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METHODOLOGICAL GUIDELINES

"Models for Teaching Gifted Learners with the Integration of a Personalized
Approach and Inclusive Educational Technologies"



Pavlodar, 2026

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Introduction

The modern education system of the Republic of Kazakhstan is focused on developing learners' intellectual potential, forming their ability to think independently, generate original ideas, and make decisions under conditions of uncertainty. In this context, the organization of education for gifted learners becomes particularly significant, as they are regarded as a strategic resource for the development of human capital and for ensuring the innovative potential of society.

An analysis of contemporary international and Kazakhstani studies shows that the effective organization of education for gifted learners involves the integration of personalized learning, inclusive educational technologies, and practice-oriented forms of educational activity [1,2,3]. At the same time, it has been established that in existing pedagogical practice these approaches are often implemented fragmentarily and in isolation, which reduces their effectiveness and limits the possibilities for the comprehensive development of learners [4].

In this regard, a set of original models has been developed to ensure the systemic integration of the indicated pedagogical approaches and to promote the holistic development of learners' cognitive, metacognitive, and personal potential. The design of the authors' model was carried out on the basis of activity-based, competency-based, constructivist, and personalized approaches. Contemporary research in the field of personalized learning, digital pedagogy, and inclusive education was used as the theoretical and methodological foundation [5, 1].

The key principles underlying the model are the individualization of the educational process, the variability of educational routes, the practice-oriented focus of learning content, and ensuring the accessibility and inclusiveness of the educational environment.

The purpose of the study is to provide a theoretical and methodological substantiation and to develop a set of interconnected pedagogical models that ensure the integration of practice-oriented, inclusive, and personalized learning aimed at developing the cognitive, metacognitive, and personal potential of gifted learners.

The scientific novelty of the work lies in the development and theoretical-methodological substantiation of a set of interconnected pedagogical models that ensure the integration of practice-oriented learning, inclusive educational technologies, and a personalized approach. The study proposes a mechanism for the dynamic adaptation of an individual educational trajectory, based on the analysis of learners' cognitive errors and allowing flexible adjustment of the content and organization of learning.

The expediency and effectiveness of integrating metacognitive reflection into the structure of practice-oriented tasks have been substantiated as a condition for increasing the awareness of learning activity and developing learners' regulatory skills.

A system of pedagogical models has been developed that functions as a unified educational environment and ensures the comprehensive development of learners' cognitive, metacognitive, and personal spheres.

The practical significance of the study lies in the possibility of introducing the developed set of models into the educational process of educational organizations of

the Republic of Kazakhstan in order to increase the effectiveness of teaching gifted learners. The models may be used in designing lessons, developing individual educational trajectories, organizing practice-oriented and research activities, and creating an inclusive educational environment. Their application contributes to increasing learning motivation, developing learners' intellectual independence and self-regulation skills, and improving educational outcomes.

Glossary

Giftedness - a systemic quality of personality characterized by a high level of development of intellectual, creative, academic, or other abilities that enable the achievement of outstanding results in one or more types of activity.

Personalized learning - an approach to organizing the educational process based on taking into account the learner's individual characteristics, interests, needs, abilities, and educational goals in order to ensure the most effective development of their potential.

Individual educational trajectory - a specially designed educational route for a learner that determines the content, forms, methods, pace of learning, and ways of achieving individual educational outcomes.

Inclusive education - the process of ensuring equal access to quality education for all learners regardless of their individual characteristics, educational needs, health status, level of preparation, or other differences.

Practice-oriented learning - the organization of the educational process based on solving real or simulated practical tasks aimed at applying knowledge, forming skills, and developing the ability to transfer acquired experience to new situations.

Cognitive profile - a set of individual features of a learner's cognitive activity, including the level of development of thinking, memory, attention, information processing characteristics, learning interests, and preferred learning strategies.

Adaptive learning - a model for organizing the educational process that provides for dynamic adjustment of the content, level of difficulty, pace, and methods of learning based on the analysis of educational results and the learner's individual characteristics.

Educational analytics - a system for collecting, processing, analyzing, and interpreting data on learners' educational activities, used to make informed pedagogical decisions and improve the effectiveness of learning.

Metacognitive reflection - the process through which a learner becomes aware of, analyzes, and evaluates their own cognitive activity, the thinking strategies used, ways of solving tasks, and achieved results for the purpose of their subsequent improvement.

Psychological and pedagogical support - a set of diagnostic, consultative, correctional-developmental, and supportive measures aimed at creating conditions for successful learning, personal development, emotional well-being, and social adaptation of the learner.

The concepts presented in the glossary reflect the key categories of the authors' concept for the development of gifted learners and constitute the theoretical and methodological basis of the developed set of models. The interrelation of these concepts, as well as their place and role in the structure of the authors' concept, is visually presented in Figure 1.

