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## HEURISTIC DIALOGUE TECHNIQUE IN THE FORMATION OF INQUIRY ACTIVITY SKILLS OF PRIMARY SCHOOL PUPILS

*To teach a younger pupil to ask questions, that is, to be able to ask questions correctly, means to help him develop faster mentally, improve thinking, speech, and communication. That is why the original heuristic dialogue technique of teaching children to ask cognitive questions to themselves, the teacher, and their friends was applied. In this research based on the analysis of psychological and pedagogical works, educational dialogue is considered as an integral component of personally oriented heuristic learning, as dialogic co-creation, pedagogical interaction of teacher – pupil, pupil – teacher, pupil – pupil, in the process of which there is an informational exchange of meaningful positions of subjects, pupils' inquiry activity is initiated. Pedagogical humanism, tolerance, openness of the teacher, reliance on the positive qualities of the pupil, emphasizing his successes and achievements, rather than mistakes and shortcomings, became an important characteristic of the educational dialogue technique, trying to clarify the expressed position with the help of a series of questions, reasoning of other pupils. Educational technique was created on the basis of theoretical concepts of personally oriented heuristic learning as a system primarily aimed at the development of pupils' cognitive and creative abilities, at the self-realization of their creative potential. First of all, it reflects the essential parameters of heuristic ideas and procedural characteristics. At the same time, the proposed technique of dialogic interaction in teaching schoolchildren to produce their own cognitive questions makes significant additions and corrections to the system of heuristic learning. At the first stage, children were taught the ability to choose questions from a ready-made set of interrogative sentences, which were compiled by the teacher and given to each pupil. The questions mainly required reproductive and reproductive-reconstructive cognitive activity, but already at this stage elements of search-constructive actions were expected. The second stage provided for the organization of pupils' independent preparation of questions for various types of texts, and also required the formation of asking questions that should reflect the creative vision of the object. The third stage completed the main program of teaching primary school pupils the ability to ask questions and included the creation of business and artistic texts by pupils with the help of the teacher based on the prepared questions. The applied diagnostic tool displays the main quality indicators available for measurement and evaluation of questions and descriptive and explanatory texts created with their help.*

**Key words:** educational dialogue, dialogic interaction, cognitive questions, heuristic technique, inquiry activity, primary school pupil, skills, descriptive and explanatory texts.

*(статтю подано мовою оригіналу)*

Modernization of national education, according to the Concept “New Ukrainian School” (2016), requires teachers to work on the principles of partnership pedagogy, constant affirmation of a meaningful humanistic dialogue as a leading way of mastering knowledge and skills, development of creative thinking (V. Andrushchenko, O. Gonchar, V. Lozova, V. Palamarchuk, O. Savchenko). Creative, constructive dialogue and dialogue technique are becoming a leading component of personally oriented education.

But in educational practice, interaction between “teacher – pupil” with the ever-dominant initiative of the teacher prevails. Pupils demand that they be given the opportunity to constantly ask questions themselves, and not just give answers to the teacher's questions. That is why it is so important to teach children the skills of dialogic interaction with others, the ability to independently ask cognitive questions already in primary school.

To teach a young pupil to ask questions, that is, to be able to ask questions correctly, means to help him develop faster mentally, improve thinking, speech, and communication.

As noted by J. Piaget, logical thinking is intensively developed in 7-8-year-old children, so it is at this time that children should be taught to ask about things that are incomprehensible or unknown to them. Researchers of heuristic education (N. Guziy, A. Korol, B. Korotiaev, O. Lazareva, A. Khutorskoi) prove that the developed skills of pupils to ask questions to the teacher and their peers are placed at the very epicenter of dialogic interaction in the lesson, because they contribute to active and successful learning, emotional and intellectual development.

The optimal conditions for learning to ask questions arise when younger schoolchildren master the program block on descriptive and explanatory knowledge, because they are addressed to the child's leading cognitive activity for this age – the perception and understanding of concrete living images. Descriptive and explanatory knowledge is given a central place in primary school curricula. This especially applies to native and foreign languages, reading, integrative courses.

