Ministry of Science and Higher Education of the Republic of Kazakhstan
Alkey Margulan Pavlodar Pedagogical University

METHODOLOGICAL GUIDELINES

for Teachers on the Education and Development of Gifted Students

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These methodological guidelines are aimed at facilitating the organization and application of contemporary educational tools and pedagogical support practices for gifted students within the secondary education system. The publication presents a systematic model of pedagogical activity that encompasses the creation of a developmental learning environment, the individualization of instruction, and the implementation of effective strategies for fostering students’ intellectual potential.

The guidelines outline the theoretical and methodological foundations of working with gifted learners, the characteristics and manifestations of giftedness, and approaches to the development of divergent and convergent thinking, metacognitive skills, and personal qualities. In addition, pedagogical tools, methods of organizing the educational process, and a system of pedagogical observation and assessment are described.

The guide is intended for teachers, educational psychologists, and educational administrators. It may be used in the design of instructional activities, the development of individualized learning pathways, and the implementation of educational support practices for gifted students.

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Introduction

The relevance of developing these methodological guidelines is determined by the current trends in the development of the education system of the Republic of Kazakhstan, which is focused on fostering the intellectual potential of the nation, developing human capital, and supporting gifted students as a strategic resource of society. In the context of globalization, digitalization, and the rapid renewal of knowledge, there is an increasing demand for learners who demonstrate a high level of analytical, critical, and creative thinking, and who are capable of independent decision-making and innovative activity.

The regulatory and legal framework of these methodological guidelines is based on the Law of the Republic of Kazakhstan "On Education", state compulsory educational standards, as well as conceptual documents aimed at developing students' intellectual potential.

Giftedness is viewed as an integrative personal quality that encompasses intellectual, creative, motivational, and personal components. In educational practice, it is important to consider that giftedness manifests itself in various forms: academic, intellectual, creative, leadership, as well as in specific domains (mathematics, language, arts, and others).

Despite the high potential of gifted students, this potential may not be fully realized without purposeful pedagogical support. Furthermore, this category of learners often faces a number of challenges, including decreased learning motivation due to insufficiently challenging tasks, perfectionism, fear of making mistakes, and difficulties in social adaptation.

In this regard, there is a need to develop systematic methodological guidelines aimed at:

-creating a developmental educational environment;

-ensuring the individualization of learning;

-developing divergent and convergent thinking;

-fostering metacognitive skills;

-supporting students' personal development.

The purpose of the methodological guidelines is to provide scientific and methodological support for teachers' activities in the education and development of gifted students.

Objectives:

-to define the theoretical and methodological foundations for working with gifted students;

-to describe principles and pedagogical approaches;

-to develop a system of pedagogical strategies;

-to propose tools for organizing the educational process;

-to describe a system of assessment and pedagogical observation;

-to provide methodological support for teachers.

The practical value of the methodological guidelines is confirmed by the results of their experimental approbation conducted within the framework of the implementation of the program IRN BR28712263 "Development of an Integrated

Scientific and Innovative System for the Training of Teaching Personnel in the Development of Giftedness among Children in Kazakhstan."

The approbation of the methodological guidelines was carried out at the State Municipal Institution "Specialized School-Lyceum for Gifted Children 'Zhas Daryn'" under the Education Department of Pavlodar Region with the participation of teachers and students. During the approbation process, the proposed pedagogical strategies, diagnostic and support tools for gifted students, as well as elements of individualization of the educational process were implemented.

The results of the approbation demonstrated an increase in students' learning motivation, the development of research and creative competencies, and improved performance in intellectual competitions, subject Olympiads, and project-based activities. Teachers noted the effectiveness of the proposed methodological approaches for identifying, supporting, and developing various types of giftedness. The obtained results made it possible to refine the content of the guidelines and confirmed the feasibility of their practical application in secondary education institutions.

1 Theoretical Foundations of Working with Gifted Students

1.1 Contemporary Approaches to Understanding Giftedness and Educating Gifted Students

Giftedness in contemporary pedagogy is not considered an exclusively innate quality. It is understood as a developing potential that is formed and manifested through educational activities under appropriate conditions. In scientific and pedagogical practice, several approaches are distinguished, each of which defines specific features of organizing the learning process.

In modern educational science, giftedness is viewed as a complex, multidimensional, and dynamic phenomenon that develops through the interaction of cognitive, activity-based, personal, and motivational factors. Within the cognitive approach, giftedness is defined through the level of a learner's intellectual development and their ability to perform complex mental operations, such as analysis, synthesis, abstraction, and generalization.

In this context, a gifted learner is characterized by the ability to think more deeply, rapidly, and systematically, which is manifested in the quick acquisition of new knowledge, the establishment of conceptual relationships, the formulation of cause-and-effect questions, and the ability to provide logical reasoning and evidence. From a pedagogical perspective, this approach requires the inclusion of advanced-level tasks focused on justification, argumentation, and analytical activities, since the predominance of reproductive tasks may lead to intellectual stagnation and a decrease in learning motivation [1; 2].

At the same time, the activity-based approach emphasizes that giftedness develops not only through the acquisition of knowledge but also through active cognitive and research activities. Abilities are formed in the process of solving tasks that require intellectual effort, which is manifested in a learner's aspiration to participate in the search for solutions, demonstrate initiative in research activities, and be willing to test various ways of acting. In this regard, pedagogical practice should focus on organizing problem-based situations, implementing research-oriented and practice-based tasks, and reducing the proportion of passive explanation. Otherwise, giftedness does not receive sufficient development and may become "constrained" within the framework of reproductive learning [3].

The learner-centered approach is of particular importance, as it considers giftedness from the perspective of a student's individuality, including their interests, motivation, emotional characteristics, and thinking style. Gifted learners demonstrate differences in the pace of activity, the focus of interests, and responses to complexity, which requires teachers to apply flexibility in organizing the learning process, adapt educational content, and provide a variety of tasks. Ignoring individual characteristics may lead to decreased motivation, emotional tension, and loss of cognitive interest [4].

The competency-based approach complements this system by considering giftedness as the ability to apply knowledge in new and non-standard situations. In this context, particular importance is attached not to the amount of acquired information, but to the ability to use knowledge for solving practical problems. This is manifested in a learner's ability to transfer knowledge to new contexts, solve

unconventional tasks, and demonstrate cognitive flexibility. From a pedagogical perspective, this approach is implemented through the use of case studies, real-life situation modeling, and open-ended tasks that allow for multiple possible solutions [5].

Modern educational practice is based on an integrative approach that combines the above-mentioned concepts and views giftedness as a systemic personal quality comprising intellectual, creative, motivational, and personal components. Within this approach, giftedness is understood as the result of comprehensive development that requires the simultaneous formation of thinking skills, the enhancement of intrinsic motivation, and consideration of the learner's individual and personal characteristics. Accordingly, pedagogical activity should be systematic in nature and ensure the holistic development of learners within a specially organized educational environment [2; 4].

It should be noted that the cognitive approach, despite its significance, cannot fully explain the phenomenon of giftedness without considering other components of personal development. Therefore, there is a need to integrate it with activity-based and learner-centered approaches.

The activity-based approach emphasizes that stable intellectual structures are formed through active interaction with learning materials. This means that education should not be organized merely as the transmission of knowledge but rather as the facilitation of cognitive activity.

The learner-centered approach, in turn, focuses on the uniqueness of each student, which requires the individualization of the educational process. It is important to emphasize that giftedness may manifest itself unevenly, which necessitates a differentiated approach to instruction.

The competency-based approach enhances the practical orientation of learning by enabling the development of the ability to apply knowledge in real-life situations. In the context of modern schooling, particular importance is attached to developing the ability to transfer knowledge, which serves as an indicator of a high level of competency formation.

The integrative approach ensures the combination of all the above-mentioned directions and makes it possible to view giftedness as a systemic personal quality. At the same time, the educational environment should serve as a factor that stimulates the development of all components of giftedness. The creation of such an environment involves the use of various pedagogical technologies aimed at developing students' thinking skills and independence. The combination of scientific approaches makes it possible to establish a holistic system of work with gifted students that ensures their comprehensive development.

For teachers, the presented approaches serve not only as a theoretical foundation for understanding giftedness but also as a guide for selecting educational strategies. In practice, working with gifted students requires a combination of various approaches. For example, the cognitive approach determines the necessity of using advanced-level tasks; the activity-based approach emphasizes the organization of research and project-based activities; the learner-centered approach requires consideration of individual interests and educational needs; and the

competency-based approach involves creating conditions for applying knowledge in new situations.

The considered approaches have not only theoretical but also practical significance for organizing the education of gifted students. Each approach defines specific pedagogical guidelines that make it possible to design educational content and select methods and forms of work in accordance with students' educational needs. The practical application of these approaches is presented in Table 1.

