school of developmental learning.

3. Statistically significant differences in the results demonstrated by fourth-graders studying in different schools were obtained. Moreover, the results of students in schools with different ways of organizing educational interactions differ significantly both in individual and group indicators. Thus, when considering the data of sample 1, (school with a developmental learning program,

Table 1

The effectiveness of individual and group solutions in "The conflict" procedure in schools that implement different ways of organizing educational interactions

Samples	Number of students	Average score. Individual solutions	% of maximum possible score	Average score. Joint solutions	% of maximum possible score
School-1	135	1,36	34%	2,73	68%
School-2	78	0,84	21%	1,32	3%
School-3	45	1,04	26,1%	2,36	59,1%

where children are used to joint work in a group of peers, participate in discussions, take into account positions of other participants), and sample 2 (schools with traditional educational technology), it can be stated that the results of the group solution of the visual-logical problem differ more than twice. This means that the educational environment of the school of developmental learning creates favorable conditions for students to master productive forms of group interaction, which significantly increases the effectiveness of joint problem solving. This fact confirms the second hypothesis of our study.

4. The educational environment of the school for "gifted children" mainly supports individual orientation and significantly contributes to the development of competitive motivation. Joint forms of solving learning problems in this school are used only in a limited way, are set by the teacher and are more role-based than functional. This allowed us to assume that students of the school for "gifted children" would demonstrate higher individual results while solving the visual-logical problem and a smaller increase in the effectiveness of solutions at the group stage of problem solving. However, the results showed the opposite. If at the stage of individual solutions, these children filled out correctly on average 1 cell of the matrix (individual result 1.04), then after joining the group, their performance increased by 2.3 times. This means that the students' abilities allowed them to construct effective forms of interaction.

In order to better understand the data obtained, we considered another important indicator of the organization of joint work — the coherence of the group decision. This indicator was determined by the nature of the group filling in the empty cells of the matrix. If the students were able to agree on individual opinions and come to a common solution, then they performed a drawing of the "face". If the group could not agree on individual opinions, the names of the participants and the numbers of suitable "faces" from individual sets were recorded in the appropriate cell of the martix.

Let us look at how the coherence indicator is presented in different educational environments. In School-1 (school of developmental learning) in three groups (a total of 34 groups), the missing element ("face") was replaced by a list of group members and the numbers of "faces" from their individual sets. Moreover, in one group, the participants could not agree on one cell of the matrix, and in two groups — on two cells.

In School-2 (traditional school), the cells in all 20 groups were filled with drawings, which indicates a very high level of coherence in the group solutions.

In School-3 (school for "gifted children") in two groups, the drawing was replaced by a list of participants and their individual numbers of "faces". In both groups, the inconsistency of individual opinions in the group decision process concerned only one cell of the matrix.

Thus, it turned out that the correctness of the solution is not related to the coherence in the search for a solution, because in the educational environment with the highest coherence of opinions, the lowest effectiveness of group solutions was found. To explain this fact, that seems to be paradoxical, it is necessary to turn to the analysis of the interaction parameters that were recorded by the psychologist in the process of observing the process of the groups' problem solving.

The students of School-1 and School-3 had disputes, conflicts, and emotional reactions while they looked for the way of solving the problem. In one group, for example, the participants offered two hypotheses at once: according to one hypothesis, the features were mirrored along the diagonal of the matrix; according to the other, the features were consistently changed along the same diagonal. The solution was found in discussion with the third participant, who offered to check the assumptions by comparing the features in both the row and the column of the matrix. The group took advantage of the offer and came to a common solution. In all groups, the features were named (partially, or all four, or someone noticed that they were connected in pairs). In all groups, an attempt was made to formulate a rule, such as "faces should not be repeated", or "if there is one big head in a row, then there shouldn't be another big one", etc. In all groups, efforts were made to overcome contradictions and find a common solution.