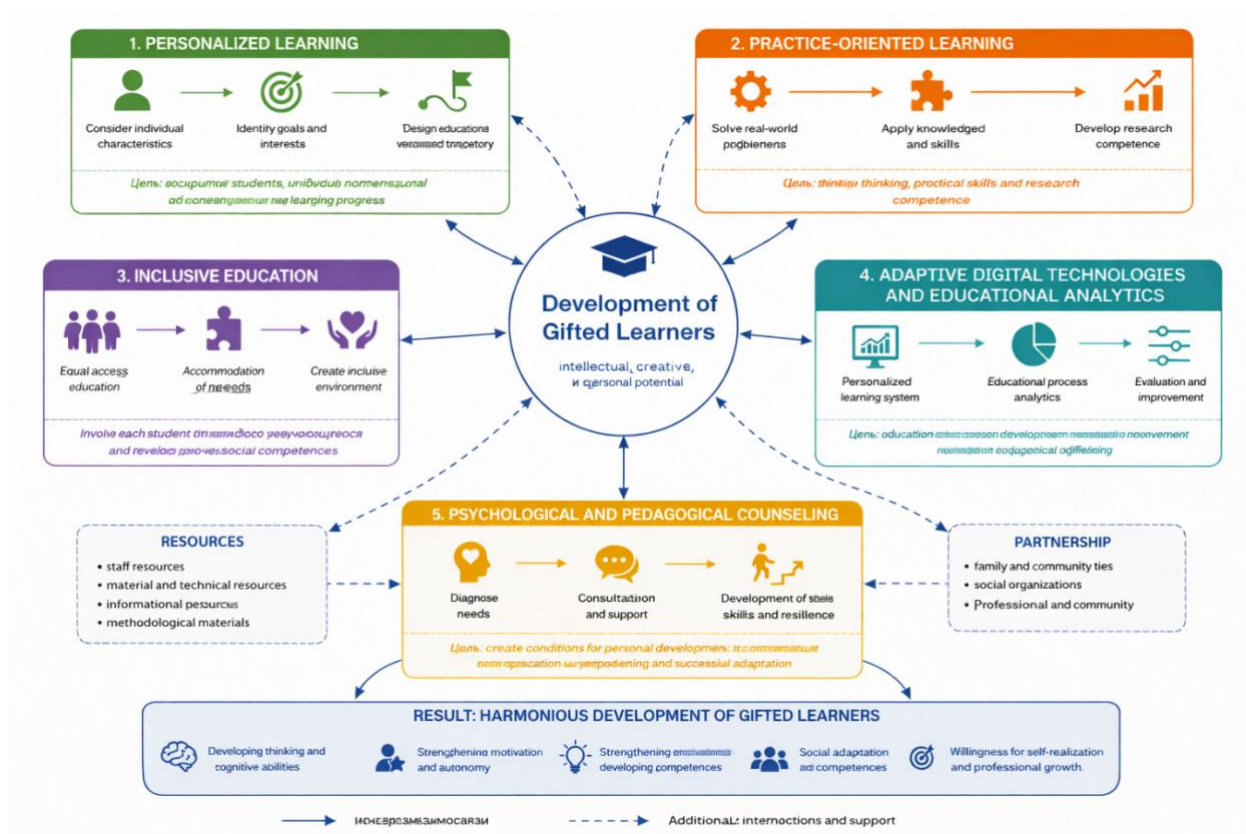


Figure 1 - Concept map of the authors' concept for the development of gifted learners

1. Conceptualization of the Authors' Pedagogical Models

1.1 Cognitive-Practical Model for the Development of Giftedness

Within the framework of this study, we developed a cognitive-practical model for the development of giftedness, aimed at the systematic and staged development of learners' intellectual abilities through their inclusion in specially organized practice-oriented activity. The essence of the model lies in the purposeful formation of stable cognitive strategies through the solution of problem-based tasks that require the activation of analytical, synthetic, and productive thinking activity. This approach corresponds to contemporary scientific views on the priority of learning through activity and the solution of practically significant tasks as a condition for the development of higher mental functions [1, 5].

The purpose of the developed model is to develop analytical, critical, and divergent thinking as key components of intellectual giftedness. Within the model, these types of thinking are considered as interrelated cognitive mechanisms that ensure learners' ability to conduct an in-depth analysis of information, put forward alternative hypotheses, generate original ideas, and make reasoned decisions under conditions of uncertainty [6,7].

Structurally, the model includes four interconnected components that function in unity and ensure the holistic development of learners' cognitive activity. The cognitive component is aimed at developing basic thinking operations, including analysis, synthesis, comparison, classification, and generalization of information.

The practical component ensures the application of knowledge in the process of solving real and simulated problem situations, which contributes to the formation of the ability to transfer knowledge to new contexts. The reflective component is oriented toward learners' understanding of their own activity, identification of errors made, and evaluation of the effectiveness of the strategies used. The metacognitive component is aimed at developing the skills of planning, monitoring, and regulating cognitive activity, thereby forming the ability to consciously manage the learning process [8].