Perception, comprehension and creation of oral and written descriptions, followed by explanatory texts, their purposeful use, as noted by researchers (K. Ushynskiy, M. Vashulenko, A. Zrozhevskaya, L. Poriadchenko, O. Savchenko), are aimed at the development emotional sphere, logical and figurative thinking of pupils, coherent speech, creative skills, aesthetic feelings, skills of selection of main and secondary details.

**The purpose of the article:** to reveal the technique of formation of primary school pupils' skills to ask cognitive questions when studying descriptive and explanatory knowledge.

In the research based on the analysis of psychological and pedagogical works (N. Barbalis, M. Bakhtin, O. Gonchar, I. Ziaziun, O. Kondratiuk, A. Korol, S. Kurganov, V. Lozova, J. Piaget, N. Tarasevich, P. Freire) educational dialogue is considered as an integral component of personally oriented heuristic learning, as dialogic co-creation, pedagogical interaction of teacher – pupil, pupil – teacher, pupil – pupil, in the process of which there is an information exchange of meaningful positions of subjects, inquiry activity is initiated pupils. Pedagogical humanism, tolerance, openness of the teacher, reliance on his positive qualities, emphasizing successes and achievements, rather than mistakes and shortcomings, became an important characteristic of the educational dialogue technique, trying to clarify the expressed position with the help of a series of questions, reasoning of other pupils.

Based on the motivational and procedural characteristics of the humanistic educational dialogue, we came to the conclusion that the key mechanism, the epicenter of any productive educational dialogue aimed at significant educational achievements of pupils, are independent, sufficiently motivated questions of schoolchildren as the most important manifestation of their need for socialization and learning about new, unknown world. That is why it is so important to systematically introduce a full-fledged dialogical interaction in education with teaching children the skills of correctly asking questions to themselves, the teacher, and peers during the performance of various educational tasks. Mastering the ability to ask questions also strengthens pupils' perception and thinking, stimulates their search, constructive, creative activity. Such a result is possible if the purpose of asking the question is clearly defined, in particular, to develop the ability to interpret certain events, facts, express one's opinion, compare, and reach a conclusion [5].

Pupils' questions of a reproductive and creative nature help them understand the essence, content and methods of completing tasks. The heuristic technique of forming the skills of inquiry activity in younger schoolchildren in dialogic interaction with the acquisition of new knowledge in the study is built on the basis of the modern theory of the educational process (S. Goncharenko, S. Zolotukhina, V. Lozova, V. Onyshchuk, V. Okon, O. Savchenko), where the main components of the educational activity of the pupils and the teacher are distinguished – target and motivational, procedural (acquisition of knowledge, skills), diagnostic and evaluation. The prepared and implemented educational technique also takes into account modern concepts of innovative educational techniques (V. Bepalko, V. Yevdokimov, O. Ionova, O. Kozlova, M. Lazarev, V. Lozova, O. Pehota, O. Popova, I. Prokopenko) and therefore, it is presented as a technique of personally oriented heuristic activity, which ensures the formation of pupils' educational skills to create their own educational product – a set of cognitive questions to descriptive and explanatory texts and the texts themselves.

Educational technique was created on the basis of theoretical concepts of personally oriented heuristic learning as a system primarily aimed at the development of pupils' cognitive and creative abilities, at the self-realization of their creative potential. It reflects the essential parameters of heuristic ideas and procedural characteristics: a) recognition in the lesson and outside it of the primacy of the pupil and his creative self-realization – the leading goal of education and upbringing according to the National Doctrine of Education Development. Other component techniques are definitely subordinated to this goal: creation of meaningful and accessible educational products for the children as a result of their self-organization and self-realization in learning; increasing the amount of motivated and purposeful cognitive and creative independent activity of children – searching, reconstructive, constructive, creative; encouragement of initiative and independence of schoolchildren; clarity and completeness of the criteria and indicators of the created products, primarily the system of cognitive questions; the ability to measure their quality independently or with the operational help of a teacher or friends; the opportunity to independently improve the final versions of completed educational tasks before their final evaluation.

