

THE ROLE OF PSYCHOLOGICAL AND PEDAGOGICAL SUPPORT IN THE DEVELOPMENT OF GIFTED CHILDREN: FROM THEORY TO PRACTICE

B. Matayev* , A. Assainova , B. Yessengeldin , G. Ayapbergenova 

Pavlodar Pedagogical University named after Alkey Margulan,
Republic of Kazakhstan, Pavlodar

*e-mail: matayev_berik@teachers.ppu.edu.kz, assainovaa@ppu.edu.kz,
bauyrzhan_yessengeldin@ppu.edu.kz, gulsumas@mail.ru

Abstract. This article aims to examine the characteristics of psychological and pedagogical support for gifted children and to identify optimal mechanisms in their educational trajectory that correspond to their individual personality traits. A comprehensive approach was used, based on a review of scientific literature and documents, empirical observations, testing to diagnose the level of giftedness and anxiety in children, and qualitative and quantitative data analysis. The experiment utilized an extremely limited sample size ($N = 20$, with 10 participants per group), which was due to the exploratory nature of the study, difficulties in recruiting gifted children for the study, and the opportunity to examine each individual case in detail. An algorithm was developed to create mechanisms for improving support in the development of gifted children, using personalized pathways based on different scenarios. The practical application of the developed mechanisms is proposed. The application of personalized learning pathways has proven effective in enhancing the mental, creative, and intellectual potential of gifted children and reducing reactive and personal anxiety. This is because the experimental group demonstrated significant growth across all measurement categories, whereas development levels in the control group remained virtually unchanged. High results in all three areas correlate with a reduction in anxiety among children, which indicates the importance of targeted development of these components for maintaining the psycho-emotional health of gifted children. Consequently, the use of specialized support mechanisms can be considered one of the factors for maximizing the potential of gifted children.

Keywords: gifted children, psychological and pedagogical support, mechanisms, personalized pathways, individual scenarios.

Introduction

The development of abilities and talents in naturally gifted children is considered a crucial prerequisite for the education system and the country as a whole. It is vital to prepare future generations of people capable of solving complex intellectual and professional challenges. The relevance of the research topic is justified by the following factors: despite a significant number of studies on childhood giftedness, there remain a number of significant gaps in understanding the characteristics and importance of psychological and pedagogical support for such children; effective methods for the early identification and subsequent support of gifted students have not been sufficiently developed, which hinders the full realization of their potential; modern educational standards place increased demands on the quality of training for the younger generation, capable of solving complex professional and intellectual tasks; gifted children need support based on special pedagogical approaches that must be adapted to their specific characteristics.

The issue of raising and educating gifted children has long attracted the attention of leading educators and psychologists. To this day, questions regarding early identification, appropriate educational support, and social adaptation remain unresolved, despite the accumulated theoretical and methodological foundation. It should be noted, however, that the scientific works of certain scholars and educators—who have since become classics—served as the foundation for understanding the phenomenon of childhood giftedness and ways to support it, as their seminal works had a profound impact on the development of psychology and pedagogy as early as the first half of the 20th century: L.S. Vygotsky, one of the leading figures in Soviet pedagogy and psychology, who had an enormous influence not only on global psychology and pedagogy, including with regard to the upbringing and development of gifted children [1]. D.B. Elkonin, who continued L.S. Vygotsky's ideas, highlighted the characteristics of developmental and educational

psychology in the field of giftedness [2]. It is also worth noting the work of A. Liashenko, a researcher of age-related characteristics of intellectual activity and issues of childhood giftedness [3]. It should be noted that it was precisely these works that served as the foundation for understanding the phenomenon of childhood giftedness and ways to support it. Contemporary authors are also quite active in publishing numerous works on this topic. These include both foreign and Kazakhstani authors. Among the former is the work by L. Taverna, which examines the implicit personality theories proposed by teachers for the development of gifted children [4]. Kazakhstani authors include G.K. Sholpankulova, who examines the problems of developing intellectual giftedness in schoolchildren [5]; and B.A. Matayev, who proposes theoretical and practical methods for creating individualized instruction for gifted children based on modern information technologies [6].

The aim of this study is to identify the key conditions for an effective transition from theoretical foundations to practical methods of psychological and pedagogical support for gifted children. Based on this aim, the following research objectives have been identified:

- to analyze the current state of the issue of childhood giftedness as reflected in psychological and pedagogical literature and to identify key approaches and conceptual models that can be applied in practice;
- to examine various forms and types of manifestations of childhood giftedness, establishing their importance and determining the need for their psychological and pedagogical support in practice;
- to summarize and systematize domestic and international experience in organizing support for gifted children and to evaluate the effectiveness of existing support models and practices;
- develop mechanisms for improving the system of psychological and pedagogical support for gifted children, based on the principles of an individualized approach and the personalization of the educational pathway;
- to conduct an experimental evaluation of the proposed mechanisms for psychological and pedagogical support, verify their effectiveness, and justify the feasibility of their implementation in educational practice.

The general hypothesis of this study is that a well-developed theoretical understanding of the issues surrounding childhood giftedness creates the necessary conditions for the development and successful experimental testing of effective, personalized mechanisms for the psychological and pedagogical support of gifted children.

The following hypothesis has been proposed for the experimental part: a specially designed program of psychological and pedagogical support for gifted children, based on an individually differentiated approach and personalized learning pathways, will statistically significantly increase the level of development of their cognitive, creative, and personal characteristics compared to children who are educated under the traditional system.

Research methods include a review of scientific literature and documents, empirical observations, testing to diagnose the level of giftedness and anxiety in children, and qualitative and quantitative data analysis.

The research procedure involves diagnosing the individual characteristics of gifted students, determining the profile of their needs and preferences, selecting a personalized learning path, and tracking the dynamics of their achievements throughout the academic period. The measurement parameters cover both qualitative and quantitative variables: individual learning plans, academic achievements, level of academic motivation, creativity, emotional stability, social interaction, self-esteem, and self-efficacy of gifted children.