The students of School-2 demonstrated a completely different strategy of interaction. At the individual stage, these students looked for the solution taking into consideration the content of the problem — analyzing features of the "faces" and their places in the matrix. When moving to the group stage, they "lost" the content of the problem. Though they still named features of the "faces", the discussion was mainly based on the performative part of the work: "who will draw?" or "how will we draw?". At the same time, a wide variety of answers were offered. The simplest one: "Let's draw one by one." Or a complex decision: "You will draw the head, I will draw the eyes, and they will draw the nose and hair." Or a quite exotic suggestion: "You paint over one eye and I'll paint over the other." Other ideas: "You draw, we think". "Do I need a big one or a small one? Better a small one!". "Let's draw it and then discuss it." "Let every "face" be different!". One girl drew everything herself and asked quietly: "You agree, don't you?" "I don't know what to draw. Will they access our drawings? Then it doesn't matter!" (no one objected). "Why do you draw brown eyes? Because green plus black equals brown. Oh, all right, then."

Thus, for students of School-2, when moving from an individual to a group decision, the organization of the process of interaction itself and the implementation of the rules of interaction (for example, "let's take turns!") came to the fore. At the same time, the content of the task ceased to be significant for the organization of interaction among these students. There was also no criticism of the partners ' actions, i.e. the monitoring and evaluation functions were largely lost. At the same time, a paradoxical emotional reaction was observed: those who thought differently were not upset, they didn't try to influence the actions of their partners. Moreover, if at the stage of individual work, many students showed interest in solving the problem, then at the stage of group work, the result of the joint solution ceased to be interesting for these children. The participants were satisfied that they were able to participate or organize the interaction itself. Therefore, in two classes out of three, the effectiveness of group work of children was lower than their individual work.

These facts once again confirmed our point of view, according to which productive interaction occurs in the conditions of "objectification" of social competencies, i.e. orientation to the search for the object content of the problem.

Thus, the main result of the conducted research was the discovery of a peculiar phenomenon of "loss of object" in communicative competencies. This phenomenon was manifested in the fact that students, united in a group to solve a joint problem, lost focus on the content of the problem itself, replacing the process of finding a solution with a demonstration of the forms of interaction learned. The phenomenon of "loss of object" seemed all the more significant because each of the group members had previously independently solved the problem, looking for meaningful reasons for choosing the necessary elements that correspond to the principle (general rule) on which the matrix was built.

Conclusion

The study made it possible to assess the development of social meta-subject competencies in primary school students studying in schools with different ways of organizing educational interactions. Based on the conducted qualitative and quantitative analysis of the data obtained using the diagnostic method "The conflict", we may notice that students who studied in the "traditional" school were found to have lower indicators of the communicative competencies in comparison with the results of students from a school implementing the program of developmental learning. Communicative actions in most cases are not aimed at finding a way to solve the problem.

These findings are consistent with the results of our study of the role of social interactions in the development of mental functions in children with special educational needs. In this study, conducted with children aged 7—9 years (students of grades 1—3 of general education schools, among whom were both normatively developing children and children with special educational needs), it was shown that the relationship of communication, mutual understanding and ways of interaction can be considered as an integral indicator of the inclusion of children in a joint way of solving problems and, accordingly, as a meaningful characteristic of the emerging community, defining a new framework for the development of children's object-oriented communicative actions [25].

Moreover, according to the data obtained, the main difference between community, when children are involved in the process of joint problem solving, and other possible forms of association of participants is their orientation to the way of interaction itself, when this way of interaction becomes a means of analyzing the object content of the problem. The features of this orientation can be manifested in the following phenomena of child's behavior: assessment of the limitations of "one's own" and "the other's" actions; the mutual pronouncing and designation (conditional representation) of "scenarios" of possible interactions that can be effective for solving the problem, and the subsequent modeling (symbolic reproduction) of such interactions. Children's focusing on the way of interaction is associated with the appearance of a new problem for them, and the need to solve this problem triggers a new motivation that encourages them to organize joint actions to search for a solution in terms of the content of the problem. Following this motivation, participants discuss the constraints that arise and design the necessary exchanges, strengthening communication and modeling the directions of possible interactions in relation to finding the content of the problem. It permits to form a common emotional and semantic field, based on the participants' experience of new opportunities and meanings of the actions performed, related to the search for the content of the subject of the problem.

