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Teachers' readiness to organize primary school age children research activities

The article highlights aspects of the teachers' readiness to organize research activities such as the theoretical aspect, including the methods and forms of research activity, the practical aspect, involving the use of diagnostic materials and the motivational aspect, which implies readiness for further training in this direction, self-development and cooperation. In the article the levels of theoretical, practical and motivational teacher's readiness for the organization research activity of primary schoolchildren are investigated. The systematic application effectiveness of a certain training model of primary school teachers to this activity is stressed. On the basis of the conducted research conclusions are formulated, the readiness of teachers for the organization of primary schoolchildren research activity, its levels is analyzed, the basic indicators of these levels are described. The terms «research activity» and «research skills», «readiness» are specified. The results of the questionnaire survey of primary school teachers on the readiness to organize research activities are analyzed and compared. The authors give a comparative analysis of the readiness levels, draws conclusions.

Keywords: research, intellectual need, research skills, research activity, primary school, research work, research training, professional competence, preparation, qualification, preparation for research.

Kazakhstan Republic State Education Development Program for 2011-2020 identified negative factors of secondary education. First of all, the outdated selection methodology and principles of the educational content, information overload, the orientation of learning to obtain formal results, and not the development of the individual. Proceeding from this, the existing problems make it necessary to modernize the secondary education system in accordance with the modern requirements of the development of Kazakhstan society and the conditions for integration into the world educational space [1].

N. Nazarbayev in the last message to the people of Kazakhstan also emphasizes the importance of educational system changing the role. The main goal is to make education the central link of a new model in the economical growth. Curriculum should be aimed at developing the abilities of critical thinking and the skills of self-searching information [2].

According to the studies of many educators and psychologists, it is emphasized that the originality of thinking, the creativity of schoolchildren are most fully manifested and successfully develop in a variety of educational activities that have a research orientation. This is especially true for elementary school students, since it is at this time that learning activity becomes the leading and determines the development of the basic cognitive features of the child. During this period, forms of thinking develop, ensuring the further mastery of the system of scientific knowledge and the development of scientific, theoretical thinking. Here the prerequisites for independent orientation in the teaching, everyday life are laid.

Changing the priorities and objectives of modern education is the main direction of today's reforms. Assimilation of the learning subject material from the goal becomes a means of such emotional, social and i tellectual development of the child, which ensures the transition from learning to self-education, and, consequently, the successful socialization of the younger schoolchildren. One of the tasks facing the teacher is organizing the search for new ways of working and ensuring a balance between the search and performance part of the school work of schoolchildren. Where there is an independent search for the solution of problems, a search for new, original ways of solving them is carried out, the truly creative activity of the schoolchildren begins. The teacher in this case not only transmits ready-made knowledge, does not teach, but helps to learn and develop, creates situations in which the child himself forms the concept of the studied subject, seizes the ways of search creative activity. Research interest — the quality of personality, peculiar to the child in a particularly strong degree. And the teacher needs not to extinguish this interest, but to support and develop it.

Thus, the students' cognitive skills development, the ability to independently search for information, see, formulate and solve the problem, make a decision is a central issue in the modern educational system. The above research skills of junior schoolchildren are formed during research and project activities.

Studying the research activity of schoolchildren is devoted to the works of the Kazakh (E.L. Erokhina, A.K. Mynbayeva, Y.N. Kashitsyna, Z.Z. Shakurov), Russian (I.I. Boytsov, A.K. Brudnov, V.V. Guzeev, T. Ivonchik, E.I. Kassir, A. Leontovich, D. Monakhov, A.I. Savenkov) and foreign (E.A. Nienburg, I.D. Chechel, E.I. Regirer), scientists, teachers.

As for the definition of research activity, various authors define it as «scientific», «research», «research» and «creative». Research, as is known, is a natural need of children. The task of adults is not to suppress, but to develop this need. In this important role is played by the environment, parents and educational institutions. Internal striving for cognition through research generates research activity.

In the opinion of I.A. Zimnyaya, research activity is a specific human activity, which is regulated by the individual consciousness and activity. It is aimed at satisfying cognitive, intellectual needs as a product of new knowledge, obtained in accordance with the goal, laws and circumstances [3].