The mechanism for implementing the model developed by the authors is based on the sequential organization of learners' educational activities and includes a number of stages that ensure the gradual complication of the cognitive load:

- At the first stage, a problem situation is posed that requires the activation of cognitive activity.
- At the second stage, learners analyze the conditions of the task, identifying essential features and relationships.
- The third stage involves generating possible solutions, including alternative and non-standard options.
- At the fourth stage, the optimal solution is selected on the basis of its justification.
- The final stage is reflection aimed at understanding the process and the result of the activity.

This logic of organizing learning ensures the transition from reproductive activity to productive activity and contributes to the formation of skills for independent problem solving [5,2].

The inclusive component of the model was developed by us taking into account the need to ensure the accessibility of the educational process for learners with different levels of preparation and educational opportunities. It is implemented through differentiation of the level of complexity of learning tasks, variability in the ways learning information is presented (textual, visual, auditory), and provision of opportunities for learners to choose ways of completing tasks. This makes it possible to ensure the inclusion of every learner in educational activity and to create conditions for implementing the principle of equal educational opportunities [4].

Personalization of learning within the developed model is ensured by adapting the content, level of difficulty, and pace of task completion in accordance with the learner's individual cognitive profile. The use of adaptive educational solutions, including elements of digital analytics, makes it possible to take into account the dynamics of educational results and to correct the educational trajectory in a timely manner. This contributes to increasing the effectiveness of learning and to the fullest possible realization of learners' individual potential [1,10].

The scientific novelty of the cognitive-practical model lies in the integration of practice-oriented activity and metacognitive reflection within a single educational process. Unlike traditional approaches, in which practical activity and reflection are considered relatively independent elements of learning, in the proposed model they function as interrelated mechanisms for developing intellectual giftedness, ensuring not only the acquisition of knowledge and the formation of practical skills, but also

the development of learners' ability to consciously plan, monitor, and evaluate their own cognitive activity. The implementation of the model involves a transformation of the professional role of the teacher, who acts as an organizer of problem situations, a facilitator of cognitive activity, a consultant, a moderator of reflective processes, and an expert in assessing educational outcomes. This makes it possible to regard the model as a holistic pedagogical system that ensures the comprehensive development of the cognitive, metacognitive, and personal potential of gifted learners in the context of a modern educational environment.

1.2. Model of a Personalized Educational Trajectory

Within the framework of this study, a model of a personalized educational trajectory (IET) has been developed, aimed at individualizing the educational process with due regard for the learner's cognitive, personal, and educational characteristics. The essence of the model lies in designing and implementing an individual educational route that provides optimal conditions for developing learners' intellectual potential and for their achievement of high educational outcomes. This approach corresponds to contemporary scientific views on personalized learning as a key direction in the development of educational systems [1,5].

The purpose of the developed model is to unlock the learner's individual potential by creating a flexible educational trajectory that takes into account their abilities, interests, level of preparation, and pace of mastering the learning material. Within the model, the learner is regarded as an active subject of the educational process, possessing a unique cognitive profile, which requires appropriate adaptation of the content and organization of learning [10,2].

Structurally, the model includes interconnected blocks that ensure the integrity of the personalization process:

- The diagnostic block is aimed at identifying the learner's cognitive characteristics, the level of development of their cognitive processes, motivational sphere, and educational needs. Based on the diagnostic results, an individual cognitive profile is formed that reflects the learner's strengths and zones of proximal development.
- The design block involves the development of an individual educational trajectory, including the determination of learning goals, the selection of content, the level of difficulty of tasks, and the pace of their mastery.
- The implementation block ensures the learner's involvement in the performance of individualized tasks and educational activities.
- The monitoring and analytical block is aimed at assessing educational results, analyzing the dynamics of achievements, and identifying typical errors, which makes it possible to correct the educational trajectory in a timely manner [8].

The mechanism for implementing the model is based on the sequential logic of organizing the educational process and includes the following stages: diagnosis of the learner's individual characteristics, formation of their cognitive profile, selection and completion of learning tasks, analysis of activity results, and subsequent correction of the educational trajectory. Such a cyclical organization

ensures continuous adaptation of learning and contributes to increasing its effectiveness [5,8].

The inclusive component of the model is implemented through consideration of the diversity of learners' educational opportunities, including differences in level of preparation, pace of learning, cognitive styles, and individual needs. This presupposes flexibility of learning content, variability in the forms of information presentation, and the possibility of choosing educational strategies, thereby ensuring the accessibility of the educational process for all learners [7].

Personalization in this model is not a separate element but its system-forming principle, determining the organization of all components of the educational process. Individualization of content, methods, and forms of learning makes it possible to take into account the characteristics of each learner and to create conditions for their most effective development [1, 10].