Materials and methods

A literature review of the theory of psychological and pedagogical support in the development of gifted children (covering two research objectives) was conducted. The following materials were used in the analysis: articles from academic journals, monographs, conference

proceedings, and abstracts published over the past seven years. The main databases were international platforms (PsycINFO, Education Source, Scopus, Web of Science, Ericae.net) and national information resources of Kazakhstan (Educational Sciences Index, kaznipi.kz) in the fields of pedagogy and psychology. The following keywords and their combinations were used for the search: psychological and pedagogical support; development of gifted children; theoretical foundations of support; practical methods of support; diagnosis and identification of giftedness; individualized instruction; educational programs for gifted children; effectiveness of support; empirical studies. Their use allowed for the coverage of the maximum number of sources. The exclusion criteria were: materials not directly related to the support of gifted children; publications released more than 7 years ago; sources with insufficient evidence. Initially, approximately 50 publications were identified; during the final literature analysis, 25 sources were used, as they met the objectives and tasks of this study.

The following research methods were used to experimentally test the effectiveness of the proposed mechanisms for psychological and pedagogical support:

- observation of the behavioral and cognitive characteristics of gifted children in natural settings (classroom, club, competition);
- testing and assessment using methods (Amthausen, Torrance, Eysenck) to identify characteristics of giftedness. Assessment of giftedness levels and results of the experiment using personalized learning pathways

The rationale for a sample size of $n=50$ in each group (EG and CG) is based on adherence to an empirical rule, since the distribution of the sample mean should be sufficiently close to a normal distribution, for which the sample size must be at least 30. However, to ensure greater reliability, it is recommended to increase the sample size to 50. This allows for a more detailed identification of specific conditions in the field of supporting this number of gifted children. Thus, a sample size of 50 people in each group is used as a compromise option, which is feasible, as in the present case, for studies with limited resources. It is capable of providing a basic level of reliability, expressed as above average (about 75%), and is considered sufficient to obtain the required results. The study was conducted at the Abay Gymnasium in Pavlodar.

The duration of the experimental intervention in the EG group was three months.

Participant selection criteria: the age of the children participating in the study ranged from 9 to 12 years inclusive. This age range was chosen because it is precisely during this school-age period that various signs of intellectual and creative giftedness (intellectual and creative). Since they are more receptive to guidance. Participants were selected based on comprehensive criteria aimed at identifying truly gifted children and ensuring comparability between the experimental and control groups. The criteria for including children in the “gifted” group also included: a high IQ level based on standardized tests; good academic performance and the presence of certain achievements (participation and victories in academic competitions and contests); a high level of creative activity based on the results of specialized tests and teachers’ observations; teachers’ recommendations (positive feedback regarding outstanding abilities). This sample was formed using convenience sampling, which means that the participants were children who met the established criteria and were able to take part in the study due to its accessibility and parental consent.

The procedure for implementing individual learning trajectories (individual support) in the experimental group was phased and included the following activities: conducting a comprehensive assessment (cognitive, emotional, and social characteristics) and using it to create a profile for each gifted child; modeling support scenarios and tailoring them to each student; developing personalized learning pathways for each student, tailored to their specific characteristics and needs; mandatory collaboration with teachers and parents; and evaluating the effectiveness of the implemented mechanisms.

The rationale for the sample size of $n=20$ is as follows:

- this study is exploratory in nature, with the primary goal being an initial examination of the effectiveness of the developed model of psychological and pedagogical support;

– the small sample size allows for a detailed examination of each case and the identification of specific conditions for supporting gifted children;

– the limited number of gifted children also influenced the choice of a small number of experimental participants.

Ethical standards and principles were adhered to. Prior to the start of the study, written consent was obtained from the legal representatives (parents or guardians) of all participants in both groups. They were provided with full information regarding the study's objectives, voluntary participation, content, and potential consequences of participating in the experiment. The confidentiality of the data collected was guaranteed, and participants' personal data is protected by the fact that it will be used solely for scientific purposes. All stages of the experiment were designed to ensure the safety and comfort of the students.

For initial data processing and drawing conclusions, this sample size is quite sufficient, as the results obtained can subsequently be verified and expanded upon in other studies with larger samples.

Two assessments were conducted in each group: an initial assessment (before the experiment began) and a follow-up assessment (after the experiment ended). The assessment tools used were the following tests:

1. The Amthausen Test – for assessing general intellectual ability and verbal creativity: median score – 100 points; below 90 – low; 90–110 points – average; above 110 – high.

2. Torrance Test – for diagnosing divergent thinking and creativity: 40–60 points – normal; 61–65 points – slightly above normal; 66–70 points – above normal; over 70 points – excellent.

3. Eysenck Test – for measuring intelligence quotient (IQ): high intelligence – 115–129 points; above average and very high intelligence – 130 points and above.

4. The Spielberger-Hanin Method – for assessing state and trait anxiety. Assessment criteria: low (up to 30 points), moderate (31–45 points), high (46 and above).

All diagnostic methods used to assess gifted children have proven validity and reliability, as they have undergone special adaptation and are successfully applied in English- and Russian-speaking countries, including Kazakhstan.

All of the diagnostic methods used to assess gifted children have proven validity and reliability, as they have been specifically adapted and are successfully used in both English-speaking and Russian-speaking countries, including Kazakhstan.

Since the combined use of these tests allows for the diagnosis of the following aspects of giftedness: the intellectual component is assessed by the Eysenck test; the creative component is determined by the Amthausen and Torrance tests; and the emotional component is assessed by the Spielberger-Hanin method.

To compare the statistical significance of differences in the indicators obtained in the EG and CG, the nonparametric Mann-Whitney U-test was used, as it is considered appropriate for small samples. The main criteria were defined as follows: if the p-values are significant ($p \leq 0.05$), this indicates that the differences between the groups are statistically significant. If the p-value is greater than 0.05, it should be concluded that there are no differences or that they are statistically insignificant.