The formulation of the problem, the isolation of the research object, the conduct of the experiment, the description and explanation of the facts, the creation of a hypothesis, and the verification of the knowledge obtained determine the specificity and essence of the research activity [4].

Specificity of research work in the primary school is a systematic guide, stimulating and corrective role of the teacher. The main thing for the teacher is to attract and «infect» children, show them the importance of their activities and instill confidence in their abilities, as well as to involve parents in participating in the school affairs of their child. Participating together with children in research activities, parents have the opportunity to approach children, to make discoveries for themselves in various fields of knowledge. This work has become for many parents an interesting and exciting activity. Parents with children, together take photographs, perform simple research on observations, help to select information for theoretical substantiation of projects and prepare protection of children's work.

When forming the research skills of younger schoolchildren, special attention should be considered to the following conditions:

1. Motivation.

It is necessary to help pupils to see the meaning of their creative research activities.

2. Purposeful and systematic.

Work on the development of research skills should take place in the classroom and after-hour activities. The teacher should use the material of reading lessons, the Russian language, mathematics, the world around with the goal of developing research skills.

3. Creative environment.

The teacher should help establish a creative atmosphere, support interest in research.

4. Psychological comfort. One of the tasks of the teacher is to encourage the creative manifestations of pupils, the desire for creative search. Each student must be given the opportunity to feel their strength, to believe in themselves.

5. Accounting for age characteristics.

Training in research skills should be carried out at a level accessible to the child's perception, the study itself be feasible, interesting and useful.

The main characteristic of the teacher's professional thinking is his creative character. For a long time scientists have been trying to solve the mystery of creative thinking. Analysis of philosophical, psychological and pedagogical literature allows us to build a system of structural components of creative thinking. It is the ability to «see the problem», the originality and flexibility of thinking, its dialectic and criticality, creative imagination.

A number of scientists consider the ability to «see the problem» as an important component of the teacher's creative thinking of - the researcher. In this connection, other terms that have the same meaning are used: «problem vision», «feeling of the problem», «sensitivity to the problem», i.e. in essence, this refers to the ability of the teacher to detect and establish a professional problem, the ability to correlate the social tasks facing the school, the education system as a whole, and the content of specific professional activities.

An important component of creative thinking is thinking flexibility, its independence and originality, i.e. the ability to see a pedagogical phenomenon or process is unusual, non-figuratively, in a new light, the ability to quickly rebuild, offer several solutions to the problem, combining and varying the individual situation elements of the. In addition, the intellect flexibility - this is the teacher's-researcher professional quality, which shows his ability to overcome thinking stereotypes.

One of the creative teacher-researcher thinking components is its criticality as a strictly controlled attitude to reality; uncritical acceptance of traditional ideas about the research object leads researcher to imitation, looking back at someone else's opinion, losing his own identity. The teacher, devoid of criticality, is not able to choose from a variety of ideas the most fruitful.

One of the important creative thinking qualities is creative imagination, which is the ability to cause certain constituent parts from the richness of memories and create new psychological characters.

The establishment of appropriate creative thinking, the necessary knowledge about pedagogical studies, also the formation of the teacher's-researcher personality character within the educational process and the higher educational process in accordance with the psychological-pedagogical theory of personality development.

Psychologists consider the creative personality development from the positions of activity and communication, the dominant motives, the consciousness presence, the ability to control one's own behavior and from the activity position mediated by interpersonal relationships. The leading motive in the activity of the teacher is professional self-improvement, stimulated by both external (work colleagues, control and criticism from the leadership, etc.), and internal drivers (self-knowledge, self-observation, self-esteem).

The intellectual teacher-researcher potential has a great importance. An important component of creative thinking is its independence, flexibility, originality, i.e. the ability to see a pedagogical phenomenon or process is unusual, unreflected, the ability to quickly rebuild, offer several solutions to the problem, combining and varying the individual elements of the situation. This quality of thinking as criticality, controlled attitude to incoming information, allows the teacher to analyze the surrounding reality, focusing on their beliefs.

