

## EDUCATIONAL TASKS AS A MEANS OF DEVELOPING COGNITIVE INDEPENDENCE OF PRIMARY SCHOOL STUDENTS

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**Abstract.** The article examines the development of cognitive independence in primary school students as a key objective of contemporary education. It highlights the role of educational tasks in fostering learners' ability to acquire, process, and apply knowledge independently. The study provides a theoretical and practical analysis of educational tasks as an effective didactic tool for developing planning, critical thinking, self-control, and self-assessment skills. It also presents approaches to designing tasks that consider pupils' age characteristics and individual abilities, along with methodological recommendations for classroom practice. The findings emphasize the importance of well-designed educational tasks in promoting cognitive independence and enhancing the methodological competence of primary school teachers.

**Keywords:** cognitive independence, primary schoolchildren, educational tasks, development of cognitive activity, primary school, didactic means, educational process.

## SARCINI EDUCAȚIONALE CA MIJLOC DE DEZVOLTARE A INDEPENDENȚEI COGNITIVE LA ELEVII DIN ȘCOALĂ PRIMARĂ

**Rezumat.** Articolul examinează dezvoltarea independenței cognitive la elevii din învățământul primar ca un obiectiv esențial al educației contemporane. Studiul evidențiază rolul sarcinilor didactice în formarea capacității elevilor de a dobândi, prelucra și aplica în mod independent cunoștințele. Sunt analizate, din perspectivă teoretică și practică, sarcinile didactice ca instrument eficient pentru dezvoltarea abilităților de planificare, gândire critică, autocontrol și autoevaluare. Totodată, sunt prezentate modalități de proiectare a sarcinilor adaptate particularităților de vârstă și individuale ale elevilor, precum și recomandări metodologice pentru activitatea didactică. Rezultatele subliniază importanța proiectării riguroase a sarcinilor didactice în dezvoltarea independenței cognitive și în perfecționarea competențelor profesionale ale cadrelor didactice din învățământul primar.

**Cuvinte cheie:** independență cognitivă, elevi de școală primară, sarcini educaționale, dezvoltarea activității cognitive, școală primară, mijloace didactice, proces educațional.

### Introduction

Modern society is increasingly paying attention to the internal potential of the individual, emphasizing the uniqueness of each person. In this regard, the education system, in particular the primary school, is designed to ensure the comprehensive development of the child, focusing on the formation of his creative abilities, cognitive interests, educational motivation and self-education skills. The school becomes not just a source of knowledge, but a space where the student's personality is revealed, his abilities for self-expression and independent decisions develop.

The leading task of primary general education at the present stage is the development of cognitive independence of younger schoolchildren. This area covers all aspects of a child's personal growth, developing his initiative, self-confidence, ability to learn and apply knowledge in new situations. In conditions of constant changes and updating of information, it is important not only to transfer ready-made knowledge to students, but also to teach them the process of independent knowledge, analysis and critical reflection.

Educational tasks play an important role in this process, since it is through them that the active learning activities of schoolchildren are organized. A variety of task types promotes interest in learning, encourages reflection, stimulates creative thinking and promotes an independent approach to completing learning tasks.

The topic under study acquires particular significance in the context of implementing the requirements of the state educational standard for primary general education. According to the standard, the main attention should be paid to the formation of universal educational activities and the development of cognitive activity of students. This requires teachers to thoughtfully select and design educational tasks that not only develop intellectual abilities, but also form a stable motivation for learning in children.

Since the key elements of this study are the cognitive independence of students and educational tasks as a means of its formation, it seems appropriate to dwell on the content and specifics of these concepts, relying on modern scientific approaches.

L.S. Vygotsky considers cognitive independence as the student's ability to act in the zone of proximal development, moving from external assistance to independently solving educational problems [1].

A. K. Markova understands cognitive independence as an integrative quality of a student, including motivation to learn, the ability to set learning goals, plan, control and evaluate one's own actions [2].

According to N.A. Polovnikova the student's readiness to advance in mastering knowledge on their own is cognitive independence, in addition, this personality trait is manifested in the desire to master knowledge and methods of activity on their own. The desire for cognitive activity is determined by the presence of internal drives - the corresponding motives that constitute the incentive side of cognitive independence. The ability is based on existing knowledge and mastery of the methods of the activities carried out. Supporting knowledge constitutes the content side of cognitive independence, and methods of cognitive activity constitute its technical or procedural side.