Our data confirms the conclusion that productive forms of interaction of students appear when the search for the content of the problem is mediated by the search for the way of interaction itself. Only in a situation, when students need to move from performing actions "according to the pattern" to exploratory actions, when they need to determine the completeness of the problem's conditions and to test together their hypotheses, they are encouraged to use communication as a means of organizing the search for solutions of the problem and its evaluation. At the same time, full-fledged communication can develop only in special forms of interaction, when the child themself becomes the subject of their activity. The educational system of developmental learning largely creates conditions for the child to become the subject of their activity. Therefore, it creates prerequisites for the development of social competencies as special meta-subject actions that allow students to jointly set and solve learning problems, directing these actions to the selection, analysis and modeling of the object content of the problem.

References

1. Vygotsky L.S. Umstvennoe razvitie detei v protsesse obucheniya. [Mental development of children in the learning process]. Moscow: Publ.GIZ, 1935. (In Russ).

2. Guruzhapov V.A. Umenie analizirovat' uslovie zadachi kak metapredmetnyi rezul'tat obucheniya [The ability to analyze the task conditions as a meta-subject result of training]. Psikhologo-pedagogicheskie issledovaniya

[Psychological and pedagogical research], 2013. Volume 5, no. 5. (In Russ).

3. Davydov V.V. Problemy razvivayushchego obucheniya. Opyt teoreticheskogo i eksperimental'nogo psikhologicheskogo issledovaniya. [Problems of developmental learning. Experience of theoretical and experimental psychological research]. Moscow: Publ. Pedagogika, 1986 (In Russ).

4. Davydov V.V. Teoriya razvivayushchego obucheniya [Theory of developmental learning]. Moscow: Publ. Intor, 1996 (In Russ).

5. Kommunikativno-orientirovannye obrazovatel'nye sredy. Psikhologiya proektirovaniya Ed. V.V. Rubtsov [Communication-oriented educational environments. Psychology of design. Ed. V.V. Rubtsov]. M.: Psikhologicheskii institut RAO. [Moscow: Psychological Institute of RAE]. 1996. (In Russ).

6. Kritskiy A.G. Metodika gruppovoi organizatsii uchebnoi deyatel'nosti s ispol'zovaniem komp'yutera [Methods of group organization of learning activity with the use of a computer]. In: Voprosy psikhologii [Problems of psychology], 1989. No. 1. (In Russ).

7. Margolis A.A. Zona blizhaishego razvitiya (ZBR) i organizatsiya uchebnoi deyatel'nosti uchashchikhsya [The zone of the proximal development (ZPD) and the organization of learning activity of students]. In: Psikhologicheskaya nauka i obrazovanie [Psychological science and Education]. 2020. 2020. Volume 25. No. 4. pp. 6—27. (In Russ).

8. Obrazovatel'naya sreda shkoly i ee vliyanie na psikhicheskoe razvitie uchashchikhsya / Red. V.V.Rubtsov, N.I.Polivanova. [Educational environment of the school and its influence on the mental development of students. Ed. V.V. Rubtsov, N.I. Polivanova]. Moskva, PI RAO [Moscow. Publ. Psychological Institute of RAE], 2007 (In Russ).

9. Otsenka metapredmetnykh kompetentsii vypusknikov nachal'noi shkoly/ pod red. I.M.Ulanovskoi [Evaluation of meta-subject competencies of primary school graduates. Ed. by I.M. Ulanovskaya]. M.: GBOU VPO «MGPPU» [Moscow: Moscow State University of Psychology & Education], 2015 (In Russ).