Table 1 – Practical Application of Approaches in the Education of Gifted Students

Approach	Teacher's Role	Example
Cognitive approach	Provides tasks aimed at analysis, comparison, and reasoning	Solving non-standard problems
Activity-based approach	Organizes research activities	Mini-research project, project-based work
Learner-centered approach	Provides a choice of tasks and methods of work	Individual learning pathway
Competency-based approach	Creates practice-oriented learning situations	Case study, learning problem

The approaches presented in Table 1 are not mutually exclusive and, in actual pedagogical practice, are applied in an integrated manner. The choice of specific methods and forms of work is determined by students' educational needs, the type of giftedness, age-related characteristics, and the intended educational objectives. Thus, the development of intellectual giftedness requires a combination of cognitive and activity-based approaches, whereas the support of creative giftedness involves the integration of learner-centered and competency-based approaches.

For teachers, it is important to understand that effective work with gifted students is not limited to the use of individual advanced-level tasks. It involves creating an educational environment that promotes the development of thinking, independence, initiative, and the ability to apply knowledge in new situations. It is the integration of various approaches that provides the conditions for the full realization of a learner's potential and their successful self-actualization in educational activities.

When planning a lesson, teachers are recommended to combine at least two or three approaches simultaneously. For example, an analytical task (cognitive approach) can be incorporated into a research project (activity-based approach) and supplemented with an opportunity to choose the method of presenting results (learner-centered approach). This format of work contributes to the development of various components of giftedness and enhances the effectiveness of learning.

1.2 Components of Giftedness and Their Consideration in the Educational Process

In contemporary educational science, giftedness is regarded as a complex, multidimensional, and dynamic phenomenon that develops as a result of the interaction of cognitive, activity-based, personal, and motivational factors. Within the framework of the cognitive approach, giftedness is defined through the level of

a learner's intellectual development and their ability to perform complex mental operations such as analysis, synthesis, abstraction, and generalization.

In this context, a gifted learner is characterized by the ability to think more deeply, rapidly, and systematically, which is manifested in the quick acquisition of new material, the establishment of conceptual relationships, the formulation of cause-and-effect questions, and the ability to provide logical reasoning and evidence. From a pedagogical perspective, this approach requires the inclusion of advanced-level tasks focused on proof, justification, and analytical activity, since the predominance of reproductive tasks may result in intellectual stagnation and reduced learning motivation [5].

At the same time, the activity-based approach emphasizes that giftedness develops not only through the acquisition of knowledge but also through active cognitive and research activities. Abilities are formed in the process of solving tasks that require intellectual effort, which is reflected in a learner's desire to participate in the search for solutions, demonstrate initiative in research activities, and be willing to test various ways of acting.

In this regard, pedagogical practice should focus on organizing problem-based situations, implementing research-oriented and practice-based tasks, and reducing the proportion of passive explanation. Otherwise, giftedness does not receive sufficient development and may become "constrained" within the framework of reproductive learning [4; 5].

The learner-centered approach is of significant importance, as it considers giftedness from the perspective of a student's individuality, including their interests, motivation, emotional characteristics, and thinking style. Gifted learners demonstrate differences in the pace of activity, the direction of interests, and responses to complexity, which requires teachers to apply flexibility in organizing the learning process, adapt educational content, and provide a variety of tasks. Ignoring individual characteristics may lead to decreased motivation, emotional tension, and loss of cognitive interest [3; 4].

The competency-based approach complements this system by considering giftedness as the ability to apply knowledge in new and non-standard situations. In this context, particular importance is placed not on the amount of acquired information but on the ability to use knowledge for solving practical problems. This is manifested in a learner's ability to transfer knowledge to new contexts, solve unconventional tasks, and demonstrate cognitive flexibility. From a pedagogical perspective, this is implemented through the use of case studies, modeling of real-life situations, and open-ended tasks that allow for multiple solutions [1; 2].

Modern educational practice relies on an integrative approach that combines the above-mentioned concepts and views giftedness as a systemic personal quality comprising intellectual, creative, motivational, and personal components. Within this approach, giftedness is understood as the result of comprehensive development that requires the simultaneous formation of thinking abilities, support of intrinsic motivation, and consideration of learners' individual and personal characteristics. Accordingly, pedagogical activity should be systematic in nature and ensure the

holistic development of learners within a specially organized educational environment [2; 4].

It is appropriate to emphasize the role of the creative component, which serves as one of the key indicators of giftedness. Creativity is manifested in a learner's ability to generate original ideas, view problems from different perspectives, and find unconventional solutions. It is closely associated with divergent thinking and requires the creation of an educational environment that allows for flexibility and freedom of expression.

The motivational component is equally significant, as it determines the direction and sustainability of a learner's cognitive activity. Gifted students are generally characterized by intrinsic motivation, which is reflected in their interest in complex tasks and their aspiration for self-improvement. Supporting this motivation requires the use of tasks that have personal significance and provide opportunities for initiative and independent action.

It should be noted that self-regulation is an important element of the structure of giftedness, ensuring a learner's ability to plan, monitor, and evaluate their own activities. The development of self-regulation contributes to the formation of learning independence and responsibility for outcomes. In the context of the modern educational environment, this is of particular importance, as it enables learners to effectively organize their own learning process.

In addition, the emotional component plays a significant role, including resilience to difficulties, tolerance of uncertainty, and the ability to cope with failures. Gifted learners often demonstrate increased sensitivity, which requires the creation of a psychologically safe educational environment. Supporting emotional well-being contributes to the more effective realization of intellectual potential.

The integration of these components makes it possible to view giftedness as a holistic system in which each element is interconnected and influences the overall level of a learner's development. At the same time, the dominance of one component with insufficient development of others may lead to an imbalance in the structure of giftedness and limit opportunities for the full realization of personal potential. In this regard, it is important for teachers to consider the specific manifestations of each component in students' educational activities and apply appropriate pedagogical strategies for their development.

The main manifestations of the components of giftedness and guidelines for pedagogical practice are presented in Table 2.

Table 2 – Manifestation of Giftedness Components in Students' Educational Activities

Component	**Manifestation in the Educational Process**	**What Teachers Should Pay Attention To**
Cognitive component	Quickly acquires learning material, identifies patterns, asks complex questions	Provide tasks aimed at analysis, generalization, and reasoning
Creative component	Generates original ideas and offers unconventional solutions	Use open-ended tasks and creative projects

Motivational component	Demonstrates sustained interest in challenging tasks	Support initiative and independent choice of activities
Personal component	Demonstrates independence and responsibility	Develop self-regulation and reflection skills
Emotional component	Responds sensitively to success and failure	Create a psychologically safe educational environment

It is important for teachers organizing the learning process to consider that a high level of development of one component does not always correspond to a similar level of development of other components of giftedness. For example, a student may demonstrate high intellectual abilities while experiencing difficulties with self-regulation or emotional resilience. Therefore, teachers are recommended to monitor the development of all components of giftedness and use a variety of teaching methods that ensure their comprehensive development.

Particular attention should be paid to the interaction between the cognitive and creative components, as their combination ensures not only depth but also originality of thinking. In educational practice, this requires a combination of analytical and creative tasks. An important aspect is also the influence of the educational environment on the development of all components of giftedness. The environment should stimulate cognitive activity, support initiative, and provide opportunities for choice. It should be emphasized that the development of giftedness is nonlinear and depends on multiple factors, including pedagogical support and the individual characteristics of the learner.

A systematic approach to the development of giftedness involves purposeful influence on all its components, which ensures a more stable and predictable outcome. In this regard, pedagogical activity should be aimed at creating conditions that promote the simultaneous development of cognitive, creative, motivational, and personal spheres. A special role is played by the use of interdisciplinary tasks that allow learners to integrate knowledge from different fields and develop cognitive flexibility.

In addition, it is important to consider the individual pace of learners' development by providing opportunities for accelerated or in-depth mastery of educational content. The development of giftedness requires continuous assessment and adjustment of the educational process. This makes it possible to identify changes in the structure of abilities in a timely manner and adapt the content of instruction accordingly.

The component structure of giftedness serves as the foundation for developing an effective educational strategy, as it enables teachers not only to identify a learner's strengths but also to determine in a timely manner the areas requiring further development. In pedagogical practice, it is important to consider that a high level of development of one component does not always correspond to a similar level of development of other components of giftedness.

For example, a learner may demonstrate a high level of subject knowledge, complete tasks quickly, and successfully solve complex intellectual problems. At the same time, when performing creative tasks, the learner may experience

difficulties in generating original ideas, avoid situations of uncertainty, and demonstrate a fear of making mistakes.

In this case, pedagogical support should be aimed not only at further developing the cognitive component but also at fostering creativity, building self-confidence, developing emotional resilience, and forming a positive attitude toward mistakes as a natural resource for learning and personal growth.