Having analyzed the scientific literature, we came across various definitions of cognitive independence:

- the readiness and desire to advance in the acquisition of knowledge on their own;

- the ability of an individual to master knowledge and methods of obtaining this knowledge on their own;
- the ability of an individual to independently transfer already known knowledge and skills to a new situation;
- the individual's need to think independently and the ability to navigate a new cognitive situation;
- a characteristic of a student's cognitive activity, combining the totality of means - knowledge, abilities, skills possessed by the subject, and the individual's attitude to the learning process activities.

In all these definitions, one can identify a commonality: cognitive independence is defined as a characteristic of activity based on the student's process of cognition without the direct participation of the teacher. Cognitive independence acts as a personality trait, characterized by two components - motivational (that is desire, need for knowledge) and procedural (readiness - the presence of basic knowledge and mastery of methods of cognitive activity).

The main signs of cognitive independence are the student's ability to navigate in a new learning situation, independence of will, initiative, creative approach to solving problems, as well as minimal teacher assistance or its absence in the process of cognition.

The concept of «learning task» is interpreted as a didactic tool aimed at realizing learning goals through the active participation of students in the cognitive process. Educational tasks are classified according to the degree of complexity, the nature of cognitive activity and the form of presentation (written, oral, game, project, and so on). Modern researchers emphasize the importance of contextual and student-oriented approaches when developing tasks that can develop thinking, reflection and motivation of students.

V.A. Onischuk defines educational tasks as a form of organizing educational activities that ensures the assimilation of content and the formation of methods of activity.

A.I. Uman, who made a significant contribution to the development of the theory of educational tasks, considered the educational task through the prism of the content of education. The researcher calls an educational task a special means by which the teacher and student, who in the real educational process do not directly interact with the content of education, can use it (the teacher for transmission, the student for reception and assimilation). In addition, it reveals another characteristic of the educational task - as the form in which the content of education is embodied. The scientist argues for this position by the fact that the teacher conveys the content of education not in its pure form, but in the form of an educational task. The student, having assigned one or another component of the content, performs the received task in his own activities, as a result of which «the

content of education, as it were, sheds its shell - the task and is assigned to the students» [3].

In the context of the modernization of education and the orientation of primary schools towards the development of the student's personality, the issues of developing in children the ability to think independently, search for and use information, and make decisions in educational activities are of particular importance. A clear understanding of the essence of «cognitive independence» and the didactic features of «learning tasks» will allow us to develop a systematic approach to organizing the learning process and ensure the validity of the choice of methodological techniques and diagnostic tools.

### **Materials and research methods**

To analyze the effectiveness of educational tasks as a means of developing the cognitive independence of junior schoolchildren, the following methods were used:

- theoretical analysis of psychological and pedagogical literature on the topic of research;
- pedagogical observation of the educational activities of junior schoolchildren;
- questioning of primary school teachers and students;
- conducting a pedagogical experiment, including the introduction of various types of educational tasks aimed at developing the cognitive independence of junior schoolchildren;
- comparative analysis of the results of completing tasks at different stages of the experiment.

### ***Pedagogical conditions for the formation of cognitive independence***

Modern research shows that the cognitive independence of younger schoolchildren develops subject to a number of conditions:

- the presence of internal educational motivation;
- the gradual formation of educational actions (from following a model to independent choice of methods);
- the use of a variety of educational tasks with elements of problem-solving, research and design methods;
- organization of pedagogical support through questions, tips, stimulation for reflection [4].

### ***Methodological approaches to designing learning tasks***

1. *Structuring the task through the stages of self-regulated learning*: goal setting → planning → execution with checkpoints → outcome assessment → reflection. At each stage, the teacher models the strategy and then gradually reduces support.
2. *Clear learning guidelines + choices*. Children engage better when they understand why they are doing a task and have at least a small choice (topic, method of

completion, or format for presenting results). This combination of clarity and autonomy increases motivation.

3. *Differentiation by level of independence.* Develop a series of educational tasks to gradually increase the level of independence: from basic ones (with tips, steps) to partially open and completely independent projects.
4. *Including tasks to develop reflection.* After completing the task, a short reflective questionnaire: what worked, what didn't work, what I would do differently. This strengthens the skill of monitoring one's own activities.

### Research methodology

Experimental work was aimed at identifying the level of cognitive independence of junior schoolchildren and testing the effectiveness of using educational tasks of various types for its development.