The scientific novelty of the model lies in the proposed mechanism of dynamic adaptation of the educational process based on the analysis of learners' educational results and cognitive errors. Unlike traditional models of individualization, which imply a static distribution of learning content, the proposed model ensures continuous correction of the individual educational trajectory in accordance with the learner's current achievements, needs, and capabilities. The implementation of the model implies a change in the professional role of the teacher, who simultaneously acts as a diagnostician of the learner's individual characteristics, a designer of the individual educational trajectory, a tutor supporting educational progress, and an educational data analyst who ensures pedagogical decision-making on the basis of objective monitoring results. This makes it possible to regard the model as an adaptive pedagogical system that ensures the continuous development of learners' cognitive and personal potential in the context of a modern educational environment.

1.3. Inclusive-Practical Learning Model

The essence of the model lies in creating an educational environment that ensures the active inclusion of every learner in practice-oriented activity on the basis of the principles of inclusive education and differentiation of learning. This approach corresponds to contemporary scientific views on the need to ensure equal access to education and to take into account the individual diversity of learners [1,5].

The purpose of the developed model is to ensure the inclusion of all learners in the educational process through the organization of joint activity that promotes the development of cognitive activity, communication skills, and social responsibility. Within the model, learners are considered participants in a unified educational space where differences in level of preparation are not a limitation but a resource for joint learning and development [7].

Structurally, the model includes the following key components:

- variable learning tasks differentiated by level of difficulty;
- organization of group activity;
- distribution of functional roles among learners; as well as a system of pedagogical support.

The variability of tasks ensures the possibility of including learners with different levels of preparation, while the group form of work contributes to the formation of cooperation and peer-learning skills. The distribution of roles (analyst, performer, coordinator, presenter, etc.) is carried out with due regard for learners' individual strengths, which increases the effectiveness of their participation in the educational process [2,10].

The mechanism for implementing the model is based on the staged organization of educational activity. At the first stage, a common practice-oriented task that is meaningful for all group participants is posed. At the second stage, roles are distributed and learners' individual contributions to solving the task are determined. At the third stage, joint activity aimed at achieving a common result is carried out. The final stage is collective reflection, including evaluation of the interaction process, analysis of the results achieved, and understanding of each participant's individual contribution. This organization of learning promotes the development of not only learners' cognitive but also social competencies [5, 10].

The inclusive component of the model is implemented through the creation of conditions that ensure the accessibility of the educational process for all learners, including variability in the ways learning material is presented, flexibility in the forms of completing tasks, and consideration of the individual pace of learning. The application of the principles of universal design for learning makes it possible to minimize barriers to learning and ensure equal educational opportunities [1,4].

The practice-oriented focus of the model is manifested in the use of tasks close to real-life situations, requiring the application of knowledge in new conditions and stimulating the development of the ability to transfer knowledge. This ensures that learners develop skills for solving complex tasks and contributes to the development of their functional literacy [2,10].

The scientific novelty of the developed model lies in the integration of the principles of inclusive education and practice-oriented learning within a single pedagogical system. Unlike traditional approaches, in which inclusion and practical activity are implemented separately, the proposed model ensures their interconnected and mutually complementary functioning, which contributes to increasing learners' involvement in the educational process, the effectiveness of mastering learning material, the development of communication skills, and the formation of key competencies. The implementation of the model presupposes an expansion of the teacher's professional functions: the teacher acts as a coordinator of educational interaction, a moderator of group activity, a mentor in the process of solving practice-oriented tasks, and an organizer of an inclusive educational environment that ensures equal opportunities for participation and successful learning for every learner. This makes it possible to regard the model as an effective mechanism for developing learners' cognitive, social, and personal potential in the context of modern education.

1.4. Model of Project and Research Activity

The developed model of project and research activity is oriented toward organizing learning through learners' solution of real, practically significant tasks.

The content of the model is aimed at transforming the educational process from a predominantly reproductive one into a productive-research process, in which the learner acts as an active subject of cognition, independently formulating problems, putting forward hypotheses, and developing ways to solve them. This approach corresponds to contemporary scientific views on the importance of research-based and project-based learning as effective means of developing giftedness and forming 21st-century competencies [1,5].

The purpose of the developed model is to develop research thinking, cognitive independence, and the ability to solve complex tasks on the basis of integrating knowledge from various subject areas. Special attention is paid to forming learners' abilities to identify problems, analyze information, formulate and justify hypotheses, and present the results of their own activity [2,7].

Structurally, the model is implemented through a sequence of interconnected stages that reflect the logic of scientific research and project activity. At the first stage, a problem is posed, involving the identification of a contradiction or practical task requiring a solution. At the second stage, a hypothesis is formulated as an assumption about possible ways of solving the stated problem. The third stage includes conducting research, within which information is collected, analyzed, and interpreted using various methods. At the fourth stage, a solution is developed based on the results obtained. The fifth stage involves presenting the results, including their structured presentation and justification. The final stage is reflection aimed at understanding the process and outcomes of the activity, as well as identifying opportunities for their further improvement [5,4].