1.3 Characteristics of the Manifestation of Giftedness

Gifted learners possess a number of specific cognitive, behavioral, and emotional characteristics that should be taken into account when organizing the educational process. These characteristics are determined by advanced development of the intellectual sphere, high cognitive activity, and increased sensitivity, which, on the one hand, create conditions for achieving high results, and on the other hand, may lead to certain pedagogical challenges.

The cognitive characteristics of gifted learners are primarily manifested in a high speed of mental processes, the ability to conduct in-depth analysis, and a sustained interest in complex and non-standard tasks. Such learners acquire new material more quickly, tend to establish complex cause-and-effect relationships, and demonstrate a desire for deeper intellectual exploration of the issues being studied. They do not limit themselves to superficial understanding but strive to identify patterns, principles, and underlying mechanisms of phenomena. However, in the absence of an appropriate level of complexity in educational content, there is a risk of intellectual boredom, which may lead to decreased motivation, formal completion of assignments, and loss of interest in learning [6].

Behavioral characteristics are expressed through high activity, a desire for independence, and a tendency toward discussion, argumentation, and defending one's own position. Gifted learners often demonstrate initiative, ask additional questions, suggest alternative solutions, and may go beyond the proposed algorithm. At the same time, these characteristics may conflict with a traditional, structured educational system focused on uniformity and following established models, which can lead to situations where activity and independence are perceived as disciplinary problems, and unconventional thinking as a deviation from the norm.

In this regard, teachers should view such manifestations not as a problem but as a developmental resource that requires appropriate pedagogical support [7].

The emotional characteristics of gifted learners are characterized by increased sensitivity, pronounced reflectiveness, and a tendency toward perfectionism. Such learners often set excessively high standards for themselves, strive for flawless performance of tasks, and experience failures intensely. Fear of making mistakes may lead to avoiding challenging tasks, reduced initiative, and the development of anxiety. In some cases, this is accompanied by an internal conflict between high potential and uncertainty about one's own abilities. Therefore, emotional support is an essential condition for the development of giftedness and should be systematically integrated into the educational process [8].

The pedagogical significance of considering these characteristics lies in the need to create an educational environment that simultaneously provides intellectual

challenge and emotional security. Teachers should systematically increase the complexity of tasks, focusing them on analysis, justification, and the search for alternative solutions, which helps maintain cognitive interest and prevent intellectual stagnation. Alongside this, it is necessary to provide emotional support to learners by fostering a positive attitude toward mistakes as a natural part of cognitive activity, developing self-confidence, and encouraging readiness to accept intellectual challenges.

Only through a combination of cognitive complexity and psychological support can the full potential of gifted learners be realized [9].

It should also be noted that the cognitive characteristics of gifted learners are often accompanied by a high speed of information processing, which may result in a learning pace that exceeds that of their peers. This requires teachers to demonstrate flexibility in organizing the educational process and provide opportunities for task individualization. It is important to consider that gifted learners tend to explore specific topics in greater depth, which is manifested in their desire to go beyond the limits of the curriculum. Supporting this characteristic contributes to the formation of sustained cognitive interest and the development of research skills.

Behavioral characteristics may also be manifested in the desire for independent judgments and a critical attitude toward information. This requires the development of a culture of discussion and the creation of conditions for expressing one's own position through reasoned argumentation.

It should be emphasized that without appropriate pedagogical support, these characteristics may be perceived as learning difficulties, leading to an incorrect interpretation of a learner's behavior. The emotional sphere of gifted learners is often characterized by high empathy and sensitivity to the evaluation of others, which increases the importance of pedagogical support.

An important direction of educational work is the development of resilience to failures and the formation of the ability to perceive mistakes as a learning resource. In addition, it is necessary to develop self-regulation skills that enable learners to effectively manage their activities and emotional states.

A significant role is played by the organization of an educational environment focused on cooperation rather than solely on competition. Involving learners in collaborative activities contributes to the development of communication skills and social adaptation.

A comprehensive consideration of the cognitive, behavioral, and emotional characteristics of gifted learners makes it possible to increase the effectiveness of the educational process and create conditions for their holistic development.

1.4 Balance Between Cognitive and Metacognitive Development in the Education of Gifted Students

The development of divergent and convergent thinking, as well as metacognitive skills, requires the systematic involvement of learners in various types of cognitive activities aimed at generating ideas, analyzing information, selecting optimal problem-solving strategies, and reflecting on their own thinking processes.

In this regard, teachers are recommended to use different types of tasks that ensure the comprehensive development of cognitive and metacognitive skills. Examples of such tasks are presented in Table 3.

Table 3 – Examples of Tasks for Developing Cognitive and Metacognitive Skills

Development Area	**Example of Task**
Divergent thinking	Suggest as many ways as possible to use an ordinary object or propose different solutions to a problem situation
Convergent thinking	Select the most effective solution to a task and justify its validity
Metacognitive skills	Explain the sequence of your actions when solving a task and evaluate the effectiveness of the chosen strategy

The presented tasks are aimed at developing various aspects of productive thinking and should be used comprehensively in the educational process.

Tasks focused on the development of divergent thinking stimulate idea generation, the search for alternative solutions, and the formation of creativity.

Convergent thinking tasks contribute to the development of analytical abilities, logical thinking, and skills of making well-grounded choices of the most effective solutions.

Metacognitive tasks enable learners to become aware of their own thinking processes, develop reflection skills, and enhance their ability to self-regulate learning activities.

Pedagogical practice demonstrates that the greatest developmental effect is achieved through the consistent use of all three types of tasks within a unified educational activity. For example, learners may first be asked to propose several possible solutions to a problem (divergent stage), then select and justify the most appropriate option (convergent stage), and afterwards analyze the strategies used and evaluate the effectiveness of their own activities (metacognitive stage).

This approach contributes to the formation of flexible, critical, and conscious thinking, which is one of the most important characteristics of a gifted learner.

The systematic inclusion of such tasks into the structure of lessons makes it possible not only to develop individual thinking operations but also to form learners' ability to independently plan, monitor, and evaluate the process of solving educational tasks, which is an important condition for the successful realization of their intellectual potential.

The practical implementation of this approach can be illustrated by the following example.

During a natural science lesson, a learner demonstrates a high level of cognitive activity: they quickly complete advanced-level tasks, independently establish cause-and-effect relationships, and suggest several solutions to a given problem. Such manifestations indicate a high level of cognitive ability development and create favorable conditions for the further development of productive thinking.

In this situation, the teacher can purposefully organize the learner's activity in such a way as to consistently develop divergent, convergent, and metacognitive thinking through the formulation of problem-based questions, analysis of alternative solutions, and reflection on the results of the activity.

To develop divergent thinking, the teacher may encourage the learner to expand the range of possible solutions, formulate additional hypotheses, consider alternative explanations of the phenomenon being studied, or predict possible consequences of changing certain conditions of the task.

For example, when studying environmental processes, the learner may be asked to answer the following questions:

-"What other factors may influence the phenomenon being studied?", "What alternative explanations can be proposed?"

-"How would the result change if the initial conditions were modified?"

Such tasks stimulate idea generation, develop cognitive flexibility, and enhance the ability to consider a problem from different perspectives [10].

The next stage involves the development of convergent thinking. After generating several hypotheses, the learner is asked to conduct a comparative analysis, evaluate the degree of validity of each hypothesis, identify the strengths and weaknesses of the proposed options, and select the most well-grounded solution. During the discussion, the teacher encourages the learner to use evidence, rely on facts, and apply logical reasoning. This type of activity contributes to the development of analytical abilities, critical thinking, and skills in making well-informed decisions [11; 12].

The final stage involves organizing reflection aimed at developing metacognitive skills. The teacher invites the learner to analyze their own problem-solving process and answer the following questions:

-"Why was this particular solution method chosen?"

-"Which strategies proved to be the most effective?"

-"What difficulties arose during the process?"

-"What could be improved when completing a similar task in the future?"

Such activity contributes to the awareness of one's own thinking processes, the development of self-regulation, and the ability to independently manage learning activities [13].

The presented example demonstrates that the development of divergent thinking, convergent thinking, and metacognitive skills should not be carried out separately but rather within a unified pedagogical strategy. Divergent thinking ensures the generation of new ideas and possible solutions, convergent thinking enables their critical analysis and selection, while metacognitive skills provide awareness and control of the thinking process. Their comprehensive development creates conditions for the formation of productive thinking, which is one of the key indicators of giftedness and an essential condition for successful intellectual activity among learners [10–13].

In the process of educating gifted learners, teachers are recommended to encourage the search for multiple solutions to a single task, create conditions for argumentation and justification of selected solutions, systematically incorporate

elements of reflection into the structure of lessons, evaluate not only the results of activities but also the methods used to achieve them, and develop learners' ability to independently analyze their own thinking processes and learning strategies.