Stages of the research were:

1. *The ascertaining stage* is the determination of the initial level (tests, observations, diagnostics).

*Methods used:*

- Methodology «Learning motivation» (M.A. Gordeeva, E.N. Osin).
  - Test of the level of formation of educational actions (A.K. Markova).
  - Observation card «Indicators of independence» (own development).
2. *Formative stage* - development and implementation of a system of educational tasks.

*I level* - tasks with full instructions and partial freedom in choosing solutions.

*II level* - tasks with general instructions that require action planning.

*III level* - creative and research tasks without direct instructions, requiring an independent search for a solution.

Examples of educational tasks that contribute to the development of cognitive independence in younger schoolchildren are presented in Table 1.

**Table 1. Examples of learning tasks that promote the development of cognitive independence**

| Job type     | Example                                          | Developed skills                                            |
|--------------|--------------------------------------------------|-------------------------------------------------------------|
| Reproductive | Solve the problem using the model                | Consolidation of knowledge, work according to the algorithm |
| Search       | Find several ways to solve the problem           | Choice of strategy, comparison of methods                   |
| Problematic  | Why does this problem have several solutions?    | Analysis, search for causes, critical thinking              |
| Creative     | Come up with your own problem based on this rule | Creation of a new product, initiative                       |
| Research     | Carry out the experiment and explain the result  | Planning, observation, conclusions                          |

3. *Control stage* - repeated diagnostics using the same methods, comparison of results, analysis of dynamics.

Based on the analysis of modern scientific literature on the research problem, criteria and indicators for diagnosing the cognitive independence of younger schoolchildren were determined, which are presented in Table 2.

**Table 2. Criteria and indicators for diagnosing the cognitive independence of younger schoolchildren**

| Criteria     | Indicators                                                                 | Diagnostic methods                              |
|--------------|----------------------------------------------------------------------------|-------------------------------------------------|
| Motivational | Interest in learning, initiative                                           | Questionnaire, conversation                     |
| Cognitive    | Ability to pose questions, put forward hypotheses, use different solutions | Observation, analysis of completed tasks        |
| Regulatory   | Planning, control and evaluation of actions                                | Methods of A.K. Markova, self-assessment sheets |
| Reflective   | Ability to analyse successes and difficulties                              | Check sheets, achievement diary                 |

The levels of development of cognitive independence of junior schoolchildren are presented in Table 3.

**Table 3. Levels of development of cognitive independence of junior schoolchildren**

| Level    | Characteristic                                                                         | Manifestations in educational activities                              |
|----------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Low      | Performs tasks only under the guidance of a teacher; has difficulty setting goals      | Needs constant prompting, does not know how to plan work              |
| Medium   | Can follow patterns and instructions; capable of choosing individual methods of action | Performs tasks independently, but does not always evaluate the result |
| Adequate | Able to set goals, plan and control actions; uses different methods                    | Performs tasks with search elements, can correct errors               |
| High     | Demonstrates initiative, is capable of creative search and posing his own questions    | Shows independence in project and research activities                 |

## Results and discussion

Analysis of pedagogical literature showed that cognitive independence is an integrative personality quality, including motivational, cognitive and volitional components. In elementary school, the development of cognitive independence occurs through a system of specially organized educational tasks, which should be varied in content and form.

During observations and experiments, it was found that the following types of tasks are especially effective in the development of cognitive independence of younger schoolchildren:

*Problem tasks* that require the student to analyze the situation and independently find a solution.

*Project tasks* that stimulate creative thinking and research activity in junior schoolchildren.

*Game tasks* that contribute to the formation of positive motivation and involvement.

*Reflective tasks* aimed at understanding the process and results of one's own activities.

Upon completion of the research work, a control section was carried out on the level of development of cognitive independence of junior schoolchildren. The results of the changes that have occurred are reflected in Table 4.