It is worth noting that the proposed technique for teaching pupils of primary school to constantly produce their own cognitive questions in various educational situations is based mainly on the ideas and procedural characteristics of personally oriented heuristic learning, which we consider as basic in relation to the technique proposed for experimental testing.

At the same time, the proposed technique of dialogic interaction in teaching schoolchildren to produce their own cognitive questions makes significant additions and corrections to the heuristic learning system, which was developed on the basis of the conceptual statements of V. Andreev, B. Korotyaev, A. Khutorsky and other researchers. It is, first of all, about creating conditions for active creative activity and initiative of pupils with the help of constant dialogic interaction when solving almost all cognitive tasks. Secondly, the proposed technique concretizes the main educational goal – the self-realization of cognitive and creative qualities of schoolchildren – by solving a number of new educational tasks: improving the dialogue culture of the teacher; teaching schoolchildren the basics of dialogic interaction, implementation of successive steps (from simple to more complex) in children's development of the ability to ask themselves and others cognitive questions as the basis of a productive educational dialogue; use these skills to master basic knowledge for younger pupils. In the experiment, this is descriptive knowledge and the corresponding skills of business and artistic description, but the proposed technique is also suitable for the formation of other knowledge and skills – explanatory, prognostic, generalizing.

The general purpose of the experimental work was to reveal the content, methods and conditions of implementation of the developed heuristic technique aimed at the successful formation of primary school pupils in the ability to correctly ask cognitive questions and create business and artistic texts of a mainly descriptive nature based on them.

The implementation of the technique required appropriate scientific and methodical training of teachers for the use of technique for teaching schoolchildren inquiry activities. At the introductory stage of the experiment, the teachers did not have sufficient theoretical foundations of modern dialogic learning, most of them were convinced of the correctness of the teacher's constant initiative in dialogic interaction (asking questions, individually defining educational goals and tasks, the results of the cognitive activity of younger schoolchildren). In the process of theoretical and practical training, which was carried out according to the principles of heuristic dialogic interaction between scientists and teachers, with the latter being given wide freedom to express themselves, ask any questions, make critical and constructive suggestions, the experimenter teachers mastered the necessary mechanisms and methods of heuristic teaching, methods of dialogic interaction on a parity basis, with the skills to teach children to ask cognitive questions, to find independent original answers in the process of creating, correcting, presenting and evaluating planned educational products.

The next, motivational and target component, developed within the framework of experimental technique, is primarily devoted to creating conditions for the active participation of pupils in inquiry activities. During the survey of 558 (in different years of study) pupils of the 2nd form, it was found that the concept of "school" is associated with the place where children study (78%) and with the place where teachers constantly ask pupils (91%). In this regard, the anxiety of children that they will be constantly asked, and they will not be able to answer successfully, becomes objective. Therefore, one of the tasks was to eliminate disturbing stereotypes in children and to create a favorable microclimate in the relationship between teachers and pupils, to form motives for mastering the skills of self-inquiry. So, at the first Ukrainian reading lesson in the second form, the teacher asked the pupils if *they* liked the textbook, what impressed *them*, and invited the children to find out if *she* liked this textbook. The teacher, formulating and clarifying the purpose of the activity to acquire new knowledge, revealing their cognitive significance and importance for development, prepared pupils for dialogic interaction in the form of various forms of activity that are attractive for younger schoolchildren – interactive search in small creative groups, presentation of their findings, dialogue with opponents, intellectual competition of small groups and their individual representatives, etc. At the same time, the children were aware of the main and significant goal of such an activity for everyone – to master the skills of producing their own, significant for themselves and for the environment, questions about the unknown and not entirely clear. Positive motives were formed more successfully if sufficiently deep and positive emotional experiences of children were ensured during the direct perception of texts, and at the same time a cheerful, optimistic atmosphere reigned in the lessons, pupils were constantly involved in game and competitive activities and, together with the teacher, formulated questions on the topic of the lesson. Under such conditions, children gradually became able to understand and formulate the purpose of educational activity – to produce their own, significant questions for them in the process of mastering new material that is important to them.