The mechanism for implementing the model involves learners' inclusion in long-term or short-term project and research activity organized in both individual and group forms. In this process, the teacher performs the functions of a mentor and coordinator, providing methodological support and creating conditions for learners' independent cognitive activity. The proposed format of interaction contributes to the development of self-regulation skills, responsibility for the result, and the ability to make independent decisions [8].

The inclusive component of the model is implemented through providing learners with the opportunity to choose the topic, level of difficulty, and form of presenting results, which makes it possible to take into account their individual educational needs and interests. The variability of roles in project activity (researcher, analyst, designer, presenter, etc.) ensures the inclusion of learners with different levels of preparation and contributes to the formation of cooperation skills [4].

Personalization within the model is manifested in the orientation of project and research activity toward learners' individual interests, cognitive characteristics, and educational goals. This ensures a high level of motivation and contributes to deeper mastery of learning material [2].

The scientific novelty of the developed model lies in the systemic orientation of the educational process toward solving real practical tasks, the integration of research and project activity, and the consideration of learners' individual interests as a key factor in organizing learning. Unlike traditional approaches, in which

project activity is episodic in nature, the proposed model presupposes its systematic inclusion in the educational process as the main mechanism for developing learners' cognitive and personal potential.

1.5. Adaptive-Digital Learning Model

The developed adaptive-digital learning model is aimed at using modern digital technologies and elements of artificial intelligence to increase the effectiveness of the educational process. The essence of the model lies in organizing learning as an adaptive system functioning on the basis of continuous collection and analysis of educational data, followed by adjustment of the content, forms, and pace of learning. This approach corresponds to current trends in the development of digital pedagogy and educational analytics aimed at personalizing learning and improving its effectiveness [1,5].

The purpose of the developed model is to provide optimal conditions for the development of learners' cognitive potential through targeted adjustment of the educational process in accordance with their individual characteristics and the dynamics of educational results. Within the model, the digital environment acts not only as a means of transmitting information but also as an instrument for diagnosing, analyzing, and forecasting educational achievements [10, 2].

Structurally, the model includes the following interconnected components: a digital educational environment that provides access to learning materials and tasks; a data collection system that records task performance results, pace of work, and learners' typical errors; an analytical module that processes and interprets the obtained data; and an adaptive mechanism that changes the content and parameters of learning in accordance with the results of the analysis [5].

The mechanism for implementing the model is based on the sequential logic of the functioning of an adaptive system and includes the stages of data collection, data analysis, adaptation of the educational process, and generation of recommendations. At the first stage, automated collection of data on the learner's activity is carried out, including task performance results, time spent completing them, and the nature of errors made. At the second stage, the obtained information is analyzed in order to identify the level of formation of knowledge and skills and to determine individual difficulties. At the third stage, the educational process is adapted, including changes in the level of difficulty of tasks, the pace of their presentation, and the structure of the learning material. At the final stage, personalized recommendations are formed, aimed at eliminating identified gaps and developing the learner's strengths [5, 7].

The inclusive component of the model is implemented through ensuring the accessibility of the digital educational environment for learners with various educational needs. This is achieved through the use of multimodal forms of information presentation (text, audio, visualization), flexibility of the interface, and the possibility of individual adjustment of learning parameters. This approach makes it possible to minimize educational barriers and ensure the inclusion of all learners in the educational process [4].

Personalization of learning within the model is carried out on the basis of the analysis of the learner's individual educational data and is implemented through adaptation of the content, level of difficulty, and pace of learning. The use of adaptive learning algorithms makes it possible to take into account not only the learner's current level of preparation but also the dynamics of their development, which contributes to more effective formation of knowledge and skills [10, 9].

The scientific novelty of the model developed by us lies in the integration of educational analytics and pedagogical mechanisms for organizing learning within a single system. Unlike traditional digital educational solutions, which are primarily focused on transmitting information, the proposed model ensures active management of the educational process based on the analysis of educational data, which makes it possible to implement the principle of adaptive learning and promptly adjust the content, level of difficulty, and pace of mastering the learning material. The implementation of the model involves a transformation of the teacher's professional role: the teacher acts as an educational data analyst who interprets learning results, a developer of adaptive educational routes, and a digital mentor who provides effective support for learners in a digital educational environment. This makes it possible to regard the model as an effective tool for developing learners' intellectual potential, ensuring personalization of learning and increasing its effectiveness in the context of the digital transformation of education.

1.6. Model of Psychological and Pedagogical Support

The presented model of psychological and pedagogical support is aimed at ensuring the holistic personal development of learners in the learning process. The essence of the model lies in the systemic integration of psychological support into the educational process, ensuring the formation of stable motivation, the development of self-regulation, and the increased adaptability of learners to learning activity. This approach corresponds to contemporary scientific views on the need to take emotional and personal factors into account in learning, especially when working with gifted learners, who are characterized by increased sensitivity, perfectionism, and a high cognitive load [1,5].