Results and discussions

Recent studies confirm that psychological and educational support is a key factor in the development of gifted children. The works of authors such as D. Papadopoulos [7], A. Casino-Garcia [8], M. Dilda [9], and I. Mammarella [10] indicate that giftedness manifests itself not only in the cognitive sphere but is also evident in the social, emotional, and motivational domains. It should also be noted that other studies devote significant attention to the individualization of support [11, 12], as well as to the consideration of the personality traits of gifted children [13]. In the work of M. Llopis-Bueno, the importance of preventing anxiety and addressing social isolation among these children is highlighted [14].

F. Preckel [15] and J. Garcia-Perez [16] emphasize the importance of assessment and early identification of giftedness. The latter also points to the importance of integrating psychological

and pedagogical approaches into the process of developing gifted children. Meanwhile, the works of L. Panaghi highlight the special role and necessity of psychological and pedagogical support [12]. Meanwhile, M. Llopis-Bueno [14], D. Papadopoulos focus on the metacognitive level of development [7]. J. Belous points to the importance of support for the development of communication and emotional skills in gifted children [17].

The analysis showed that in Kazakhstan, issues related to gifted children are addressed at the theoretical and legislative levels, as well as in the practical work with gifted children. Kazakhstan's theoretical experience is represented by various studies that examine both pedagogical and psychological factors in the areas of giftedness and social anxiety observed in gifted children. For example, A. Mambetalina's article highlights the importance of creating new opportunities for the development of gifted children. She sees opportunities for the self-realization of gifted children through the development of individual programs and participation in competitions, academic contests, and project work [18]. B.A. Matayev examines the importance of informational models for the development of individual programs for the development of giftedness. The author proposes a multi-criteria approach based on the cognitive, motivational, and personality characteristics of gifted children. His work has practical significance, as the study demonstrated the effectiveness of supporting gifted children through the implementation of the developed models into the school education system [6].

Key legislative provisions governing the development of gifted children in Kazakhstan:

1. Decree of the President of the Republic of Kazakhstan "On State Support and Development of Schools for Gifted Children". It should be noted that the state program for supporting young talents, "Daryn" was developed on this basis and remains in effect to this day.

2. Order "On the Approval of the Conceptual Framework of the Kazakhstani National System for the Identification, Development, and Support of Gifted Children and Talented Youth".

3. Government Resolution "On the Approval of the Roadmap for the Implementation of a System for Identifying Gifted Children Living in Rural Areas, as Well as Those from Low-Income and Large Families, and for Developing an Individual Roadmap for Each of Them to Support and Develop Their Abilities".

The "Gifted Children" Program for 2020-2025 is currently being implemented. It aims to develop a system for assessing the developmental level of gifted children, establish a database of gifted students, create individualized programs, provide professional development for educators, and more.

An analysis of domestic and international experience in organizing educational programs for gifted children has revealed the following:

- the effectiveness of educational programs depends on the degree of their individualization and variability;

- the presence of experienced teachers who are proficient in special methods for working with gifted children, capable of creating an atmosphere of trust and creative freedom, and able to conduct a thorough analysis of abilities and propose appropriate teaching methods plays a crucial role;

A comparative analysis has shown that Kazakhstan has a well-developed legislative framework and utilizes international standards for the assessment and selection of gifted children, including a diagnostic system and tests that allow for the objective identification of gifted children and the selection of an appropriate educational program. In Kazakhstan, it is believed that significant attention should be paid to specially organized schools for gifted children, as well as to holding competitions and academic contests. Meanwhile, international experience shows that it is important to place greater emphasis on an inclusive approach, which involves integrating gifted children into regular schools. Provided that these schools pay special attention to their individual needs. In this way, a more tolerant attitude toward such children is fostered in society, and the development of their uniqueness is supported.

The results of observations of gifted schoolchildren regarding behavioral and cognitive characteristics are presented in Table 1.

Table 1 – Behavioral and cognitive characteristics of gifted schoolchildren

No	Feature	Percentage
<i>1. Cognitive sphere (cognitive processes)</i>		
1	High concentration, quick grasp of details, and ability to absorb material	80
2	Creative approach, original solutions, active participation in discussions	65
3	Flexible thinking, ability to adapt easily to new situations	50
4	Excellent memory, ability to easily memorize large amounts of information	70
5	Quick response to new situations, ability to predict consequences	25
<i>2. Personal sphere (independence, motivation, emotions)</i>		
6	Independent organization of activities, striving for self-improvement	65
7	Determination, high motivation, and perseverance in achieving goals	100
8	Emotional maturity	35
9	High sensitivity and anxiety	50
10	Tendency toward perfectionism, fear of making mistakes	55
<i>3. Social-emotional domain (communication and socialization)</i>		
11	Leadership qualities, initiative, ability to engage in constructive dialogue	35
12	In-depth study of specific areas, research activity	70
13	Communication difficulties, social withdrawal	30
14	Information overload, excessive workload	55
15	Problems with adherence to routines and discipline	15

The data obtained, expressed as percentages, reveal the proportion of gifted children who exhibit specific developmental characteristics, both positive and negative.

Mechanisms have been developed to improve support for the development of gifted children (procedures or methods), based on personalized learning pathways. In developing effective mechanisms for psychological and pedagogical support, the individual characteristics of each child must be taken into account, and mechanisms (procedures for targeted intervention) must be built on the principles of personalization.

The algorithm for developing such mechanisms includes five main stages, shown in Figure 1.