Successful implementation of scientific search requires from the teacher not only special knowledge, but also certain personal qualities. Moreover, pedagogical research will only be successfully completed if all aspects of the researcher's personality are harmoniously included in scientific research, since it is the integrity of the individual, his rich inner world that is the main prerequisite for successful scientific search. The requirements for the personal qualities of the researcher are determined by the specific nature of the scientific search, within which he transforms the surrounding pedagogical reality and himself.

The teacher-researcher personality is an integral developing system, the components of which are motivational, intellectual and emotional-volitional components.

In the process using research activity, teachers solve several tasks: increasing interest in the subject, developing motivation for learning, and deepening knowledge of the topic.

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Scientists distinguish pedagogical conditions for elementary school children research skills development:

1. Logical teaching methods usage, adaptation to concepts related to research activities by age, understanding the research forms and methods, correspondence of the research theme to age, students characteristics and interests;

2. Creating practical and intellectual difficulties in the classroom and extra-curricular activities, increasing the need for new knowledge, expanding interests. Students will be able to understand the essence of their research activities, in the realization of their abilities, to see opportunities in self-development, self-improvement.

3. Training and research activities providers in the role of the teacher. The teacher must have knowledge about research activities; he must cooperate with the students. The student should actively participate in joint work, have creative potential. It is necessary to create a creative learning environment using creative research assignments, effective teaching methods and encouraging students to self-realization of their autonomy and initiative by promoting creative initiatives [5].

The teacher should be a facilitator of the teaching, and not just a translator of information. The main factor in the development of the child's creativity, as many studies indicate, is not so much his inclusion in creative activity as the presence in his environment of «a model of creative activity». In any work, and educational and research activity is not an exception, non-formalizable elements predominate, which can only be broadcast and assimilated in direct contact with those who are able to create themselves. Most of these informal, intuitive elements can not be isolated and verbalized, as they are often not realized by the creators themselves or by those who observe their creativity.

A teacher who is prepared to solve the problems of research training should have a number of characteristics. Its also need to master a set of specific skills. The main ones are those that are characteristic of a successful researcher. In addition, special abilities and abilities specifically pedagogical, such as:

• have a hypersensitivity to problems, be able to see «amazing in the ordinary»; to be able to find and put before the students of real educational and research tasks in an understandable for children;

• to be able to attract students a didactic value problem, making it a problem for the children themselves;

• be able to perform the functions of coordinator and partner in the research search. Helping children, be able to avoid directives and administrative pressure;

• be able to be tolerant of the mistakes of students, allowed by them in their attempts to find their own solution. Offer your help or address to the right sources of information only in cases when you are learning to feel the hopelessness of your search;

• organize events for observations, experiments and various «field» studies;

• Providing an opportunity for regular reports of working groups and exchange of views during open general discussions;

• Encourage and strongly develop a critical attitude towards research procedures;

• be able to stimulate proposals for improving work and promoting new, original areas of research;

• closely monitor the dynamics of children's interests in the problem under study. Be able to complete research and work on discussing and implementing solutions in practice we can find a suitable option for participating in the project [6].

By organizing classroom activities, the teacher seeks to direct the search for the discovery of the most common solutions, involve more students in the search, and achieve their activity. In the process of properly organized research activity, the child goes beyond his actual experience and knowledge, achieves new own peaks, begins to use his potential capabilities. In this case, the role of the teacher is high, his willingness to organize this activity.

In our opinion, the teacher’s readiness formation for the primary schoolchildren research activities organization should become one of the teacher’s training areas for professional work, as it is an important component of the modern teacher professional competence.

In the psychological and pedagogical literature, the concept «readiness» is viewed as a state of the individual and a complex dynamic formation. Most authors consider «readiness» as a concept that includes several components: personality characteristics, attitudes toward the profession, professional competence, ability to self-esteem, the need for professional self-development, etc. [7].

The concept «readiness to organize research activities» has no specific definition, despite the fact that the problem of organizing research activities is not new. At present, there are no purposeful scientific studies on the process of forming a teacher's readiness for organizing the schoolchildren research activity. There are no capable provisions ensuring the teacher’s readiness of a general educational institution to organize this type of activity.