The purpose of the developed model is to create conditions for the harmonious development of learners' personal sphere, including the formation of stable learning motivation, the development of emotional resilience, self-regulation skills, and the ability to overcome learning difficulties. Within the model, personal development is considered an integral component of the educational process that directly affects its effectiveness [10, 2].

Structurally, the model includes three interconnected components: diagnostic, supportive, and correctional-developmental:

- The diagnostic component is aimed at identifying learners' individual psychological characteristics, their level of learning motivation, emotional state, degree of anxiety, and features of self-regulation.
- The supportive component involves systematic support for learners in the learning process, including individual and group forms of work, counseling, and the creation of a favorable psychological climate.

- The correctional-developmental component is oriented toward overcoming identified difficulties, developing adaptive behavioral strategies, and forming effective self-regulation skills [8].

The mechanism for implementing the model is based on the sequential and cyclical organization of activity and includes the stages of diagnosis, support, and correction. At the first stage, a comprehensive diagnosis of the learner's personal and emotional characteristics is carried out. At the second stage, a system of psychological and pedagogical support is implemented, aimed at supporting the learner in the learning process. At the third stage, correctional and developmental work is carried out, including the development and implementation of individual programs aimed at eliminating identified difficulties. This organization of the process ensures timely identification of problems and their effective overcoming [5, 7].

The inclusive component of the model is implemented through consideration of the diversity of learners' personal and emotional characteristics, the creation of conditions of psychological safety, and support for every learner regardless of their level of preparation and individual characteristics, which presupposes flexibility in forms of interaction, an individual approach, and variability in support methods [2].

Personalization within the model is manifested in the development of individual psychological and pedagogical support programs that take into account the characteristics of each learner, their educational needs, and their level of personal development. The approach under consideration provides targeted support and contributes to more effective development of personal potential [10].

The scientific novelty of the developed model lies in the integration of psychological and pedagogical support into the structure of the educational process as its integral component. Unlike traditional approaches, in which psychological and pedagogical assistance is predominantly auxiliary, the proposed model considers support as a key condition for ensuring the stability, effectiveness, and personal orientation of learning. The implementation of the model implies an expansion of the teacher's professional functions: the teacher acts as a mentor in the learner's personal development, a coordinator of the support system, a consultant on issues of educational and personal growth, and a mediator who ensures constructive interaction among all participants in the educational process. This makes it possible to regard the proposed model as an important component of a comprehensive system for the development of gifted learners, ensuring the harmonious development of their personal potential, increasing learning motivation, forming self-regulation skills, and successful adaptation to the educational environment.

At the same time, each of the presented authors' models performs an independent function within the structure of a unified pedagogical system and contributes to achieving the common goal: the development of the cognitive, personal, and creative potential of gifted learners. To provide a visual representation of the key characteristics, goals, implementation mechanisms, and expected results of the developed set of models, Table 1 presents their comparative characteristics.

Table 1 - Comparative characteristics of the authors' pedagogical models for the development of gifted learners

No.	Model	Purpose	Leading mechanism	Role of the teacher	Result
1	Cognitive-practical model for the development of giftedness	Development of analytical, critical, and divergent thinking; formation of problem-solving skills and conscious management of cognitive activity	Problem solving	Facilitator	Cognitive development
2	Model of a personalized educational trajectory	Unlocking the learner's individual potential through the construction of a flexible educational trajectory that takes into account abilities, interests, needs, and pace of learning	Individual route	Tutor	Individual progress
3	Inclusive-practical learning model	Ensuring the inclusion of all learners in the educational process through the organization of joint practice-oriented activity and the creation of equal educational opportunities	Joint activity	Coordinator	Social competencies
4	Model of project and research activity	Development of research thinking, cognitive independence, and the ability to solve complex practical tasks on the basis of integrating knowledge from various subject areas	Project	Mentor	Research competencies
5	Adaptive-digital learning model	Ensuring personalization and adaptation of learning through the use of digital technologies, educational analytics, and intelligent mechanisms to support pedagogical decision-making	Data analytics	Digital mentor	Personalized recommendations
6	Model of psychological and pedagogical support	Creating conditions for the harmonious personal development of learners, the formation of stable learning motivation, emotional resilience, self-regulation skills, and overcoming learning difficulties	Support	Consultant	Self-regulation

An analysis of the characteristics presented in Table 1 shows that the developed set of authors' pedagogical models represents a holistic and interconnected system for the development of gifted learners. Each model addresses an independent pedagogical task and has its own implementation mechanism; at the same time, all models are united by the common goal of creating conditions for the development of learners' cognitive, personal, and creative potential. Their integration ensures a combination of personalization, practice-oriented learning, inclusive education, digital adaptation, and psychological and pedagogical support, which creates a methodological basis for constructing the authors' integrative model for teaching gifted learners.