The content-procedural component of the technique was aimed at gradually mastering by younger schoolchildren the ability to ask questions in increasingly complex cognitive situations. Therefore, according to the design of the experiment, the teacher and pupils went through certain educational stages, where the complexity of the assigned tasks was successively increased.

At the first stage, children were taught the ability to choose questions from a ready-made set of interrogative sentences, which were compiled by the teacher and given to each pupil. The questions mainly required reproductive and reproductive-reconstructive cognitive activity, but already at this stage elements of search-constructive actions were expected.

The second stage provided for the organization of pupils' independent formulation of questions for various types of description, and also required, as in the first stage, activities of a reproductive and reconstructive nature, but preference was given to the ability to ask questions that should reflect the creative vision of the object of description, its new functions in cognitive situations.

The effectiveness of the development of pupils' interest and their concentration on questioning activities during dialogue with "opponents" in the process of intellectual competitions, heuristic games dedicated to the entry of pupils into their future professions: "I am a teacher!", "I am a journalist!", "I am a tour guide!", "I am a nature lover!"

The third stage completed (taking into account the different age and educational readiness of pupils of 2nd, 3rd and 4th forms) the main program of teaching primary school pupils the ability to ask questions and included the creation of business and artistic descriptive texts by pupils with the help of the teacher based on the prepared questions. For example, the descriptions were made by analogy with texts belonging to well-known authors, according to a plan in the form of a question, based on a sentence or a short text read by the teacher, etc.

Thus, teachers constantly included schoolchildren in various forms of dialogic interaction attractive to children. At various stages of educational work, children as subjects of active activity were introduced to various systems of their life creativity – educational communication in a group, interaction with a group of opponents, interaction with the teacher in the role of facilitator or expert with the text of the textbook, the hero of the picture, etc.

Diagnostic and evaluation component. The developed diagnostic support has undergone repeated approval by specialists and long-term (for two academic years) experimental testing. Therefore, the applied diagnostic tool reflects the main indicators of the quality of questions and descriptive texts created with their help that can be measured and evaluated: the correctness of construction, logic, completeness, accessibility for others, the presence of the

necessary visual elements, as well as the ability of the author of the questions to critically evaluate them, promptly, if need to be corrected and corrected.

Pedagogical diagnosis in the experiment was not assigned only to the final stage. It became an organic component of the entire process of formation of questioning skills as an essential motivating and teaching factor, not only a controlling factor. The developed diagnostic complex was constantly used during the performance of a significant number of educational and training and control works of various purposes – current and final.

Children's achievements had several positive consequences. First, the pupils, having mastered the planned skills of inquiry activity, engaged in active cognitive search, showing cognitive interest, interest, and creativity in acquiring new knowledge. Secondly, the organized practice of mastering the ability to constantly ask cognitive questions developed the logical and imaginative thinking of children, which influenced the formation of the culture of speech and the culture of humanistic educational communication in younger schoolchildren. Thirdly, a verbal series of questions allowed schoolchildren to understand the content and direction of descriptive and other texts, to create their own, still unattainable and therefore so significant educational product for them, which contributed to creative development, raising levels with the help of questions educational achievements.

The analysis of the generalized results of the experimental work allows us to conclude that according to all the defined criteria and indicators of the formation of questioning skills and their use in the preparation and analysis of texts, more significant changes occurred in the pupils of the experimental classes compared to the pupils of the control classes. If at the ascertainment stage of the experiment, only 12.5% of children were able to adequately formulate their questions to the proposed descriptive texts, then during the final test, more than 55% of the schoolchildren were able to correctly reflect the main content features of the descriptive texts they independently planned and created in the question constructions.

**Conclusions.** The author's didactic technique for teaching primary school pupils the ability to ask cognitive questions while mastering descriptive knowledge, which includes a complex of interrelated educational components: preparatory-organizational, motivational-targeted, content-procedural, and diagnostic-evaluative, has been scientifically substantiated and experimentally verified.

