FORMATION OF STUDENTS’ RESEARCH SKILLS THROUGH TUTOR SUPPORT

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Abstract
Introduction. The organization of research activities of schoolchildren plays a key role in the process of their socialization and preparation for the choice of profession, and the development of research skills and abilities is a prerequisite for high learning achievement in various disciplines provided by the basic educational program. Research methodology. The authors note that the tutor is able to influence the disclosure of the research potential of adolescents, taking into account their specificity due to age, psychotype, character and other factors. It is emphasized that the development of appropriate skills and abilities involves the interest of all participants in the educational process (both teachers and their wards), and to build tutor support for this process, this problem should be studied both in theory and in practice. Research results. The list of predicted results given in the paper allows us to conclude that at this stage the research activity of students in 5-9 grades is one of the main vectors of their preparation for training in high school and University and for the conscious choice of profession, and the skills and abilities of a research nature are consistent with the level of learning achievement in all subjects of the school program. Discussion. In accordance with the data of developmental psychology, in adolescents complexity and depth of theoretical thinking continues to increase. It is considered as a kind of thinking aimed at detecting the properties of objects and patterns typical for phenomena of different order. Conclusion. Cognitive need is a catalyst for cognitive activity, the most important means of improving the efficiency of the educational process. At the same time, the process of assimilation of new information is positioned as a significant factor contributing to: 1) satisfaction of actual cognitive needs; 2) development of these needs.

Keywords: Research activities, tutor support, individual educational trajectory, cognitive need.

Introduction
“What characteristics should a school have in the 21st century?” This is the question given in the target program “National educational initiative “Our new school”. The answer is: “New school is an institution that meets the goals of advanced development. The school will provide the study of not only the achievements of the past, but also technologies that will be useful in the future”. Almost all laws and regulations governing the educational process in modern schools pay special attention to the development of students’ ability to knowing themselves, self-improvement and self-determination. The issues related to the maintenance and strengthening of cognitive motivation and achievement of higher results are also considered [1-6].
The essence of reforms in the field of education reflects the content of the processes taking place in modern society, including increasing the role of the intellectual factor in most professions, rapid deactuarization of theoretical and empirical data and technologies, the need to adapt to the dynamically transforming needs of the labor market and the continuous acquisition of new knowledge in non-working and extracurricular time (self-education). Thus, the society needs more specialists-universals, able to express themselves as researchers not only in the field of science, but also in almost any human activity [7-14].

This determines the importance of the organization of research activities of schoolchildren, which plays a key role in the process of their socialization and preparation for the choice of profession, and the development of research skills is a prerequisite for high learning achievement in various disciplines provided by the basic educational program [15-20].

Research methodology

Aspects of formation of skills and abilities of research character at schoolchildren and students are considered in a large number of works [2, 3, 7, 9]. Thus, attention is paid to the specifics of this process in the physics, chemistry, mathematics classes, as well as in the context of humanities: history, social studies, etc. [5, 8]. Based on the theoretical work and the results of empirical research, we came to the conclusion that currently tutor support (hereinafter – TS) is very promising both in terms of providing individual support to the student, and from the perspective of development of research skills and abilities.

In accordance with the results of a survey conducted among teachers and students of the 5th-9th grades, the tutor is able to influence the disclosure of the research potential of adolescents, taking into account their specificity, determined by age, psychotype, nature and other factors. It is emphasized that the development of appropriate skills and abilities involves the interest of all participants in the educational process (both teachers and their wards), and to build the TS of this process, this problem should be studied both in theory and in practice.

The study of the TS issues of the development of research skills of Russian schoolchildren is connected with the fact that the years of educational reforms have led to significant changes – in particular, to a fundamentally different perception of the essence of pedagogical work, the role of teachers in modern society. Along with subject teachers, many modern schools employ social pedagogues, educators, psychologists, tutors... The last position is the subject of active discussions. It is noted that a professional tutor should find an individual approach to the student, form a meaningful attitude to his fate, needs, opportunities, ideals, as well as to their transformation in connection with various objective and subjective circumstances.

Research results

In modern Russia, the TS has long been used in such educational institutions as School № 147 (Moscow), School № 34 (Bryansk), School “Eureka – development” (Tomsk) and a number of others. Based on the study of the TS experience in the context of secondary education, we perceive tutoring as a type of pedagogical activity with significant potential in influencing different components of cognitive activity of schoolchildren, including the development of their research competencies. The main goal of the modern Russian school is not only to provide students with the necessary information, but also to enable them to receive this information without assistance in a dynamically developing world. Based on the analysis of FSES BGE, we came to the conclusion that “personal results of the development of the basic educational program of basic general education” should reflect:

- formation of a responsible approach to the educational process, the ability and desire of adolescents to self-improvement and self-education on the basis of motivation to acquire new knowledge, meaningful choice and creation of individual educational trajectory on the basis of a clear understanding of existing professions and subject areas, stable cognitive needs, as well as taking into account the need for an adequate attitude to work and involvement of students in socially useful activities;
- development of a unified worldview that meets the current state of national and world science and social practice, taking into account cultural, ethnic, social, linguistic and other differences. In their turn, the interdisciplinary results of the development of this program should reflect:
- the ability of independent formulation of the primary purpose of their learning, setting new smart objectives, and constant improvement of internal motivational base;
- the ability to build scenarios that contribute to the achievement of the goal with the most effective way (traditional or alternative);
- the ability to correlate their behavior with the predicted results, to control their activities, to choose the progressive ways to the goal in accordance with the existing requirements, as well as to move away from the chosen scheme under the pressure of adverse external conditions;
- the ability to make an adequate assessment of the educational task and the prospects of its solution;
- the ability to basic self-control, a sober understanding of their capabilities at this stage, making the right decisions and their meaningful implementation in the educational process and cognitive activity in general;
- the ability to define concepts, to summarize available information, to draw analogies, to develop a classification on the basis of self selected criteria, to identify cause and effect, to make logical thinking with the resultant insights;
- the ability to create, use and modify various signs, models and graphs for the implementation of educational and cognitive tasks;
- analytical and interpretive reading;
- the ability to interact productively with the teacher and classmates in the framework of individual and group work; to find a compromise and resolve conflict situations through impartial consideration of the positions and interests of all participants; to express their point of view and justify it in the presence of the public;
- the ability to make a meaningful choice of speech tools that meet the communicative task, to represent their own thoughts, emotions and desires; to think and adjust their activities; to own all the main types of speech activities (speaking, listening, reading, writing) in both dialogical and monological format.

The given list of predicted results allows us to conclude that at this stage the research activity of students of the 5th-9th grades is one of the main vectors of their preparation for training in high school and University and for the conscious choice of profession, and the skills and abilities of a research nature are consistent with the level of performance in all subjects of the school program. The integration of adolescents into research activities creates favorable conditions for the creative perception of information acquired independently or with outside help, develops scientific thinking, forms and improves personal characteristics such as independence, responsibility, etc.

Discussion
In accordance with the data of developmental psychology, adolescents continue to complicate and deepen theoretical thinking. It is regarded as a kind of thinking aimed at detecting the properties of objects and patterns characteristic of phenomena of different orders. Representatives of this age group can easily abstract from specific data and present their position in a generalized form with the help of words. Applied mental actions have a formal logical orientation.

On the basis of the formulated assumptions, a teenager can build hypotheses, confirm or refute them, which indicate the evolution of logical thinking, using ready-made concepts and logical constructions. Now the brain of a student can perform intellectual tasks, operating not only with specific empirical or theoretical data, but also with hypotheses built on their basis. If a teenager has not faced such problems, he usually tries to approach them from different sides in search of the best way.

These mental abilities are formed and improved within the framework of school education. From the point of view of authoritative Soviet psychologists P.Ya. Galperin, V.V. Davydov and others after some training abstract problem can be solved even by the students in primary school. In the 5th-9th grades, the level of intelligence continues to increase, but it is necessary to take into account the specifics of the educational process and the overall emotional and mental development of adolescents – factors that greatly affect the interest in learning as a whole. Features associated with the personality of the
student can be identified by describing its integral components: intellectual, active, emotional, need and willfull. Their functions and performance indicators are shown in table 1.

Table 1. Characteristics of personality components taking into account their functions and indicators of realization

<table>
<thead>
<tr>
<th>Personality component</th>
<th>Functions</th>
<th>Indicator of realization</th>
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<tr>
<td>Intellectual</td>
<td>Disclosure of opportunities for individual and personal development in the context of educational activities through the integrated assimilation of the basic principles of science and empirical data.</td>
<td>Improvement of cognitive abilities and development of independence, as well as logical thinking techniques.</td>
</tr>
<tr>
<td>Active</td>
<td>Forecasting (including in relation to future professional activity).</td>
<td>Gaining experience in the use of theoretical information to perform applied tasks (in particular, experimental)</td>
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<tr>
<td>Emotional</td>
<td>Formation and improvement of competencies related to self-control, correction of their work and mutual evaluation of the achieved results. Awareness of their own individual and personal resources, professional potential.</td>
<td>Formation of scientific worldview</td>
</tr>
<tr>
<td>Need</td>
<td>Creating a comfortable atmosphere conducive to personal growth of students. Explanation of the place of scientific knowledge in the history of mankind and the fate of the individual.</td>
<td>Development of cognitive needs taking into account individual demands and opportunities</td>
</tr>
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A characteristic of the individual components, their functions and performance of the implementation illustrates the close connection between the *cognitive motive* and *cognitive needs*. This conclusion seems to be very important for our study.

**Conclusion**
Cognitive need is a catalyst for cognitive activity, the most important means of improving the efficiency of the educational process. At the same time, the process of assimilation of new information is positioned as a significant factor contributing to: 1) the satisfaction of actual cognitive needs; 2) the development of these needs. Performing the first task, the school teacher tries to provide students with an environment that awakens in them the desire for new knowledge. At implementing the second task, the teacher’s actions are aimed at creating a set of didactic resources, the essence and logic of which will contribute to the assimilation and consolidation of knowledge required to meet the already formed needs. Consequently, educational activities contribute to the disclosure of the research potential of students.

Analysis of this process from the standpoint of the TS allows us to conclude that one of the key functions of the tutor is the development of cognitive needs of students in the context of educational activities. The study also established its strong link with research activities of adolescents.

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