1.7. Authors' Integrative Model of Practice-Oriented Learning for Gifted Learners with the Integration of Personalization and Inclusive Educational Technologies

The developed authors' integrative model is a holistic system that combines cognitive development, personalization of learning, an inclusive educational environment, practice-oriented activity, digital adaptation, and psychological and pedagogical support. The structure of the model includes six interconnected blocks functioning as a unified educational system.

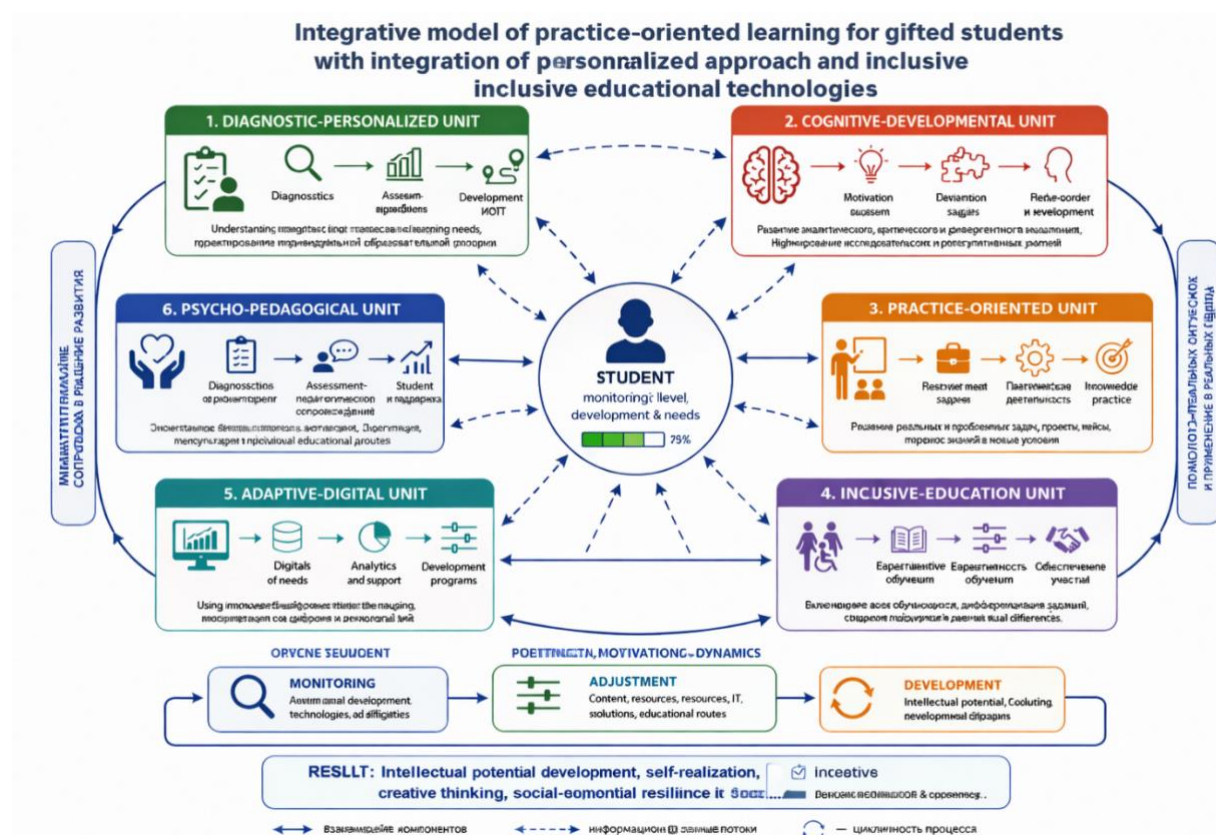


Figure 2. Authors' integrative model of practice-oriented learning for gifted learners with the integration of personalization and inclusive educational technologies

Figure 2 illustrates the developed authors' integrative model of practice-oriented learning for gifted learners with the integration of personalization and inclusive educational technologies.

At the center of the model is the learner, who acts as the subject of the educational process and possesses an individual cognitive profile, interests, capabilities, needs, and individual progress (progress bar).

The central position of the learner in the structure of the model reflects the principle of personalization of learning, according to which all components of the educational system are designed and function with due regard for the learner's individual psychological and educational characteristics. The model has a circular structure and includes six interconnected blocks (Fig. 1):

1. The diagnostic-personalized block is aimed at identifying the learner's individual cognitive characteristics, analyzing their cognitive interests, and determining educational needs. Based on the diagnostic results, an individual educational trajectory is formed, determining the learning content, the level of difficulty of learning tasks, and the pace of mastering the educational material.

2. The cognitive-developmental block is focused on the formation and development of analytical, critical, and divergent thinking. This block is implemented through a system of learning tasks structured according to the principle of gradually increasing the complexity of cognitive activity, includes elements of metacognitive reflection, and is aimed at developing learners' research skills.

3. The practice-oriented block ensures the application of formed knowledge and skills in the process of solving real and problem-based situations. Within this block, case methods, project and research tasks are used, contributing to the development of the ability to transfer knowledge to new contexts and to apply it in practice.