Stage 1. Analysis of scientific sources and regulatory documents	•It is necessary to consider the works of domestic and foreign researchers devoted to the problems of child giftedness and personalized approaches to education and upbringing. The regulatory legal acts of the Republic of Kazakhstan regulating the issues of support and development of gifted children are being studied. •Methods: critical analysis of scientific literature, familiarization with legislative acts and instructions.
Stage 2. Assessment of the child's individual characteristics	•Before creating a personalized route, a detailed diagnosis of the development of a gifted child is carried out: assessment of the level of intellectual abilities, creative manifestations, behavioral reactions, social adaptation and emotional well-being. •Methods: observation, conducting psychological tests, conversations with the gifted child himself and his parents.

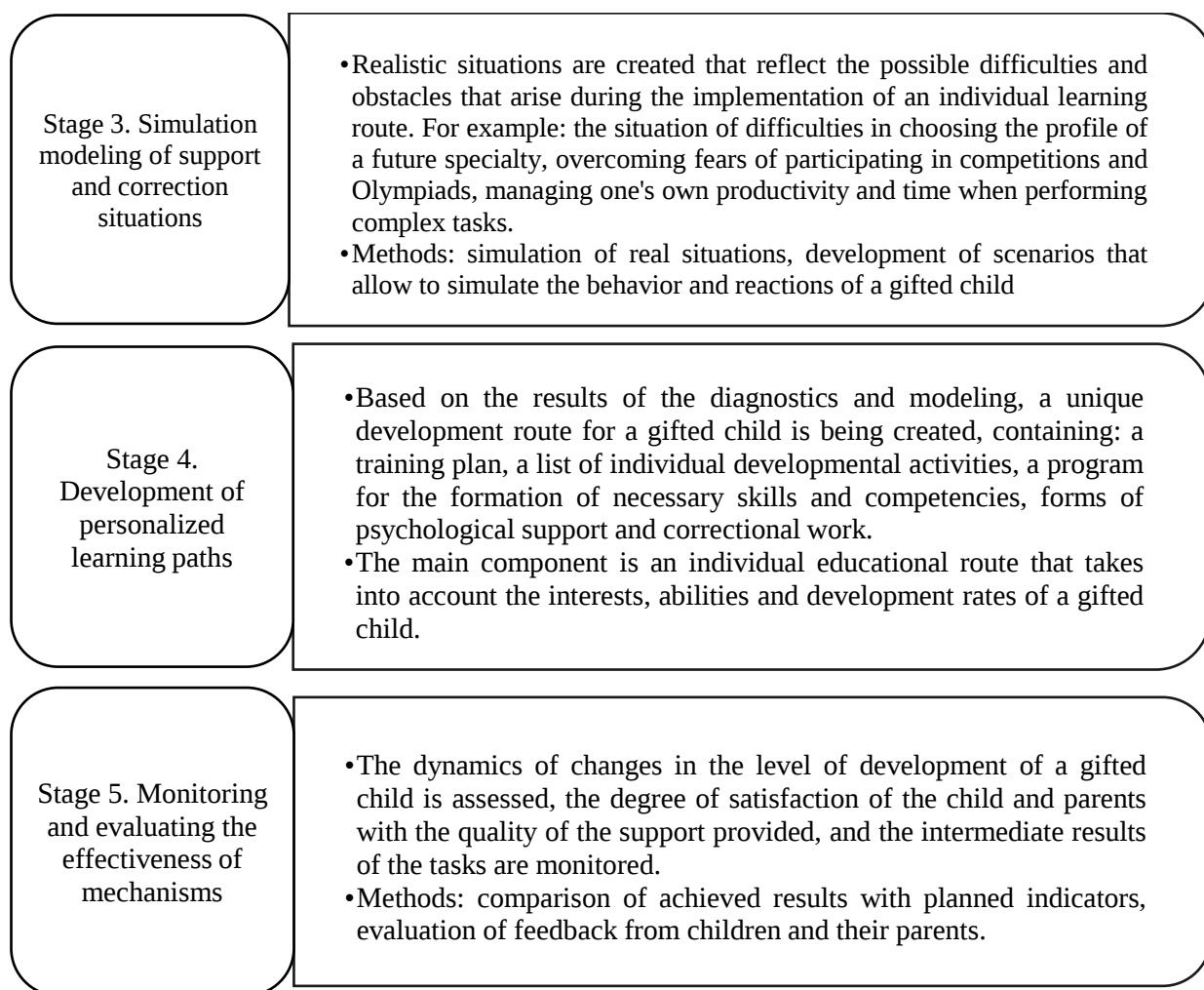


Figure 1 – Algorithm for creating mechanisms to improve support in the development of gifted children

Methodological notes on this algorithm. The methodology for developing an algorithm to improve support for the development of gifted children is based on the principles of integrating modern scientific approaches and individualizing the educational process. The first stage involves a thorough review of current scientific publications and regulatory documents that establish standards and recommendations for working with gifted children. Next, an in-depth psychological and pedagogical assessment is conducted to identify the child's unique personality traits, learning styles, inclinations, and areas of potential development. Subsequently, simulation modeling methods are employed to predict the effectiveness of pedagogical interventions and select the most optimal forms of remedial and developmental work. The next stage involves designing individual educational pathways, taking into account the specific characteristics and potential identified in each child. The process concludes with continuous monitoring and systematic analysis of the results achieved. This ensures the effectiveness and timely adjustment of the proposed support mechanisms for gifted children, thereby enhancing their practical effectiveness.

Sample scenarios have been developed for each mechanism. All of the mechanisms listed at are designed to ensure the high-quality implementation of personalized learning pathways, enhance the effectiveness of support for gifted children, and promote their successful socialization as well as their academic and future professional growth.

Table 2 presents the results of assessments of giftedness levels and the individual characteristics of gifted students, as well as the identification of their needs and preferences, both with and without the use of support mechanisms based on personalized learning pathways.