Effective development of giftedness requires a balanced formation of divergent thinking, convergent thinking, and metacognitive thinking. The use of diverse cognitive and reflective tasks contributes to the development of creativity, logical thinking, self-regulation, and the ability to consciously manage one's own learning activities.

A comprehensive consideration of these characteristics makes it possible to create conditions for the full realization of learners' intellectual potential, enhance the effectiveness of learning, and support harmonious personal development.

2 Diagnosis and Identification of Giftedness

2.1 Principles of Giftedness Assessment

Effective work with gifted learners begins with their timely identification. The assessment of giftedness should be systematic, comprehensive, and continuous, as giftedness does not manifest itself at a single moment but develops and becomes evident in the process of academic and extracurricular activities.

The assessment of giftedness is based on the following principles:

Principle of comprehensiveness. The principle of comprehensiveness involves the use of a combination of methods and sources of information. This principle aims to overcome the limitations of a one-sided approach and makes it possible to obtain a multidimensional understanding of a learner's development [15].

Modern scientific approaches to understanding giftedness are based on a systemic paradigm, within which giftedness is viewed as a dynamic and open system [9]. According to this perspective, giftedness cannot be reduced solely to the level of intelligence but includes a set of interrelated components manifested in various types of activities.

The Three-Ring Conception of Giftedness developed by Joseph Renzulli [12] emphasizes the need to consider high intellectual abilities, creativity, and task commitment motivation.

Similarly, in the Triarchic Theory of Intelligence developed by Robert Sternberg [14], analytical, creative, and practical abilities are identified, which also confirms the multidimensional nature of giftedness. Thus, the principle of comprehensiveness represents a methodological reflection of the systemic and integrative understanding of giftedness.

The principle of comprehensiveness in giftedness assessment involves organizing research in pedagogical practice as an integration of various methods, procedures, and data sources aimed at obtaining a holistic profile of a learner's personality.

The key aspects of the principle include:

1) Multidimensional nature of assessment.

The diagnostic process should cover cognitive abilities, creativity, motivation, personal characteristics, and social manifestations.

2) Multiple sources of information.

To increase objectivity, various data sources are used, including test results, pedagogical observation, analysis of activities, and expert evaluations.

3) Variability of methods.

Comprehensive assessment involves the use of diverse methods adapted to the age-related and individual characteristics of learners.

4) Limitations of the test-centered approach.

Despite the widespread use of psychometric methods, their application as the only tool for diagnosing giftedness has several limitations [10]:

1.Limited scope of content.

Tests primarily assess intellectual abilities while overlooking creative and motivational components.

2.Situational nature of results.

Assessment outcomes may be influenced by external factors such as stress or the conditions under which testing is conducted.

3.Lack of analysis of thinking processes.

A test records the final result but does not reveal the methods and strategies used to solve tasks.

Therefore, modern researchers emphasize the need to integrate tests into a broader diagnostic system.

Methods for Implementing the Principle of Comprehensiveness

1. Observation.

Observation is an important diagnostic method that makes it possible to identify spontaneous manifestations of giftedness in a natural educational environment. During observation, teachers record the characteristics of a learner's cognitive activity, level of independence, initiative, originality of thinking, patterns of interaction with peers, and attitude toward learning tasks [11].

Analysis of activity products is an independent diagnostic method based on the study of the results of learners' academic, research, project-based, and creative activities. This method makes it possible to assess the depth of thinking, level of creativity, ability to solve tasks independently, originality of ideas, and the quality of their practical implementation.

2. Diagnostic tasks.

The use of open-ended tasks contributes to the identification of divergent thinking and the ability to generate ideas.

3. Expert evaluation.

The involvement of teachers, psychologists, and parents ensures a multi-perspective analysis of a learner's development.

Contextual and dynamic nature of assessment.

The principle of comprehensiveness involves considering contextual conditions and developmental dynamics. Contextuality means that giftedness may manifest itself differently depending on the educational environment and type of activity. The dynamic nature of giftedness indicates that assessment should be conducted over an extended period of time, allowing changes and the development of abilities to be monitored.

Integration of quantitative and qualitative data.

Comprehensive assessment involves combining quantitative and qualitative analysis [15].

Quantitative data ensure the objectivity of measurement, whereas qualitative analysis makes it possible to identify individual thinking strategies, behavioral characteristics, and the potential abilities of learners.

Practical Significance of the Principle of Comprehensiveness.

The implementation of the principle of comprehensiveness contributes to increasing the accuracy of assessment, identifying hidden forms of giftedness, developing individual educational pathways, and optimizing pedagogical support.

For teachers, the principle of comprehensiveness means that conclusions about a learner's giftedness should not be made based on a single diagnostic method alone. It is recommended to combine classroom observation, analysis of activity

products, results of creative and intellectual tasks, and the opinions of teachers and parents.

For example, if a learner demonstrates high cognitive activity during lessons, unconventional approaches to solving tasks, and high-quality results in project activities, this provides a more objective understanding of their abilities. The use of multiple sources of information increases the reliability of assessment and helps determine the most effective directions for further pedagogical support.

Principle of Continuity and Dynamism.

The principle of continuity and dynamism implies the need for continuous and systematic study of a learner's development over time. This principle aims to overcome the static nature of diagnostic procedures and makes it possible to consider changes occurring in the structure of abilities and personal characteristics [11].

The principle of continuity and dynamism is based on the cultural-historical and systemic-activity approaches, within which personal development is viewed as a process determined by internal and external factors [16]. According to this perspective, abilities are not fixed characteristics but are formed and transformed in the process of learning and activity.

Of particular importance is the concept of the zone of proximal development proposed by Lev Vygotsky, which emphasizes the necessity of assessing not only the current level of development but also a learner's potential capabilities. This requires conducting assessment dynamically, taking into account progress and rates of development.

Modern models of giftedness also confirm the dynamic nature of this phenomenon. Thus, the model of Joseph Renzulli [13] views giftedness as the result of the interaction of abilities, creativity, and motivation, which may change under the influence of the educational environment. Similarly, the model of Franz Mönks [17] emphasizes the role of social factors influencing the development of giftedness.

The principle of continuity and dynamism involves organizing assessment as a long-term, systematic, and repeated process aimed at monitoring changes in a learner's development.

The key characteristics of this principle include:

1) Continuity of assessment.

The assessment of giftedness cannot be a one-time procedure. It should: be conducted over an extended period of time; include several stages; ensure the accumulation of data on a learner's development.

2) Dynamism.

Giftedness is considered a changing characteristic; therefore, assessment should: record changes in abilities; consider the influence of the educational environment; reflect individual rates of development.

3) Process-oriented nature.

The focus should be placed not only on the outcome but also on the process of activity, including: problem-solving strategies; ways of thinking; responses to difficulties.

4) Limitations of the static approach.

Traditional diagnostic procedures are often one-time assessments that record a learner's condition at a specific point in time. However, this approach has several limitations:

1.Inability to consider development. A single assessment does not reflect the dynamics of ability formation.

2.Risk of inaccurate conclusions. Results may be distorted by temporary factors such as fatigue or stress.

Methods for Implementing the Principle.

The implementation of the principle of continuity and dynamism requires the use of specific methods.

Dynamic observation. Systematic observation makes it possible to monitor changes in behavior, identify the stability of interests, and record the development of abilities.

Longitudinal studies. These involve long-term study of a learner and make it possible to identify developmental patterns and determine the rates of growth in abilities.

Repeated assessment. Conducting assessments at certain intervals makes it possible to compare results and identify developmental dynamics.

Formative assessment. This includes elements of instruction and is aimed at identifying learning potential, the ability to transfer knowledge, and responses to support and guidance.

Significance of the Principle for Educational Practice. The principle of continuity and dynamism is of great importance for organizing the educational process. It: enables timely identification of changes in a learner's development; contributes to the individualization of learning; ensures the development of individual educational pathways; allows pedagogical interventions to be adjusted.

In addition, this principle contributes to more accurate identification of gifted learners, including those whose abilities do not manifest immediately.

To implement the principle of continuity and dynamism, teachers are recommended to observe learners throughout the academic year, recording changes in cognitive activity, learning motivation, independence, and performance outcomes. Conclusions about the level of giftedness should not be made based on a single diagnostic procedure or isolated high achievements.

An effective tool is maintaining a pedagogical observation record that allows teachers to monitor the dynamics of a learner's ability development. It is recommended to compare the results of observations, completed tasks, project activities, and participation in competitions or academic olympiads. Such an approach makes it possible to identify both stable manifestations of giftedness and potential abilities requiring further pedagogical support in a timely manner.

Principle of Methodological Variability. The principle of methodological variability involves the use of different forms and diagnostic tools that allow for identifying a wide range of manifestations of a learner's abilities. This principle ensures the completeness and depth of the assessment process and contributes to increasing its objectivity and reliability [15].