10. Perre-Klermon, A.N. Rol' sotsial'nykh vzaimodeistvii v razvitii intellekta detei /red. V.V.Rubtsov. [The role of social interactions in the development of children's intelligence. Ed. V.V. Rubtsov]. Moscow: Publ. Pedagogika, 1991 (In Russ).

11. Polivanova N.I., Rubtsov V.V., Semenova M.A. Refleksiya i ee rol' v protsesse organizatsii i postroeniya kollektivno-raspredelennogo deistviya u detei [Reflection and it's role in the process of organizing and building a collective distributed action in children]. In Problemy refleksii. Sovremennye kompleksnye issledovaniya [Problems of Reflection. Modern comprehensive research]. Novosibirsk, 1987. (In Russ).

12. Rivina I.V. Zavisimost' razvitiya uchebno-poznavatel'nykh deistvii mladshikh shkol'nikov ot tipa kollektivnoi deyatel'nosti. [The dependence of the development of educational and cognitive actions of younger schoolchildren on the type of collective activity] In: Voprosy psikhologii [Problems of psychology], 1987. № 5, pp. 62—70. (In Russ).

13. Rivina I.V., Polivanova, N.I., Ulanovskaya I.M. Vyyavlenie umeniya uchashchikhsya nachal'noi shkoly deistvovat' sovmestno v usloviyakh sotsio-kognitivnogo konflikta [Identifying the ability of primary school students to act together in a socio-cognitive conflict]. In: Psikhologicheskaya nauka i obrazovanie [Psychological Science and Education]. 2013. № 4. (In Russ).

14. Rubtsov V.V. Sotsial'nye vzaimodeistviya i obuchenie: kul'turno-istoricheskii kontekst [Social interactions and training: cultural and historical context]. In: Kul'turno-istoricheskaya psikhologiya [Cultural and Historical Psychology]. 2005. № 1. (In Russ).

15. Rubtsov V.V. Sovmestnaya deyatel'nost' shkol'nikov pri usvoenii teoreticheskikh ponyatii (na materiale fiziki) [Joint activity of schoolchildren in the assimilation of theoretical concepts (on the material of physics)].In: Formirovanie uchebnoi deyatel'nosti shkol'nikov [Formation of educational activity of schoolchildren], pp. 170—178. Moscow, 1982 (In Russ).

16. Rubtsov V.V., Margolis A.A., Telegin M.V. Psikhologicheskoe issledovanie geneza i razvitiya zhiteiskikh ponyatii v usloviyakh uchebnogo dialoga (pervyi etap) [Psychological study of the genesis and development of everyday concepts in the context of a learning dialogue (the first stage)]. In: Psikhologicheskaya nauka i obrazovanie [Psychological Science and Education], 2007, No. 2, pp. 61—72. (In Russ).

17. Ulanovskaya I.M. Sistema razvivayushchego obucheniya kak faktor stanovleniya kommunikativnykh umenii u uchashchikhsya nachal'noi shkoly [The system of developmental learning as a factor in the formation of communicative skills in primary school students]. In: Kravtsov G. G. (ed.) Teoriya i praktika kul'turno-istoricheskoi psikhologii: Materialy XVIII Mezhdunarodnykh chtenii pamyati L. S. Vygotskogo [Theory and Practice of cultural-historical psychology: Materials of the XVIII International Readings in Memory of L.S. Vygotsky]. Moscow, November 13—17, 2017. Moscow: Lev, 2017, pp. 157—163. (In Russ).

18. Federal'nyi gosudarstvennyi obrazovatel'nyi standart nachal'nogo obshchego obrazovaniya [Federal State Educational Standard of primary Education] / (utverzhden prikazom Ministerstva obrazovaniya i nauki RF ot 6 oktyabrya 2009 g. N 373) / (approved by Order of the Ministry of Education and Science of the Russian Federation of October 6, 2009 N 373)] (In Russ).