The study proved that it is expedient to carry out diagnostics not only at the final stage of educational activity, but to consider it as an organic component of the entire process of formation of questioning skills and their application. In the study, it was possible to theoretically substantiate and experimentally verify the criteria and indicators of the formation of the ability to ask cognitive questions in primary school pupils, and as a result – the achieved formation of the leading educational competencies – positive motivation, speech culture and humanistic educational communication.

The experiment confirmed that positive results in the formation of the active position of the pupil and his skills in inquiry activity can be achieved only by observing certain pedagogical conditions, among which we especially highlight: a) the need for a competent psychological and didactic readiness of the modern teacher for perfect dialogic interaction with pupils, for mastering modern innovative ways of teaching pupils inquiry activity; b) the presence of perfect didactic technique, which ensures a holistic restructuring of the education of all younger schoolchildren on a personally oriented heuristic (cognitive-creative) basis; c) teaching schoolchildren how to master inquiry based on the unity of its operational and motivational components, providing pupils with maximum opportunities for independence and initiative in building plans, perspectives, and learning models in this work.

Summarizing the leading characteristics of the applied technique, it can be noted that the didactic system of questioning activity of the teacher and pupils based on parity dialogic interaction was tested for the first time at the experimental level. This joint activity was clearly aimed at constantly increasing the pupils' questioning activity, which was stimulated by various forms and methods of dialogic interaction at the levels: teacher – pupils, pupils – teacher, pupil – teacher, pupil – pupil, pupil – pupils.

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**Лазарева К. С., Нефедченко О. І. Евристична діалогова технологія у формуванні умінь запитальної діяльності молодшого школяря**

Навчити молодшого школяря запитальної діяльності, тобто вмінь правильно ставити запитання, означає допомогти йому прискорено розвиватися психічно, вдосконалювати мислення, мовлення, спілкування. Тому й застосовано оригінальну евристичну діалогову технологію навчання дітей ставити пзнавальні запитання собі, вчителю, товаришам. У здійсненому дослідженні на основі аналізу психологічних і педагогічних праць навчальний діалог розглядається як невід'ємний складник особистісно зорієнтованого евристичного навчання, як діалогічна співтворчість, педагогічна взаємодія вчителя – учня, учня – вчителя, учня – учня, у процесі якої відбувається інформаційний обмін смисловими позиціями суб'єктів, ініціюється запитальна діяльність учнів. Важливою характеристикою технології навчального діалогу став педагогічний гуманізм, толерантність, відкритість учителя, опора на позитивні якості учня, підкреслення його успіхів і досягнень, а не помилок і недоліків. намагання уточнити висловлену позицію за допомогою серії запитань, міркувань інших учнів. Навчальна технологія створювалась на базі теоретичних концепцій особистісно зорієнтованого евристичного навчання як системи, насамперед спрямованої на розвиток пзнавально-творчих умінь учнів, на самореалізацію їхнього творчого потенціалу. Насамперед, вона відображає сутнісні параметри евристичних ідей і процесуальних характеристик. Разом з тим, запропонована технологія діалогової взаємодії у навчанні школярів продукувати власні пзнавальні запитання вносить суттєві доповнення й корективи в систему евристичного навчання. На першій стадії здійснювалось навчання дітей умінням вибирати запитання з готового набору запитальних речень, що були складені вчителем і надані кожному учню. Запитання в основному вимагали репродуктивної і репродуктивно-реконструктивної пзнавальної діяльності, проте вже на цій стадії передбачались елементи дії пошуково-конструктивного характеру. Друга стадія передбачала організацію самостійного складання школярами запитань до різних видів текстів, а також вимагала формування ставити запитання, які мають відбивати творче бачення об'єкту. Третя стадія завершувала основну програму навчання молодших школярів умінням ставити запитання й включала створення учнями за допомогою вчителя (а потім і без неї) ділових і художніх текстів за підготовленими запитаннями. Застосований діагностичний інструментарій відображає основні доступні для вимірювання й оцінки індикатори якості запитань і створених за їх допомогою описових і пояснювальних текстів.

**Ключові слова:** навчальний діалог, діалогічна взаємодія, пзнавальні запитання, евристична технологія, запитальна діяльність, учень початкової школи, вміння, описові і пояснювальні тексти.