Table 2 – Results of the initial assessment of cognitive ability, intelligence, and creative potential, in points

Methodology	Group	Amthuser Test	Torrance Test	Eysenck Test (IQ)
General data	EG (n=50)	112	63	126
	CG (n=50)	111	64	127
Interpretation		Initial high level	Slightly above average	Initial high intelligence
Statistical analysis	Student's t-test (df = 98, $p > 0.05$)	$t=0.625$ $p=0.534$ $p > 0.05$	$t = -1.000$ $p=0.32$ $p > 0.05$	$t = -0.500$ $p=0.619$ $p > 0.05$)

The initial diagnostic scores in both groups do not differ statistically, which confirms the feasibility of conducting the experiment. It should be noted that the children possess sufficient potential to indicate their giftedness.

According to the Amthuser test, children in both groups scored above 110 points, indicating a high level of general intellectual ability. The results on the Torrance test also correspond to the “slightly above average” level, and on the Eysenck test, the average IQ was 131–132 points, which is classified as high intelligence. The results of the final assessment are presented in Table 3.

Table 3 – Results of the final assessment of levels of mental abilities, intelligence, and creative potential, in points

Method	Group	Amthuser Test	Torrance Test	Eysenck Test (IQ)
General data	EG (n=50)	128	72	141
	CG (n=50)	116	66	134
Interpretation		High	Above average / Excellent	Very high intelligence
Statistical analysis	Student's t-test (df = 98)	$t=7.50$ $p<0.001$	$t = 6.0$ $p<0.001$	$t=3.50$ $p<0.001$

The results of the comparison of mean values across groups and the three diagnostic methods are shown in Figure 2.

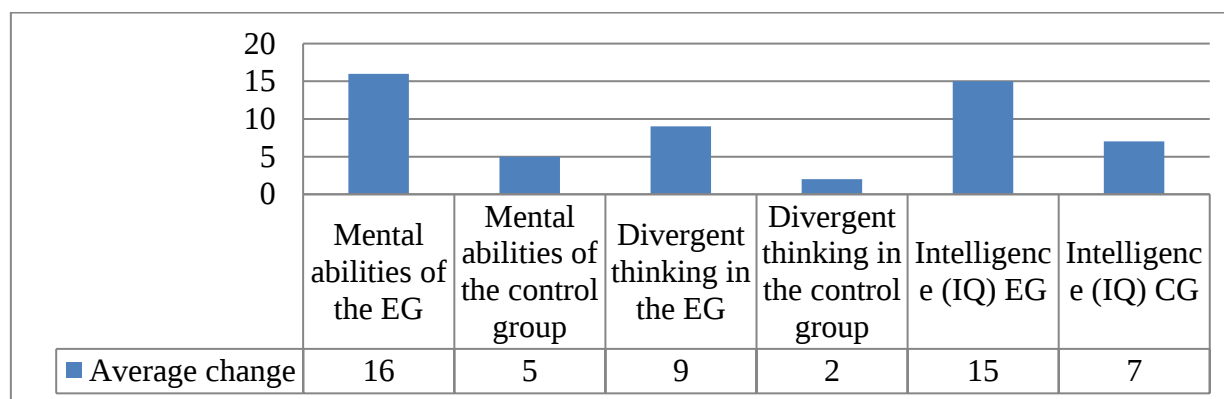


Figure 2 – Comparison of mean changes across the three diagnostic methods

The results of the final assessment of levels of mental abilities, intelligence, and creative potential show the following:

- According to the Amthausen test, the greatest increase was observed in the experimental group, which amounted to 16 points (rising from 112 to 128). Children in this group moved from the “high” category to a category with even higher scores. Meanwhile, in the control group, the increase was only 5 points;

- on the Torrance test, the increase in the experimental group was 8 points (from 64 to 72), which also indicates that the children moved from the “slightly above average” level to the “above average and excellent” category. In the control group, the increase was only 3 points;

- on the Eysenck test, a significant increase in IQ of 9 points was also recorded in the experimental group, confirming the development of their cognitive potential. Meanwhile, in the control group, the increase was only 1 point.

A comparative analysis of the data obtained from the initial and control stages allowed us to draw the following conclusions. The proposed pedagogical support mechanisms used in the experiment demonstrated high effectiveness. The difference in the dynamics of indicators between the EG and the CG is statistically significant. These data indicate the development of intelligence and creativity in the experimental group, as the program contributed to a significant increase in verbal creativity (Amthausen), divergent thinking (Torrance), and the general intelligence quotient (Eysenck). For all measured indicators, the calculated p-value is significantly smaller than the accepted significance threshold ($\alpha=0.05$), since it was established that $p<0.001$. Based on this, the null hypothesis of no differences is rejected, indicating the presence of statistically significant differences between the experimental and control groups on all parameters under study at the final stage of the experiment, which confirms the proposed hypothesis regarding the effectiveness of the implemented support mechanisms for gifted children.

The results of the anxiety level assessment in the experimental and control groups provide further insight into the importance of supporting gifted children. The assessment was conducted using the well-known Spielberger-Hanin method, designed to evaluate state and trait anxiety. The results of the initial assessment are presented in Table 4.

Table 4 – Results of initial and final assessments of anxiety levels, in points

Method	Group	Reactive anxiety (scores)	State anxiety (scores)
General data	EG (n=50)	23	24
	CG (n=50)	22	25
		Medium level	High level
Statistical analysis	t(98)	1.000	-1.000
	p	0.320	0.320
	Conclusion	$p > 0.05$ (no statistically significant differences)	$p > 0.05$ (no statistically significant differences)

The anxiety level at the beginning is high in both groups and there are no statistically significant differences (Table 5).

Table 5 – Results of anxiety level assessment at the end of the experiment

Method	Group	Reactive anxiety (scores)	State anxiety (scores)
General data	EG (n=50)	14	12
		Low level	Low level
	CG (n=50)	20	20
		Medium level	Medium level
Statistical analysis	t(98)	-4.000	-2.000
	p	0.0001	0.047
	Conclusion	$p < 0.001$ (differences are statistically significant)	$p < 0.05$ (differences are statistically significant)

By the end of the experiment, the average anxiety level in the experimental group decreased in both categories:

- reactive anxiety decreased by 9 points;
- personality anxiety by 12 points.