The principle of methodological variability is based on the understanding of giftedness as an integrative phenomenon that includes intellectual, creative, motivational, and social components [12]. Each of these dimensions requires specific diagnostic approaches, making the use of a universal method impossible.

According to the Triarchic Theory of Intelligence developed by Robert Sternberg [15], giftedness manifests itself in analytical, creative, and practical domains, each of which requires different forms of assessment. Similarly, within multifactorial models of giftedness, the need to consider diverse manifestations of abilities is emphasized, which is possible only through the use of varied diagnostic methods. Thus, the principle of methodological variability is a logical consequence of the multidimensional understanding of giftedness

The principle of methodological variability involves organizing the assessment process as a system of complementary forms and evaluation tools aimed at identifying different aspects of giftedness.

The key characteristics of this principle include:

1) Diversity of assessment formats. Various forms of work are used, including: diagnostic tasks (closed-ended and open-ended); project activities;research-based tasks; game-based and problem-solving situations.

2) Consideration of individual characteristics. Different methods make it possible to: consider a learner's thinking style; adapt assessment procedures to age-related characteristics; identify personal strengths.

3) Complementarity of methods. Each method complements others: tests provide quantitative indicators; tasks provide qualitative characteristics; observation reveals behavioral manifestations.

Limitations of the Mono-Instrumental Approach.

The use of a single diagnostic method (for example, testing only) significantly reduces the accuracy of giftedness assessment [16]. The main limitations include:

1. Narrowing of the diagnostic field.

A single method cannot cover all components of giftedness.

2. Risk of distortion of results.

The results may depend on the format of the task rather than the learner's actual level of ability.

3. Ignoring individual characteristics.

Different learners demonstrate their abilities differently across various types of activities.

Therefore, there is a need to use a varied diagnostic toolkit.

Main Forms of Implementing the Principle:

1) Diagnostic tasks. Tasks of different types make it possible to assess: level of knowledge; flexibility of thinking; problem-solving abilities.

Particular importance is given to open-ended tasks aimed at developing divergent thinking.

2) Project activities. Projects make it possible to identify: independence; planning skills; creativity; the ability to apply knowledge in practice.

3) Observation. Observation in natural conditions provides an opportunity to identify: initiative; leadership qualities; stability of interests.

4) Research activities. Research activities make it possible to assess: cognitive activity; ability to analyze and synthesize information; scientific thinking skills.

Integration of Methods as a Condition for Diagnostic Effectiveness. The principle of variability does not simply imply the use of different methods, but rather their systematic integration. Effective diagnostics is based on a combination of: quantitative methods (tests); qualitative methods (observation, analysis of activities); activity-based forms (projects, research).

This approach makes it possible to: obtain a holistic picture of development; identify hidden abilities; reduce the likelihood of diagnostic errors.

Practical Significance of the Principle. The implementation of the principle of variability of methods contributes to: increasing the objectivity of diagnostics; identifying various types of giftedness; individualization of the educational process; development of effective educational strategies.

In addition, the use of diverse methods increases learners' motivation and creates conditions for the manifestation of their individual abilities. The principle of variability of methods is one of the most important conditions for modern giftedness diagnostics. It ensures consideration of the multidimensional nature of abilities, contributes to identifying various aspects of giftedness, and increases the effectiveness of the diagnostic process. The comprehensive use of various methods makes it possible to obtain a more accurate and objective understanding of a learner's development and serves as the basis for their further educational support.

Principle of Contextuality. The principle of contextuality implies conducting diagnostics in conditions that are as close as possible to real learning activities. This principle makes it possible to identify authentic manifestations of a learner's abilities that may not appear in artificially created diagnostic situations [14].

The principle of contextuality is based on the activity-based and cultural-historical approaches, according to which personal development occurs through involvement in various types of activities [16]. Within this paradigm, abilities are viewed not as isolated characteristics but as manifestations of the subject's activity under specific conditions.

Modern models of giftedness also emphasize the significance of context. In the Triarchic Theory of Intelligence developed by Robert Sternberg [14], attention is focused on practical intelligence, which manifests itself precisely in real-life situations. Similarly, Franz Mönks's model [17] highlights the influence of the social environment on the development of giftedness. Thus, the principle of contextuality reflects the need to assess abilities under conditions of their natural manifestation.

The principle of contextuality implies that the assessment of giftedness should be carried out within real educational activities rather than exclusively in specially organized testing situations.

The key provisions of the principle include:

-assessment of a learner's activities in a natural learning environment;

-consideration of the influence of educational conditions on the manifestation of abilities;

-analysis of behavior and thinking in the process of completing authentic learning tasks;

-orientation toward activity as the main means of identifying giftedness.

This approach makes it possible to obtain more reliable data on a learner's development and avoid distortions associated with formal diagnostic procedures.

Observation as a Key Diagnostic Method.

Within the framework of the principle of contextuality, the method of pedagogical observation occupies a central place, as it makes it possible to record manifestations of giftedness in natural learning conditions.

Observation ensures the identification of the following characteristics:

-speed of task completion – reflects the level of development of cognitive processes;

-depth of understanding – indicates the ability to analyze and comprehend information;

-number of proposed solutions – demonstrates the level of divergent thinking;

-initiative – characterizes the motivational orientation of the personality;

-response to complexity – makes it possible to assess persistence and cognitive activity.

The advantage of observation lies in its natural character and the possibility of long-term monitoring of a learner's development.

An important tool for implementing the principle of contextuality is the use of tasks that are close to real learning activities.

These include:

-open-ended tasks that make it possible to identify depth of understanding and originality of thinking;

-tasks requiring the search for multiple solutions, aimed at developing and assessing divergent thinking;

-tasks involving analysis and generalization, contributing to the identification of analytical abilities.

The use of such tasks makes it possible to assess not only the result but also the learner's thinking process.

Objectives of Assessment within the Contextual Approach

Within the framework of the principle of contextuality, assessment is aimed at identifying: the level of thinking development; creativity; the ability to analyze and generalize; characteristics of cognitive activity.

Assessment acquires not only an evaluative but also a developmental character.

Model for Systematizing the Assessment of Giftedness.

To ensure a comprehensive approach to the identification of giftedness, it is recommended to use a model for systematizing diagnostic indicators based on the assessment of cognitive, creative, motivational, and personal components of a learner's development.

The presented model enables teachers to structure the observation process, record manifestations of giftedness in various areas, and obtain a more holistic understanding of a learner's potential (Table 1).

Table 1 – Model for Systematizing Diagnostic Indicators of Learners' Giftedness

Component	Indicators
Cognitive	A gifted learner solves tasks quickly, identifies patterns, and performs analysis
Creative	Suggests various options and uses non-standard solutions
Motivational	Demonstrates interest in complex tasks and shows initiative
Personal	Engages in reflection and demonstrates independence and responsibility

This model makes it possible to systematically approach the assessment of giftedness and consider various aspects of a learner's development.

The implementation of the principle of contextuality in educational practice contributes to.

-increasing the reliability of assessment;

-identifying hidden forms of giftedness;

-considering individual characteristics of learners;

-creating conditions for the development of personal potential;

-constructing individual educational trajectories.

In addition, this principle ensures the connection between assessment and real educational activities, thereby increasing its practical significance. Thus, the principle of contextuality serves as an important methodological foundation for giftedness assessment, ensuring its relevance to real educational practice. The use of observation and activity-based tasks makes it possible to identify authentic manifestations of learners' abilities and provide a more accurate and objective assessment of their development. The integration of various methods within the contextual approach contributes to the formation of a holistic understanding of the learner's personality and the determination of directions for their further development.

2.2 Individual Educational Pathway (IEP)

In the context of modern education, individualization of learning is one of the key directions of pedagogical practice. This approach is of particular importance in working with gifted learners, whose development requires consideration of their unique abilities, pace of learning, and cognitive interests. In this regard, an individual development pathway (IDP) is considered an effective tool for ensuring a personalized educational process aimed at unlocking personal potential [18].

An individual development pathway represents a purposefully organized process of a learner's educational advancement, based on their individual characteristics, diagnostic results, and educational goals.

The IDP is aimed at:

-developing the learner's strengths, including intellectual and creative abilities;

-addressing developmental gaps in specific skills and competencies;

-creating conditions for self-realization that ensure the раскрытие of personal potential.

The individual development pathway ensures a balance between supporting already formed abilities and developing new ones.

Structure of the Individual Development Pathway

Effective implementation of the IDP requires a clear structural organization that includes the following components:

1. Development Goal. The goal is formulated based on the identified type of the learner's giftedness (intellectual, creative, academic, etc.) and reflects the priority directions of their development. It should be specific, achievable, and future-oriented.

Current Level of Development. It is determined based on the results of comprehensive assessment, including the analysis of cognitive, creative, motivational, and personal characteristics. This stage makes it possible to identify the learner's initial developmental status.