4. The inclusive educational environment is aimed at ensuring the inclusion of all learners in the educational process with due regard for their individual characteristics and educational needs. This block presupposes variability in forms and methods of learning, level-based differentiation of learning tasks, and the creation of conditions that ensure equal access to educational resources and opportunities.

5. The adaptive-digital block reflects the use of modern digital technologies and elements of artificial intelligence for the collection, processing, and analysis of educational data. Based on the obtained information, the learning content, level of task difficulty, and pace of mastering the material are adapted, and personalized educational recommendations are generated.

6. The psychological and pedagogical support block is aimed at supporting the learner's emotional and personal development, forming self-regulation skills, increasing learning motivation, and developing resilience to learning difficulties. In addition, this block is focused on the timely identification and prevention of possible psychological and educational barriers in the learning process.

All structural components of the model function in a mode of constant interaction, ensured by a system of direct and feedback connections visualized in the diagram by directed arrows. This interconnection reflects the nonlinear nature of the

educational process, its dynamism, and its adaptability to the learner's changing educational needs.

The lower part of the model presents a cycle of continuous development that includes the stages of monitoring, correction, and development. Monitoring involves systematic analysis of educational results and the dynamics of the learner's academic achievements.

The correction stage is aimed at adapting the individual educational trajectory, content, and methods of learning in accordance with the identified results.

The development stage reflects qualitative changes in the learner's cognitive and personal spheres, including an increased level of formation of intellectual skills, independence, and the ability for self-regulation.

The presented authors' model reflects the systemic integration of personalized learning, inclusive educational practices, a practice-oriented approach, digital technologies, and psychological and pedagogical support. Within the framework of this authors' concept, the holistic and interconnected development of the cognitive, creative, and personal potential of gifted learners is ensured, which makes it possible to regard it as a scientifically grounded and methodologically verified model for organizing the modern educational process.

Conclusion

The developed set of authors' models represents a modern, scientifically grounded system that ensures the development of gifted learners and meets the requirements of a digital and inclusive educational environment.

The presented set of models is oriented toward the holistic development of the cognitive, metacognitive, and personal potential of gifted learners and takes into account modern requirements for organizing the educational process in the context of the digital transformation of education.

The developed models function as a unified adaptive educational system in which the interrelation of diagnosis, individualization, practical activity, digital adaptation, and psychological and pedagogical support is implemented. This ensures the continuity of the educational process, its flexibility, and its ability to be dynamically adjusted in accordance with learners' individual characteristics.

The practical orientation of the proposed models makes it possible to regard them as an effective tool for modernizing educational practice focused on the development of gifted learners. Their implementation contributes to improving the quality of education, developing intellectual independence, forming self-regulation skills, and strengthening learning motivation.

The developed set of models corresponds to contemporary scientific approaches and educational priorities, ensuring the creation of an effective, adaptive, and inclusive educational environment aimed at developing human capital and the innovative potential of society.

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**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»

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Тема: Модель обучения одаренных обучающихся с интеграцией инклюзивных образовательных технологий и персонализированного подхода

1. **Актуальность представленной работы** представленной работы обусловлена необходимостью разработки эффективных моделей обучения одарённых обучающихся с учётом принципов инклюзивного образования и персонализации обучения в условиях современной образовательной среды.
2. **Научно-методический уровень работы** является комбинаторным, так как авторы интегрируют современные педагогические технологии, включая инклюзивные практики и персонализированный подход, с имеющимся практическим опытом работы с одарёнными обучающимися.
3. **Степень новизны работы** работа обладает элементами новизны, заключающимися в разработке модели обучения одарённых обучающихся на основе интеграции инклюзивных образовательных технологий и персонализированного подхода.
4. **Научность работы** содержание работы соответствует современным тенденциям развития образования, включает теоретическое обоснование и практическую реализацию модели, направленной на развитие потенциала одарённых обучающихся.
5. **Оценка внутреннего единства и методологической основы** работа характеризуется логической целостностью, последовательностью изложения и наличием чётко выстроенной методологической основы, прослеживающейся на всех этапах исследования.
6. **Обоснованность и достоверность результатов** полученные результаты являются обоснованными и достоверными, так как подтверждены анализом педагогической практики и результатами апробации предложенной модели.
7. **Практическая значимость работы** заключается в возможности применения разработанной модели и методических рекомендаций педагогами для организации эффективного обучения одарённых обучающихся в условиях инклюзивного образования.
8. **Апробация результатов** результаты исследования прошли апробацию в образовательной практике, что подтверждает их эффективность и применимость.
9. **Соответствие требованиям к оформлению** соответствует установленным требованиям к оформлению научно-методических материалов.
10. **Выводы и рекомендации**

Представленная работа имеет высокую практическую и методическую ценность, может быть рекомендована к распространению и внедрению в образовательных организациях, а также к обобщению педагогического опыта на районном и областном уровнях.

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