On the basis of the study scientific literature, we identified the aspects of teachers' readiness to organize research activities, including certain indicators:

The theoretical aspect of readiness includes the following indicators: knowledge about the concepts «research skill», «research activity», research activity methods and forms, understanding the skills content is necessary for the primary schoolchildren research activity.

The readiness practical aspect presupposes the mastering methods and research activities organizing methods, the diagnostic materials use.

The motivational aspect of readiness implies readiness for further training in this area, self-development and cooperation.

Based on the abovementioned aspects, we formulated the levels of teachers' readiness to organize the research activity of primary schoolchildren (Table).

T a b l e

Teachers' readiness levels and indicators to organize primary schoolchildren research activity

Levels	Performance
High	- theory mastering of research activity; - mastering techniques of research activities; - systematic involving schoolchildren in research activities at lessons and after-hours; - success in work; - awareness the need for research activities in the learning process.
Middle	- poor knowledge research activity theory; - poor knowledge of techniques; - aspiration to organize research activity of primary schoolchildren; - lack of clear successes in this direction; - understanding the importance of research activity in the primary school; - insufficient level of self-research skills.
Low	- lack of knowledge research activity theory; - lack of techniques knowledge; - lack of organization of research activities of junior schoolchildren. - lack of success in this direction; - lack of understanding the research importance in the educational process; - low level of self-research skills.

In order to determine the level of teachers' readiness to organize research activities of primary schoolchildren, we conducted a survey, in which 28 primary school teachers took part from Karaganda. [2]

The questionnaire included questions affecting the indicators of the three levels and aspects of teachers' readiness to organize the primary schoolchildren research activity: knowledge, application, personal motivation. The results of the survey are shown in Figure.

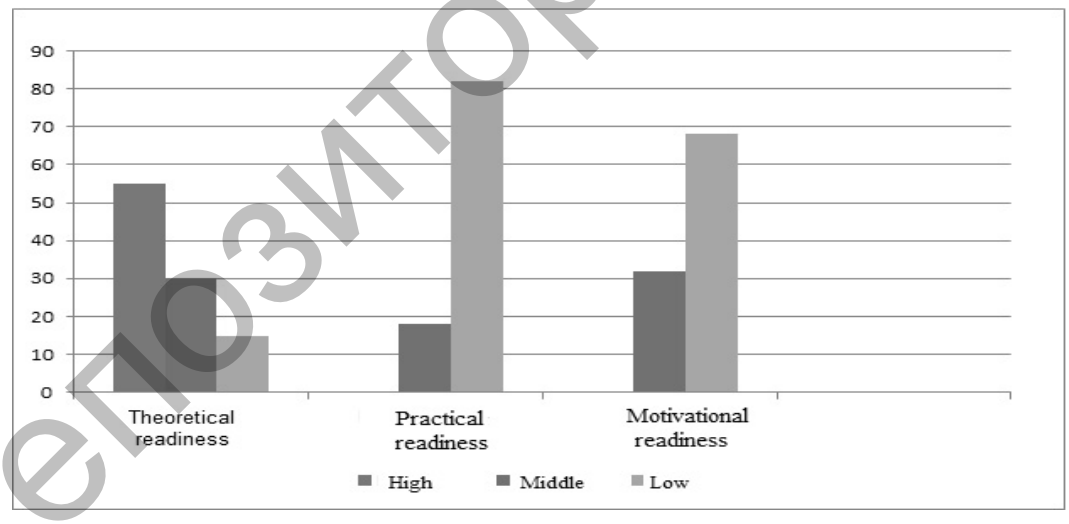

Figure. Results of the questionnaire on revealing the level of readiness of teachers to organize research activities of junior schoolchildren (%)

Analysis of theoretical readiness aspect has shown that most educators can disclose the concepts of «research activity», «research skills», and offer a classification of research skills. But, a small number of teachers clearly share and single out specific skills, partly understand the difference between them less than 20 %.

Thus, theoretical readiness corresponds to a high level in 55 % of teachers, an average level of 30 % of respondents, a low level of 15 %.