Areas for Growth.

Based on diagnostic data, key directions for development are identified, including:

-logical thinking (analysis, generalization, identification of patterns);

-creativity (idea generation, flexibility of thinking, originality);

-self-regulation (planning, control, reflection).

Identification of areas for growth makes it possible to develop an individual development strategy.

System of Tasks. The content of the IDP is implemented through a specially selected system of tasks, including:

-advanced-level tasks aimed at deepening knowledge;

-research-oriented tasks that develop analytical skills and independent information-search abilities;

-creative tasks that contribute to the development of creativity.

Such a system ensures the development of various aspects of giftedness.

Forms of Work. The implementation of the IDP is carried out through various forms of activity organization:

-individual work, allowing consideration of the learner's pace and individual characteristics;

-project-based activities, developing planning skills and the ability to implement ideas;

-participation in competitions and olympiads, stimulating motivation and achievement of high results;

-research activities, fostering scientific thinking.

Assessment Criteria. The evaluation of the results of implementing an individual development pathway is carried out based on a set of criteria that reflect not only the achieved educational outcomes but also the characteristics of the learner's cognitive activity. The main criteria include:

-depth of understanding, characterizing the level of analysis, comprehension, and interpretation of the studied material;

-independence, reflecting the learner's ability to autonomously organize and perform activities;

-originality, manifested in the non-standard nature of proposed solutions, ideas, and ways of completing tasks.

The use of these criteria makes it possible to assess not only the final result of an activity but also the quality of the cognitive processes underlying the achievement of educational outcomes.

At the same time, the effectiveness of evaluating the results of an individual development pathway largely depends on the objectivity and reliability of assessment procedures. Pedagogical assessment practice demonstrates the existence of factors that may reduce the validity of interpreting the developmental outcomes of gifted learners. One of the most common risks is the subjectivity of teachers' evaluative judgments caused by the ambiguity of interpreting assessment criteria. For example, originality may be mistakenly interpreted as the external unusualness of an answer, whereas depth of understanding is often identified exclusively with the amount of reproduced knowledge.

The results of assessment may also be significantly influenced by the effect of teachers' prior expectations associated with perceiving a learner as gifted. In such cases, there is a risk of both overestimating performance due to stable positive expectations and underestimating the achievements of learners who use non-standard approaches to solving problems that differ from traditionally accepted algorithms. An additional limitation is the exclusive focus on academic indicators without considering creative, research, communicative, and reflective manifestations of giftedness, which reduces the possibilities for a comprehensive assessment of a learner's individual progress.

To improve the objectivity of assessment, it is recommended to use a system of clearly formulated criteria and descriptors, ensure the comprehensive nature of evaluation based on various sources of information, combine external teacher assessment with learners' self-assessment and reflection procedures, and conduct a systematic analysis of the dynamics of individual achievements. Particular importance should be given to assessing the learner's personal and cognitive progress in relation to their initial level of development, rather than solely comparing results with the achievements of other participants in the educational process.

Practical Significance of the Individual Development Pathway.

The implementation of the IDP in educational practice contributes to: increasing the effectiveness of learning; developing learners' cognitive activity; forming independent work skills; раскрытие individual potential; and increasing motivation for learning.

The IDP is particularly significant in working with gifted learners, as it makes it possible to consider their high level of cognitive needs and provide conditions for their further development.

An individual development pathway is an essential tool for implementing personalized education. Its structural organization and focus on developing strengths, addressing developmental gaps, and creating conditions for self-realization make it possible to ensure the holistic development of the learner's

personality. In the context of working with gifted children, the IDP serves as an effective mechanism for supporting and developing their abilities.

It should be noted that the development of an individual development pathway requires the active participation of the learner themselves, which contributes to the formation of their subject position in the educational process. Involving learners in the process of goal-setting and activity planning increases their level of responsibility for learning outcomes.

An important condition for the effectiveness of the IDP is its flexibility, which allows for timely adjustment of the content and forms of work depending on the dynamics of the learner's development. This is especially relevant when working with gifted children, whose educational needs may change rapidly. An individual development pathway should not be static but dynamic, reflecting the process of gradual complication of tasks and expansion of educational opportunities.

A significant role in implementing the IDP is played by the teacher, acting as a mentor and coordinator of the educational process. Their task is to create conditions for independent knowledge acquisition and support the learner's initiative. In addition, effective implementation of the IDP involves the use of modern educational technologies, including digital resources and interactive platforms, which expand the possibilities for individualizing learning. It is also necessary to consider the importance of interdisciplinary connections, which allow integration of knowledge from different fields and formation of a holistic understanding of the world.

A significant factor is the organization of feedback, ensuring timely assessment of results and adjustment of the educational pathway. Regular monitoring of learners' achievements makes it possible to identify positive dynamics and determine new areas for growth in a timely manner. An important aspect is also cooperation with parents, which contributes to creating a unified educational environment and supporting the learner's development beyond school. The individual development pathway serves not only as a tool for organizing learning but also as a means of developing an independent, motivated, and self-realizing personality.

In working with gifted learners, feedback should have a systematic, developmental, and individualized nature. Its main function is not only to inform the learner about the achieved result but also to create conditions for understanding the strengths of their activity, identifying difficulties, and determining directions for further development. Particular importance is attached to feedback focused on the process of completing the task, the thinking strategies used, and the ways of solving problematic situations rather than exclusively on the final result.

Effective feedback involves the use of reflective questions that encourage learners to analyze their own cognitive activity:

-"Which strategies proved to be the most effective?"

-"What difficulties arose during the process of work?"

-"What methods of solving can be used in the future?"

This approach contributes to the development of metacognitive skills, self-regulation, and the ability to independently plan educational activities.

An important condition is the regularity of feedback and its integration into the process of implementing an individual development pathway at all stages — from goal setting to the analysis of achieved results. Effective tools may include individual consultations, learner progress maps, reflective journals, achievement portfolios, as well as digital platforms for monitoring educational progress. The use of these tools makes it possible to adjust the content of the individual development pathway in a timely manner and ensure that the educational process corresponds to the current needs and abilities of the learner.

2.3 Lesson Model for Gifted Learners

In the context of modern education, the development of such lesson models that ensure the development of learners' intellectual and creative potential is becoming particularly relevant. Traditional forms of organizing learning, focused mainly on the reproduction of knowledge, are not sufficiently effective when working with gifted learners. In this regard, there is a need to construct a lesson as a developmental system aimed at forming higher levels of thinking, creativity, and metacognitive skills [15].

The lesson model for gifted learners is based on the ideas of developmental learning, the activity-based approach, and the theory of divergent and convergent thinking. According to these approaches, learning should be structured as a process of active cognition, including problem posing, searching for solutions, and their comprehension [9].

An important role is played by distinguishing two types of thinking: divergent thinking - aimed at generating multiple ideas; convergent thinking - aimed at selecting and justifying the optimal solution. Their consistent use ensures the development of learners' flexibility and critical thinking.

Structure of the lesson as a developmental system

1. Problem situation. The lesson begins with the creation of a problem situation that performs the function of an intellectual challenge. It should arouse cognitive interest; contain a contradiction; require a search for a solution.

The problem situation stimulates learners' involvement in active cognitive activity.

2. Generation of ideas (divergent stage). At this stage, learners suggest various options for solving the problem. The main characteristics of the stage: encouragement of the number of ideas; absence of strict evaluation at the initial stage; creation of conditions for free expression.

This stage is aimed at developing creativity; flexibility of thinking; the ability to see a situation from alternative perspectives.

3. Analysis and selection (convergent stage). After generating ideas, their analysis and selection of the most effective solutions are carried out.

The stage includes: comparison of the proposed options; argumentation of the choice; proving the correctness of the solution.

It is aimed at developing: logical thinking; critical analysis; the ability to provide justification.

4. Reflection (metacognitive stage). The final stage of the lesson involves understanding the process of activity. Learners analyze the course of solving the problem; identify mistakes; evaluate their own activities. Reflection contributes to the development of metacognitive skills; self-regulation; awareness of thinking.

It should be noted that the presented lesson model is one of the possible options for organizing the education of gifted learners. The choice of a specific model is determined by the age characteristics of learners, the type of giftedness, the content of the educational material, educational goals, and the professional position of the teacher. In modern educational practice, various lesson models can be used that ensure the development of learners' intellectual and creative potential.

In order to ensure differentiation and individualization of learning, it is recommended to use a multi-level system of tasks that provides for the gradual complication of learners' cognitive activity. Such a system makes it possible to take into account differences in the level of preparation, the pace of mastering the material, and learners' educational needs, creating conditions for the advancement of each learner within the zone of proximal development.

The basic level includes tasks aimed at reproduction, understanding, and application of the studied material according to a model. Completion of these tasks involves the use of known algorithms of action, recognition of concepts, establishing simple connections, and applying knowledge in typical learning situations.