In the control group, despite an initially similar level of anxiety, the mean value remained virtually unchanged:

- reactive anxiety changed by 2 points;
- state anxiety by 5 points).

Data analysis revealed a more pronounced positive trend in the reduction of anxiety levels in the experimental group:

- reactive anxiety was at a moderate level at the start and decreased in the EG to a low level (9 points). Meanwhile, the CG showed a less significant decrease (3 points) and remained at a moderate level. The difference between the groups at the end of the experiment is statistically significant, as $p < 0.001$;

- State anxiety was also initially determined to be high. By the end of the experiment, it decreased to a low level in the EG and to a moderate level in the CG. In the experimental group, this indicator decreased to a low level (-10 points), and in the CG, to a moderate level. Statistical analysis also confirms the presence of significant differences between the groups at the final stage ($p < 0.05$).

Thus, the results regarding the statistical significance of differences between the experimental and control groups in terms of changes in anxiety levels showed that statistically significant changes were observed in both reactive and state anxiety.

The correlation between anxiety levels and the preceding indicators – mental abilities, creativity, and intelligence – was conducted using data from the experimental group, employing Spearman's rank correlation coefficient. The results are presented in Table 6.

Table 6 – Results of the correlation analysis of the experimental group's indicators

Indicator	Correlation coefficient (ρ)	P-value	Interpretation of the result
Reactive anxiety and Mental abilities	-0.48	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse, since the lower the state anxiety, the higher the mental abilities.
Reactive Anxiety and Divergent Thinking	-0.39	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse, as low anxiety levels contribute to the development of creativity.
Reactive Anxiety and Intelligence	-0.42	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse, as a decrease in anxiety is associated with an increase in IQ.
Personality Anxiety and Mental Abilities	-0.45	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse, as a decrease in anxiety levels increases mental abilities.
Personality Anxiety and Divergent Thinking	-0.37	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse, as low personal anxiety leads to an increase in creative potential.
Personality Anxiety and Intelligence	-0.40	< 0.01	The correlation is statistically significant ($p < 0.01$). The relationship is moderate and inverse between stable personal anxiety and increased intelligence.

Thus, given that the p-value for all paired indicators is less than the chosen significance level ($\alpha = 0.05$) and is defined as a p-value

< 0.01 , the correlation between the level of anxiety and all levels of intelligence in gifted children in the experimental group should be considered statistically significant.

There is a significant positive correlation among all the pairs of variables listed. The strongest correlations are observed between both types of anxiety and cognitive abilities, as well as intelligence. A less pronounced but still significant correlation was found between anxiety and divergent thinking.

An analysis of observations of gifted children showed that most have strong cognitive abilities: 80% demonstrate high concentration, quick perception of details, and an ease in learning new material; more than half (65%) are creative and actively participate in developing original solutions and discussions; 70% have an excellent memory and are capable of retaining a large amount of information; half possess flexible thinking and adapt well to given conditions; while only a quarter are capable of reacting quickly to new situations and predicting the possible consequences of their actions. Personal qualities are as follows: all children are highly motivated, goal-oriented, and persistent in achieving their goals; 65% are able to independently organize their activities and strive for continuous development; slightly more than half are prone to perfectionism and often experience a fear of making mistakes; half exhibit heightened sensitivity and anxiety; only 35% of students demonstrate emotional maturity, while the rest experience emotional difficulties. Social-emotional characteristics are as follows: most children (70%) show interest in specific subjects and exhibit inquisitive behavior; slightly more than half (55%) report information overload and note heavy academic workloads; only 35% of children possess leadership qualities, are proactive, and are sociable; 30% of children have communication difficulties and tend toward some degree of social isolation; only 15% disrupt the daily routine and classroom discipline. It should be noted that the observation results not only revealed interesting characteristics of gifted children but also patterns that are confirmed in other scientific studies.

The proposed algorithm for supporting gifted children and the suggested mechanisms ensure the effective implementation of personalized learning pathways, as these pathways enhance the effectiveness of support for gifted children, promote their successful socialization and professional growth, and prevent their talent from being squandered. Key to these mechanisms are actions aimed at identifying the child's interests and abilities: the child undergoes interviews and specialized tests to determine the depth of their interest, for example, in mathematics and computer science. An analysis of their current level of knowledge is also conducted: their initial level of proficiency for example, in mathematical concepts and information technology—is always established; their ability to apply knowledge in practice and their readiness to solve highly complex problems are assessed.

It is essential to monitor progress along the pathway, which includes regular checks of current results, both regarding problem-solving and the completion of milestones marked along the pathway. Feedback must be obtained from subject teachers and program coordinators. If necessary, the roadmap is subject to adjustment, which is carried out as the student progresses along the path, in the form of additions and changes depending on the child's success and the emergence of new interests. In such cases, changes can be made, such as participation in IT project competitions, application design, and modeling.

After about six months, a 12-year-old child for whom this individual route and scenario were used begins to solve more complex problems more successfully, wins district math competitions, and may join a team developing a simple mobile app. Thus, the "Talent and Opportunities Map" mechanism allows students to uncover their innate abilities, develop them, and help build useful practical skills.