**Table 4. Dynamics of development of cognitive independence of junior schoolchildren in the experimental group**

| Level    | Ascertaining stage | Control stage | Change |
|----------|--------------------|---------------|--------|
| Low      | 35%                | 15%           | - 20%  |
| Medium   | 40%                | 35%           | - 5%   |
| Adequate | 20%                | 35%           | + 15%  |
| High     | 5%                 | 15%           | +10%   |

The data presented in the table clearly demonstrates the positive dynamics of the development of cognitive independence of junior schoolchildren during experimental work. The decrease in the proportion of students with a low level (from 35% to 15%) confirms that the use of specially selected educational tasks contributes to the gradual transition of children to more independent activities. The number of students with an average level decreased slightly (from 40% to 35%), which can be explained by the transition of some children to higher levels. The sufficient level has almost doubled (from 20% to 35%), which indicates that students have developed the skills of setting goals, choosing courses of action and monitoring results. The high level has tripled (from 5% to 15%). Even though this is a relatively small group, the very fact that a significant number of children appear who are able to take initiative and carry out creative or research tasks is an important indicator of the effectiveness of the proposed methodology.

A survey of teachers showed that the majority of teachers consider the use of non-standard educational tasks to be a necessary condition for the development of independence of primary schoolchildren. The students who participated in the experiment showed greater interest in learning, began to express their own ideas more often, and demonstrated confidence in making decisions. The results of experimental work confirm that the systematic use of educational tasks of various types contributes to the development of cognitive independence of primary schoolchildren. Creative and research tasks turned out to be especially effective, encouraging students to take initiative, pose their own questions and independently search for answers. Thus, educational tasks are not only a means of acquiring knowledge, but also the most important factor in the formation of an active and independent position of a junior school student in the educational process.

***Methodological recommendations for the development of cognitive independence of primary schoolchildren through educational tasks***

***1. General principles of organizing tasks:***

- gradual reduction of reliance on the teacher - from clear instructions to independent determination of the method of execution;
- built-in reflection - at the end of the task the student answers simple questions: «What did I do?», «What was difficult?», «What will I do differently next time?»;
- choice within the task - give the opportunity to choose the format (drawing, oral message, mini-project), materials or sequence of steps;
- clear goal - the child must understand why he is doing the task, and what will be assessed.

## 2. Templates for educational tasks

*I level - tasks with full instructions and an element of choice. Example:*

Topic: Russian language.

Task: «Read the text. Find 5 nouns. Write them down in the table. Choose one word and make a sentence with it. Draw a picture for the sentence».

Instructions: the table is given, a sample of the implementation is shown.

*II level - tasks with general instructions. Example:*

Topic: The world around us.

Task: «Prepare a report on how plants adapt to winter».

Instructions: determine the work plan yourself, choose what materials to use, and how to present the result (drawing, oral story, mini-poster).

*III level - creative and research tasks. Example:*

Topic: Project «My city».

Task: «Come up with and conduct a mini-research about your classmates' favorite places in your area. Present the result in any convenient way».

## 3. Checklists for students

*Checklist «How I do the task» (initial version):*

I understand what needs to be done.

I made a plan.

I follow the steps according to the plan.

I checked that I did everything.

I can tell you what happened.

*Checklist for a research paper: What do I want to know? How will I look for the answer? Where will I find the information, I need? How will I format the result? How will I check that the work is ready?*

## 4. Grading rubrics (example for a project)

| Criterion       | 1 point – low level         | 2 points – average level                 | 3 points – high level            |
|-----------------|-----------------------------|------------------------------------------|----------------------------------|
| Work planning   | No or incomplete plan       | There is a general plan, but no details  | A clear and detailed plan        |
| Task completion | Teacher assistance required | Part of the task completed independently | Completed entirely independently |

|                |                               |                                  |                                |
|----------------|-------------------------------|----------------------------------|--------------------------------|
| Result quality | Missing purpose of assignment | Partial compliance with the goal | Full compliance with the goal  |
| Reflection     | Missing                       | Short answers                    | Detailed analysis of your work |

### 5. Recommendations for implementation

- Use the system of tasks regularly, and not occasionally.
- Start the school year with level I tasks, gradually moving to levels II and III.
- Conduct a mini-reflection at the end of the lesson: 1-2 minutes for children's answers about what was the most interesting and the most difficult.
- Include a mini-project once a quarter to consolidate independent work skills.

### Conclusions

Learning assignments are an effective tool for developing the cognitive independence of primary schoolchildren. Their effectiveness largely depends on their focus on activating mental activity, taking into account the individual characteristics of students and the use of interactive forms of organizing the educational process. The development and implementation of educational tasks that stimulate independent cognitive activity should become a priority in the practice of primary education. This will allow children to develop a sustainable interest in knowledge, readiness for self-education and self-confidence in their future educational path.

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