The advanced level is represented by tasks requiring analysis, comparison, classification, establishing cause-and-effect relationships, and independent selection of solution methods. At this level, learners apply knowledge in changed conditions, justify their own position, and transfer the studied material to new situations.

The high level includes problematic, research-based, and creative tasks aimed at generating new ideas, putting forward hypotheses, searching for non-standard solutions, and creating learners' own educational products. Completion of tasks at this level requires a high degree of independence, developed critical and creative thinking skills, as well as the ability to integrate knowledge from various subject areas [18].

The use of a multi-level system of tasks ensures the gradual development of learners' cognitive abilities and creates conditions for identifying and supporting giftedness through the involvement of learners in activities of varying degrees of complexity. At the same time, the presented system of tasks can be implemented within various models of organizing the educational process. The choice of a specific lesson model is determined by educational goals, the content of the learning material, the type of learners' giftedness, and the characteristics of the pedagogical situation. The most common models of organizing learning for gifted learners are presented in Table 4**.**

Table 4 – Possible Models of Organizing Learning for Gifted Learners

Lesson model	**Main goal**	**Mainly developed qualities**	**Example**
Developmental lesson	Development of thinking and reflection	Thinking and reflective skills	Suggest several ways to solve one problem and justify the choice

			of the most effective option
Research lesson	Formation of research skills	Cognitive activity, independence	Formulate a hypothesis, conduct an observation or mini-research, and present conclusions
Project-based lesson	Solving a practical or social problem	Initiative, responsibility	Develop a project for improving the school or social environment and present an implementation plan
Discussion lesson	Development of argumentation and critical analysis	Communication and analytical skills	Prepare arguments in support of different points of view and participate in a discussion of a problematic issue
Case-based lesson	Application of knowledge in a practical situation	Competence and flexibility of thinking	Analyze the proposed situation and suggest several options for its solution with justification of the choice
STEAM lesson	Integration of knowledge from different fields	Interdisciplinary thinking	Develop a model of a device or product combining knowledge from science, technology, engineering, art, and mathematics

The presented lesson models are not mutually exclusive and can be combined depending on the educational goals, the content of the learning material, and the characteristics of learners' giftedness. The use of various models of organizing learning creates conditions for the development of learners' intellectual, creative, research, and leadership potential.

The choice of a lesson model when working with gifted learners should be made taking into account the type of giftedness, the level of learners' development, educational goals, and the content of the learning material. The effectiveness of the educational process is largely determined by the correspondence of the applied pedagogical technologies to the individual characteristics and educational needs of learners.

When organizing the learning process for learners demonstrating research giftedness, it is advisable for the teacher to use research and project-based forms of work focused on problem formulation, hypothesis development, information search, and independent acquisition of new knowledge. Such learning models contribute to the development of cognitive activity, research culture, and scientific thinking skills.

For the development of creative giftedness, it is recommended to use discussion lessons, creative thinking workshops, open-ended tasks, and problem-

based search methods of learning. The use of these forms of activity organization creates conditions for the development of divergent thinking, originality of judgments, and the ability to generate unconventional ideas.

When working with intellectually gifted learners, problem-based lessons, analytical tasks, case technologies, and learning formats involving the solution of complex tasks demonstrate particular effectiveness. These models contribute to the development of logical thinking, the ability to analyze, generalize, and make reasoned decisions.

To develop learners' leadership potential, it is recommended to involve them in organizing group activities, project work, collective problem solving, and various forms of social interaction. Such activities contribute to the development of communication competencies, responsibility, organizational abilities, and decision-making skills.

It should be emphasized that the choice of a lesson model should not be determined solely by the content of the learning material. The most important basis for designing the educational process is the individual educational needs, interests, abilities, and potential opportunities of learners. The flexible combination of different learning models makes it possible to create conditions for the comprehensive development of the intellectual, creative, research, and personal potential of gifted learners.

Task Typology

Within the framework of the lesson model, various types of tasks are used, aimed at developing different aspects of giftedness.

Analytical tasks

Include: analysis of situations; identification of patterns.

Contribute to the development of logical thinking and the ability to generalize.

Creative tasks

Involve: generation of ideas; search for alternative solutions.

Are aimed at developing divergent thinking.

Research tasks

Include: problem formulation; hypothesis development; formulation of conclusions.

Form scientific thinking skills and independent knowledge acquisition.

Reflective tasks

Involve: analysis of one's own activity; self-assessment; identification of mistakes.

Contribute to the development of metacognitive skills.

Practical significance of the lesson model

The implementation of this lesson model allows for: activation of learners' cognitive activity; development of creative and critical thinking; formation of independent learning skills; consideration of learners' individual characteristics; creation of conditions for the development of giftedness.

The lesson model for gifted learners, constructed as a developmental system, ensures the transition from reproductive to productive learning. The consistent inclusion of the stages of problematization, idea generation, analysis, and reflection

contributes to the formation of higher cognitive and metacognitive skills. The use of a multi-level system of tasks and their typological diversity makes it possible to take into account learners' individual characteristics and effectively develop their potential.

2.4 Psychological and pedagogical support of gifted learners

Psychological and pedagogical support of gifted learners is an essential component of the educational process aimed at ensuring their harmonious personal and intellectual development.

Psychological and pedagogical support of gifted learners is understood as purposeful and systematic activity of teachers, psychologists, and other participants in the educational process aimed at identifying, supporting, and developing learners' abilities, creating favorable conditions for their education, personal development, and social adaptation. In pedagogical practice, support is implemented through the diagnosis of learners' educational needs, designing individual educational trajectories, providing counseling assistance, organizing a developmental educational environment, and monitoring the dynamics of learners' development.

Despite their high level of cognitive abilities, gifted learners often face a number of psychological difficulties, including increased anxiety, perfectionism, unstable self-esteem, and decreased motivation [19]. In this regard, there is a need for a purposeful support system that takes into account not only cognitive but also emotional and personal characteristics of learners.

Modern approaches to supporting gifted learners are based on humanistic psychology and a person-centered approach, according to which personality development should be considered as an integral process [20]. Within these approaches, special attention is paid to creating a supportive educational environment that promotes the realization of learners' potential.

Research shows that gifted learners are characterized by high sensitivity, achievement orientation, and increased self-demands, which may lead to emotional tension [20]. This determines the need for comprehensive support aimed at developing emotional stability and self-regulation.

One of the key areas of support is reducing the level of anxiety, which may arise due to high expectations from others and from the learner themselves.

The main objectives of this area include:

-formation of a positive attitude toward mistakes as a natural element of the learning process;

-creation of a safe educational environment that allows trial and experimentation;

-development of resilience to failures.

The implementation of this direction contributes to reducing emotional tension and increasing the effectiveness of learning activities.

Working with perfectionism

Perfectionism is a characteristic feature of many gifted learners and may manifest itself in the desire for an ideal result, fear of mistakes, and avoidance of difficult tasks.

Support includes: reducing excessive self-demands; formation of adequate self-esteem; development of the ability to accept imperfection as part of the development process.

This work is aimed at preventing emotional burnout and reducing anxiety levels.

Development of self-confidence

The formation of self-confidence is an important condition for the successful self-realization of the learner.

The main areas of work include: supporting success through recognition of achievements; creating situations of success; developing positive self-esteem.

The development of self-confidence contributes to increasing learners' activity and their readiness to solve complex tasks.

Supporting motivation

Maintaining stable learning motivation is an important condition for the development of giftedness.

This direction includes: the use of interesting and meaningful tasks; ensuring variability of activities that allows taking into account the learner's interests; creating conditions for independent choice and initiative

Motivational support contributes to the learner's involvement in the educational process and the development of their cognitive activity. An effective system of psychological and pedagogical support makes it possible to reduce the level of anxiety and emotional tension, form an adequate self-esteem, increase resilience to difficulties, develop internal motivation and ensure the harmonious development of the learner's personality. Support becomes especially important in situations when a high level of abilities is accompanied by psychological barriers that prevent the full realization of the learner's potential.

In pedagogical practice, there are often learners who demonstrate high academic achievements but avoid participation in competitions, olympiads and other intellectual contests due to fear of not meeting their own expectations or concerns about possible failure. In such cases, psychological and pedagogical support should be aimed not only at further development of abilities, but also at overcoming internal psychological limitations. An effective strategy is the gradual complication of learning tasks, focusing attention on the learner's individual progress rather than comparing them with others, as well as organizing regular developmental feedback. The implementation of these measures contributes to reducing anxiety, developing confidence in one's own abilities, strengthening stable learning motivation and readiness to accept intellectual challenges.

Psychological and pedagogical support ensures not only the development of the intellectual potential of gifted learners, but also the creation of conditions for their psychological well-being, personal growth and successful self-realization in educational activities. Support is of particular importance due to the fact that the development of abilities should be accompanied by maintaining the learner's emotional well-being, forming stable motivation, adequate self-esteem and readiness to overcome emerging difficulties. The implementation of these tasks

involves organizing a comprehensive support system that includes several interrelated areas presented in Table 5.