19. Zukerman G.A. Ot sovmestnogo deistviya — k konstruirovaniyu novykh sotsial'nykh obshchnostei: Sovmestnost'. Tvorchestvo. Obrazovanie. Shkola (Kruglyi stol metodologicheskogo seminara pod rukovodstvom V.V. Rubtsova, B.D. El'konina) [From joint action to the construction of new social communities: Compatibility. Creation. Education. School (Round table of the methodological seminar under the leadership of V.V. Rubtsov, B.D. Elkonin)]. In: Kul'turno-istoricheskaya psikhologiya [Cultural and Historical Psychology], 2018. Volume 14, No. 3. pp. 5—30. (In Russ).

20. Apres Vygotski et Piaget. Ed. C.Garnier, N.Bednarz, I. Ulanovskaya. De Boeck Universite, Bruxelles, 1991.

21. *Deutsch, M.* Cooperation and trust: Some theoretical notes/ In M. Jones (Ed.), Nebraska symposium on motivation. Lincoln, NE: University of Nebraska Press. 1962. pp. 275—319.

22. *Doise W, Mugny G.* Social cognitive conflict structuration of individual and collective performance // European Journal of Social Psychology. 1978.

23. *Johnson, D.W., & Johnson, F.* Joining together: Group theory and group skills (10th ed.). Boston: Allyn & Bacon. 2009.

24. *Johnson, D.W., & Johnson, R.* Learning together and alone: Cooperative, competitive, and individualistic learning (5th Ed.). Boston: Allyn & Bacon. 1999.

25. *Rubtsov, V., Konokotin, A.* Formation of higher mental functions in children with special educational needs via social interaction in: Evaluation and Treatment of Neuropsychologically Compromised Children. Ed. Darlyne G. Nemeth, Janna Glozman, Academic Press (an imprint of Elsevier), 2020.

26. *Rubtsov, V., Ulanovskaya I.* Educational Environment and Indicators of Child Development. In: Lurian journal, N 2, 2020, pp. 71—84.

27. *Slavin, R.E.* "Cooperative Learning: Applying Contact Theory in Desegregated Schools. In: Journal of social issues. 41/3 (1985): 45—62.

Развитие социальных компетенций у младших школьников в школах с разными способами организации учебных взаимодействий

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В статье рассматриваются результаты исследования развития социальных компетенций у младших школьников, обучающихся в школах с различными способами организации учебных взаимодействий. Проанализированы два типа школ: школа, реализующая систему развивающего обучения (метод Д.Б. Эльконина — В.В. Давыдова), и школа, основанная на сложившихся (традиционных) методах обучения. В основу исследования положен ключевой принцип теории учебной деятельности, согласно которому освоение социальных компетенций в процессе обучения опосредовано способами организации учебных взаимодействий в процессе совместного поиска решения класса задач и зависит от форм коммуникации детей между собой и со взрослыми. В исследовании участвовали четвероклассники московских школ (258 учащихся). Применялась авторская методика «Конфликт», позволяющая изучать особенности поиска учащимися способа решения наглядно-логической задачи на выделение системы признаков и их мультипликацию. В статье обсуждаются статистически значимые различия результатов, продемонстрированных четвероклассниками. Показано, что школа развивающего обучения создает благоприятные условия для освоения учащимися продуктивных форм группового взаимодействия, что повышает эффективность совместного решения задач, а в итоге — способствует развитию социальных компетенций у детей младшего школьного возраста. В традиционной школе у учащихся выявлен феномен «депредметизации» коммуникативных компетенций: объединенные в группу для решения задачи дети в ряде случаев утрачивали ориентацию на анализ содержания задачи, подменяя процесс поиска совместного способа решения демонстрацией усвоенных правил взаимодействия.

Ключевые слова: социальные компетенции, школы с разными способами организации учебных взаимодействий, школа развивающего обучения, традиционная школа, выпускники начальной школы, совместное решение задачи.

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