The teachers' practical readiness was analyzed by answering questions about types of methods and techniques that teachers use to form the primary schoolchildren research skills, how the work is organized, types of diagnostic materials are used.

The majority of teachers were able to answer the question about organizing the work on developing research skills. They called separate methods, forms of organization the research activities. A small number of respondents presented a system of work on the formation children's research skills, which indicates a conscious approach to the organization of research activities.

Thus, practical readiness corresponds to the average level of 18 % teachers, in 82 % — to low.

Most of the interviewed teachers are aware of the need to develop research skills, as well as their lack of willingness comply with this. In addition, teachers are ready for cooperation. However, a small number of surveyed teachers believe that they can cope with difficulties on their own. The motivational aspect of readiness corresponds to the average level of 32 % teachers, the low — 68 %.

The results of the questionnaire on the level of primary school teachers readiness for the organization of primary schoolchildren research activities require the development of a specific model for the primary school teachers training for this activity in the form of improving pedagogical qualifications, passing special courses, etc.

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Мұғалімнің төменгі сынып оқушыларының ғылыми-зерттеу қызметін ұйымдастыруға дайындығы

Мақалада бастауыш сынып оқушыларының ғылыми-зерттеу қызметін ұйымдастыру үшін мұғалімдердің теориялық, практикалық және мотивациялық дайындық деңгейлері зерттелді. Авторлар мұғалімдердің зерттеу жұмысын ұйымдастыруға, оның ішінде зерттеу жұмысының әдістері мен нысандарын, практикалық аспектілерін, диагностикалық материалдарды және мотивациялық аспектіні қолдануды қоса алғанда, осы саладағы әрі қарай оқытуға дайындықты, өзін-өзі дамыту мен ынтымақтастықты көздейтін дайындық аспектілерін жан-жақты қарастырды. Бастауыш сынып мұғалімдерін осы қызметке үйретудің белгілі бір үлгісін жүйелі қолданудың тиімділігі атап өтілді. Зерттеу бойынша қорытынды жасалды, мұғалімдердің бастауыш сынып оқушыларының ғылыми-зерттеу қызметін ұйымдастыру деңгейіне талдау жасалып, осы деңгейлердің негізгі көрсеткіштері сипатталды. «Зерттеу қызметі», «зерттеу дағдылары» және «зерттеушілік дайындығы» терминдеріне анықтама берілді. Бастауыш сынып мұғалімдерінің зерттеу жұмыстарын ұйымдастыруға дайындығы туралы сауалнама нәтижелері талданып, салыстырылды.

Кілт сөздер: зерттеу, интеллектуалды қажеттілік, зерттеу дағдылары, ғылыми-зерттеу қызметі, бастауыш мектеп, зерттеу жұмысы, зерттеушілік дайындығы, кәсіби біліктілік, зерттеушілік қызметті ұйымдастыру дайындығы.

С. Абильдина, Р. Айтжанова, К. Копбалина

Готовность учителей к организации исследовательской деятельности младших школьников

В статье исследованы уровни теоретической, практической и мотивационной готовности учителей к организации исследовательской деятельности младших школьников — одному из важных направлений подготовки педагогов к профессиональной деятельности. Авторами выделены аспекты готовности учителей к организации исследовательской деятельности, такие как теоретический аспект, включающий методы и формы исследовательской деятельности, практический аспект, предполагающий использование диагностических материалов, и мотивационный аспект, подразумевающий готовность к повышению квалификации в данном направлении, саморазвитию и сотрудничеству. Показана эффективность систематического применения определенной модели подготовки учителей начальных классов к данной деятельности. На основе проведенного исследования сформулированы выводы, проанализирована готовность учителей к организации исследовательской деятельности младших школьников, описаны уровни и основные показатели данных уровней. Уточняются термины «исследовательская деятельность» и «исследовательские навыки», «готовность». Анализируются и сопоставляются результаты анкетирования учителей начальных классов по вопросу готовности к организации исследовательской деятельности.

Ключевые слова: исследование, интеллектуальная потребность, исследовательские умения и навыки, исследовательская деятельность, начальная школа, исследовательская работа, исследовательская подготовка, профессиональная компетенция, готовность, квалификация, подготовка к исследованию.

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