Table 5 – Main directions of psychological and pedagogical support for gifted learners

Direction of support	Goal	Practical actions of the teacher
Diagnostic	Identification of educational needs	Observation, analysis of achievements, monitoring of development
Developmental	Development of abilities and potential	Organization of research, project-based and creative activities
Preventive	Prevention of emotional difficulties	Creation of a psychologically safe environment, support of a positive attitude toward mistakes
Consultative	Monitoring the dynamics of development	Creation of a psychologically safe environment, support of a positive attitude toward mistakes

Psychological and pedagogical support for gifted learners is a necessary condition for their successful development. It is aimed at overcoming psychological difficulties, forming stable motivation and creating conditions for personal self-realization. The implementation of this support requires a systematic approach and consideration of the individual characteristics of learners.

2.5 Pedagogical interaction with parents of gifted children in the paradigm of support and development

Working with parents is an important component of psychological and pedagogical support for gifted learners, as the family serves as a key environment influencing the development of abilities, the formation of motivation and the child's emotional well-being. Effective interaction between the educational organization and the family makes it possible to ensure consistency of pedagogical influences and create conditions for the harmonious development of the learner's personality [20]. Modern research emphasizes the importance of the family context in the development of giftedness. In F. Monks' model [17], the family is considered one of the key factors influencing the realization of the child's potential, along with school and the social environment.

From the perspective of the humanistic approach, interaction with parents should be based on the principles of cooperation, trust and respect [20]. Parents are viewed not as passive participants, but as active subjects of the educational process who are able to significantly influence the child's development.

In modern conditions, parents act not only as participants in supporting the child, but also as partners of the educational organization in designing conditions for the development of giftedness. Their subjective position is manifested in participation in defining educational goals, discussing the learner's individual development trajectory, choosing areas of additional education, as well as creating conditions for the development of the child's cognitive interests outside school. Such interaction makes it possible to ensure continuity of educational influences and increase the effectiveness of support for gifted learners.

Main directions of work with parents

1) Informing about the child's development.

One of the basic directions is the systematic informing of parents about the learner's development.

This direction includes:

-providing information about the child's strengths;

-discussing diagnostic results;

-explaining the developmental characteristics of gifted children.

Informing contributes to the formation of parents' adequate understanding of the child's abilities and needs.

2) Recommendations for support at home

An important aspect of interaction is providing parents with practical assistance in organizing support for the child.

Recommendations may include:

-creating a developing educational environment at home;

-supporting cognitive activity;

-developing independence and responsibility;

-organizing a schedule of activities and rest.

This direction contributes to the continuation of the educational process beyond school.

3) Formation of adequate expectations

Parents of gifted children often tend to have excessively high expectations, which may lead to increased anxiety and emotional tension in the child.

Work in this direction involves:

-forming realistic ideas about the development of giftedness;

-focusing on the process rather than only on the result;

-developing an understanding of the child's individual pace of development.

The formation of adequate expectations contributes to creating a favorable psychological climate in the family.

4) An important direction of interaction is the inclusion of parents in the process of designing and implementing the individual development trajectory of the learner.

This direction involves:

-joint determination of educational goals;

-discussion of the child's interests and educational needs;

-participation in monitoring individual achievements;

-support of research, project-based and creative activities;

-assistance in choosing educational resources and additional programs.

Inclusion of parents in the process of planning educational development contributes to increasing the consistency of actions between the family and the school and ensures a more complete realization of the learner's potential.

Prevention of overload.

Gifted learners are often involved in a large number of academic and extracurricular activities, which may lead to overload and emotional burnout.

Within this direction, the following activities are carried out:

-monitoring the amount of academic workload;

-maintaining a balance between learning and rest;

-prevention of stressful conditions.

Prevention of overload is an important condition for maintaining the learner's health and stable motivation.

Forms of work with parents

Various forms of interaction are used to implement the specified directions:

-individual consultations;

-parent meetings;

-trainings and seminars;

-joint projects and activities;

-digital forms of interaction (online consultations, platforms).

The use of various forms makes it possible to increase the effectiveness of interaction and take into account the characteristics of each family.

Practical significance of working with parents

Systematic work with parents contributes to:

-coordination of the requirements of the school and the family;

-creation of a supportive environment for the development of the child;

-reduction of anxiety and emotional tension;

-improvement of the effectiveness of the educational process;

-development of the potential of the gifted learner.

Work with parents is an integral part of psychological and pedagogical support for gifted learners. It ensures the consistency of educational influences, contributes to the creation of favorable conditions for the development of the child's personality, and prevents possible psychological difficulties. Effective interaction between the school and the family is an important factor in the successful realization of giftedness potential.

Conclusion

The presented methodological recommendations are aimed at providing practical assistance to teachers in organizing the education and support of gifted learners in the conditions of the modern educational environment. The content of the recommendations is focused on creating conditions for identifying, supporting, and developing various types of giftedness, taking into account the individual characteristics, educational needs, and potential abilities of learners.

The recommendations present the main approaches to understanding giftedness, reveal the features of its manifestation in the educational process, offer diagnostic tools for identifying learners' abilities, and provide practical mechanisms for constructing an individual development trajectory. Particular attention is paid to the organization of a developmental educational environment, the use of a multi-level system of tasks, the development of divergent and convergent thinking, the formation of metacognitive skills, and the provision of psychological and pedagogical support.

The practical application of the presented recommendations will allow teachers to more effectively diagnose the educational needs of gifted learners, design an individualized educational process, create conditions for the development of intellectual and creative potential, and timely identify and overcome possible difficulties in learning and personal development.

An important condition for the effectiveness of work with gifted learners is the systematic use of the proposed approaches, which implies the interconnection of diagnostics, individualization of learning, pedagogical support, and regular monitoring of educational achievements. The comprehensive application of these tools contributes to the creation of a favorable educational environment that ensures not only high academic achievements but also the harmonious development of the learner's personality.

The proposed recommendations can be used by teachers of secondary education organizations when planning and conducting lessons, developing individual educational routes, organizing project and research activities, as well as within methodological work aimed at improving the practice of teaching and supporting gifted learners.

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Appendix A

«Утверждаю»
Председатель учебно-методического совета
Аушахманова Б.Т.
«31» марта 2026 г.

Заключение
на инновационный педагогический опыт в сфере среднего образования

Место работы: НАО «Павлодарский педагогический университет им.Әлкей Марғұлан/КГУ «Специализированная школа-лицей «Жас Дарын» управления образования Павлодарской области»

Авторы: Утилова А. М., Асаинова А. Ж., Шакенова Т. Ж., Жанғазы Г.С.

Тема: Методические рекомендации для педагогов по обучению и развитию одаренных обучающихся

1. **Актуальность** представленной работы обусловлена необходимостью совершенствования системы выявления, обучения и развития одарённых обучающихся в условиях модернизации образования.
2. **Научно-методический уровень работы.** Научно-методический уровень работы является комбинаторным, так как авторы используют современные педагогические подходы, интегрируя их с практическим опытом работы с одарёнными детьми.
3. **Степень новизны работы**. Работа содержит элементы новизны, выражающиеся в систематизации методов и приёмов работы с одарёнными обучающимися.
4. **Научность работы.** Содержание работы в целом соответствует современной образовательной парадигме, включает теоретические и практические аспекты, направленные на развитие одарённости обучающихся.
5. **Оценка внутреннего единства и методологической основы.** Методологическая основа прослеживается на всех этапах исследования.
6. **Обоснованность и достоверность результатов.** Результаты работы обоснованы, подтверждены практическим опытом и апробацией в образовательной деятельности.
7. **Практическая значимость работы.** Практическая значимость заключается в возможности использования методических рекомендаций педагогами при организации работы с одарёнными обучающимися.
8. **Апробация результатов**. Результаты работы прошли апробацию в образовательной практике, что подтверждается соответствующими материалами внедрения.
9. **Соответствие требованиям к оформлению.** Работа соответствует требованиям к оформлению.
10. **Выводы и рекомендации**. Представленная работа имеет практическую ценность, может быть рекомендована к распространению и обобщению педагогического опыта на районном и областном уровнях.

Секретарь учебно-методического совета **К.А. Мундуинова**

Appendix Б

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ

РЕСПУБЛИКА КАЗАХСТАН

СВИДЕТЕЛЬСТВО

О ВНЕСЕНИИ СВЕДЕНИЙ В ГОСУДАРСТВЕННЫЙ РЕЕСТР ПРАВ НА ОБЪЕКТЫ, ОХРАНЯЕМЫЕ АВТОРСКИМ ПРАВОМ

№ 73600 от «1» июня 2026 года

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