Unlike the first set of mechanisms, these mechanisms for reducing stress and anxiety, preventing information overload, and fostering social adaptation in gifted children provide comprehensive support and protection, creating more comfortable conditions for their

development and full self-actualization, minimizing negative factors that affect their well-being and success. Let's look at an example: The Emotional Balance Laboratory, referred to as the "Emotional Island," includes components such as sessions with a psychologist aimed at recognizing and expressing emotions; relaxation training and breathing techniques to relieve nervous tension; physical activity and sports clubs aimed at improving overall well-being and reducing stress symptoms. Its application, a specially developed program for a 12-year-old boy who experiences heightened anxiety and frequently complains of fatigue and headaches, enabled him to learn meditation, create mood drawings, and practice yoga, which significantly reduced his anxiety and improved his overall well-being. And the reasonable workload scale or workload balance (using components such as a personalized class schedule with clearly defined breaks and rest periods, self-monitoring tools to understand the limits of her capacity and limit the number of tasks performed simultaneously, and increasing time for rest and recovery), enabled an 11-year-old girl, who felt constant pressure from heavy workloads and numerous assignments, to learn how to set priorities correctly and effectively alternate periods of study and rest. Thus, this scenario helped her significantly reduce the stress of studying and increase her productivity. It should be noted that all these mechanisms provide comprehensive support and protection for gifted children and are effective and practical in both educational and psychological terms.

Based on the calculations and analysis of the data presented above, conclusions should be drawn for each type of test.

The level of intellectual ability and verbal creativity has significantly improved in the experimental group, as the average score increased by 12.8 points. Meanwhile, only minor changes were observed in the control group: the average score increased by only 2.8 points. A statistical analysis using the Mann-Whitney U-test confirmed that the differences between the groups are statistically significant.

The level of divergent thinking and creativity was also significantly higher in the experimental group, as the average score increased by 7.2 points. In contrast, changes in the control group were insignificant (an increase of only 2.8 points).

Statistical analysis also revealed statistically significant differences between the groups. The data obtained also indicate the effectiveness of the methodology used to support gifted children in terms of developing divergent thinking and creativity in children from the EG, as important indicators of giftedness.

The intelligence quotient (IQ) in the EG also showed a fairly high average increase—by 12.2 points. In the CG, the changes were insignificant, as this indicator increased by only 4.6 points). Statistical analysis also revealed sufficiently high statistically significant differences between the groups, confirming the high effectiveness of the measures used in the EG in terms of increasing their intelligence levels.

Furthermore, it should be noted that all statistical calculations using the Mann-Whitney U-test showed that for all three tests, the obtained p-values were < 0.05 , which allows us to reject the null hypothesis of equal growth in the experimental and control groups. Meanwhile, the following hypothesis proposed for the experimental group has been confirmed: that a specially developed program of psychological and pedagogical support for gifted children, based on an individually differentiated approach and personalized learning pathways, will statistically significantly increase the level of development of their cognitive, creative, and personal characteristics compared to children educated under the traditional system. It is important to note that the effect was particularly pronounced on the two indicators "mental abilities and verbal creativity," where the differences reached a higher level of statistical significance ($p < 0.001$). Sufficiently positive trends are also observed in the indicators of divergent thinking and creativity ($p < 0.01$), which once again points to the effectiveness of the developed program.

Furthermore, it should be noted that the results obtained are consistent with the findings of other researchers, who also demonstrate an increase in specific intellectual indicators in children

through psychological and pedagogical support. At the same time, they also pay special attention to such indicators as conducting individual work with gifted children and creating a supportive educational environment for them.

The results of the anxiety level assessment also highlight the importance of psychological and educational support for gifted children. This is because the data indicate significant differences between the experimental and control groups following the experiment. They also indicate the effectiveness of the developed model for supporting gifted children, as in the EG, state anxiety decreased by 6.8 points and trait anxiety by 7 points. Meanwhile, in the control group, reactive anxiety remained virtually unchanged (decreasing by only 0.9 points), and state anxiety also decreased slightly (by 1.1 points). The results obtained are consistent with certain findings from other studies on anxiety in gifted children.

It should be noted once again that the sample size is small, consisting of only N=20, which is a significant limitation of this study. Since a study based on a small number of participants reduces statistical power and prevents the broad generalization of the results to the entire target population of gifted Kazakhstani children. At the same time, given the difficulty of forming homogeneous groups of gifted children, it was challenging to use larger samples. To further confirm the findings, we plan to conduct additional studies involving a larger number of participants.

These coefficients indicate the presence of a real relationship between the variables under consideration:

- as intellectual abilities increase, anxiety decreases. Perhaps children with higher intellectual abilities begin to feel calmer and more confident;
- the higher the divergent thinking and creativity, the lower the anxiety. It is likely that the development of creativity allows gifted children to cope more easily with stress and tension during the learning process;
- Highly intelligent children experience anxiety less frequently, as they possess a certain ability to calm themselves.

Conclusion

The combination of theoretical analysis, based on a deep immersion in the best domestic and international practices, made it possible to achieve the set theoretical objectives and to form a solid methodological foundation for the development of a model for supporting gifted children.

Comprehensive observation of gifted children has shown that an individualized approach is required for each child, and it is important to take into account both their strengths and their potential for further growth.

The development of a model and the application of support mechanisms based on personalized learning pathways have proven effective in practice. This is because the practical use of personalized learning pathways allows for the simultaneous achievement of several goals: enhancing mental, creative, and intellectual potential, as well as reducing anxiety levels.

The experimental study confirmed the importance and effectiveness of individually oriented psychological and pedagogical support for the development of gifted children. This is because it not only offers scientifically grounded approaches to supporting and developing gifted children but is also characterized by positive practical results. This is because indicators of mental abilities, creativity, and intelligence improved significantly in the experimental group, where personalized learning pathways were used. Anxiety levels, on the other hand, showed a downward trend. The mean values of the indicators across all assessment types after the experiment indicate a significant increase in the experimental group compared to the control group, underscoring the importance of an individualized approach in supporting gifted children. Furthermore, the application of the Mann-Whitney U-test confirmed the statistical significance of the differences between the experimental and control groups across all four indicators, indicating that the observed improvements are not random but are linked to the implementation of a specialized support methodology.

Furthermore, a clear correlation is observed between the level of anxiety and factors such as mental abilities, creativity, and intelligence. The scientific significance of the study lies in expanding

the theory of psychological and pedagogical support for gifted children through the analysis of contemporary domestic and foreign scientific approaches, as well as in selecting a methodological framework for developing a new support model based on individually tailored support pathways. An indicator of its significance is its testing and experimental confirmation of effectiveness.

The practical significance lies in the fact that the developed model and mechanisms of psychological and pedagogical support can be implemented in the activities of educational organizations to improve the effectiveness of work with gifted children, and individual mechanisms can be used in the development of programs for working with gifted children.

The following recommendations are offered for educational institutions:

1) Implement personalized educational pathways that take into account the individual characteristics and needs of gifted children.

2) Establish systems for regularly monitoring and evaluating the effectiveness of psychological and pedagogical support for gifted children.

3) Conduct systematic psychological training for teachers and parents to enhance their competence in supporting gifted children.

4) Foster interagency collaboration between educational institutions, higher education institutions, and research organizations to exchange experience and resources.

5) Organize specialized support centers for gifted children in each region, staffed by qualified personnel.

The following areas have been identified for future research: studying the age-related psychological characteristics of giftedness at different stages of childhood and adolescence; developing and testing innovative methods for the early diagnosis and support of gifted children; investigating the effects of various mechanisms of psychological and pedagogical support for gifted graduates, based on their professional development and social adaptation; and optimizing support processes for gifted students through the use of digital technologies.

Funding information

This research is funded by the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan (IRN BR28712263 Creation of a comprehensive scientific and innovative system of teacher training for the development of gifted children in Kazakhstan).

Author Contributions:

Matayev B. – initiated and coordinated the study, developed the concept and methodology, provided scientific guidance for the project, and performed the final editing of the article.

Asainova A. – conducted an analysis of the scientific literature and international experience, participated in the development of psychological and pedagogical support mechanisms, and contributed to the preparation of the theoretical section of the study.

Esengeldin B. – organized and conducted the empirical part of the study, collected and statistically processed the data, and participated in the interpretation of the experimental results.

Ayapbergenova G. – participated in the development of individualized educational trajectories and practical recommendations, the preparation of tables, the visualization of results, and the formatting of the article manuscript.

LITERATURE:

1 Hornstra L., Bakx A., Denissen J., Mathijssen S. Motivating gifted and non-gifted students in regular primary schools: A self-determination perspective // *Learning and Individual Differences*. – 2020. – №80. – P. 101871. DOI: <https://doi.org/10.1016/j.lindif.2020.101871>

2 Cash T., Lin T. Psychological Well-Being of Intellectually and Academically Gifted Students in Self-Contained and Pull-Out Gifted Programs // *Gifted Child Quarterly*. – 2021. – №66. – P. 188–207. DOI: <https://doi.org/10.1177/00169862211032987>

3 Liashenko A., Arsalidou M., Kuznetsova E., Zhzhikashvili N. Giftedness identification and cognitive, physiological and psychological characteristics of gifted children: a systematic review // *Frontiers in Psychology*. – 2024. – №15. – P. 1–20. DOI: <https://doi.org/10.3389/fpsyg.2024.1411981>

4 Taverna L., Brighi A., Marinoni C., Zanetti M., Intra F. The Influence of Gifted Children's Stress Management on Parental Stress Levels // *Children*. – 2024. – №5(11). – P. 1–20. DOI: <https://doi.org/10.3390/children11050538>

5 Шолпанқұлова Г.К., Торғауыт Д.Ж. Направление работы социального педагога с одаренными детьми // Вестник КазНПУ имени Абая. Серия: Педагогические науки. – 2020. – №4 (68). – С. 163-169. DOI: <https://doi.org/10.51889/2020-4.1728-5496.25>

6 Matayev B.A., Mukhametkairov A.E., Makhmetova N.K., Utegenova M.S. Innovative system of teacher training as a condition for effective support of gifted children in Kazakhstan // 3i: intellect, idea, innovation. – 2025. – №4(2). – С. 172–182. DOI: <https://doi.org/10.52269/NTDG2542172>

7 Papadopoulos D. Parenting the Exceptional Social-Emotional Needs of Gifted and Talented Children: What Do We Know? // Children. – 2021. – №11. – P.1–15. DOI: <https://doi.org/10.3390/children8110953>

8 Casino-Garcia A., Guillen-Martin V., Llinares-Insa L., Ibanez-Garcia A. Giftedness and Family Well-being: The Role of Emotional Intelligence, Perceived Social Support and Stress // Psicothema. – 2024. – №3(36). – P. 277–286. DOI: <https://doi.org/10.7334/psicothema2023.401>

9 Dilda M., Renati R., Penna M., Bonfiglio N., Mascia M. Gifted Children through the Eyes of Their Parents: Talents, Social-Emotional Challenges, and Educational Strategies from Preschool through Middle School // Children. – 2022. – №1(10). – P. 1–18. DOI: <https://doi.org/10.3390/children10010042>

10 Mammarella I., Toffalini E., Cornoldi C., Giofre D. Emotional Response to Testing in Gifted and Highly Gifted Children // Gifted Child Quarterly. – 2021. – №66. – P. 208–219. DOI: <https://doi.org/10.1177/00169862211042901>

11 Benoit V., Gabola P. Effects of Positive Psychology Interventions on the Well-Being of Young Children: A Systematic Literature Review // International Journal of Environmental Research and Public Health. – 2021. – №22. – P. 1–22. DOI: <https://doi.org/10.3390/ijerph182212065>

12 Panaghi L., Fathabadi J., Shokri O., Raoof K. Unpacking the underachievement of gifted students: A systematic review of internal and external factors // Heliyon. – 2024. – №17. – P. 1–22. DOI: <https://doi.org/10.1016/j.heliyon.2024.e36908>

13 Lubinski D., Benbow C., Bernstein B. Academic Acceleration in Gifted Youth and Fruitless Concerns Regarding Psychological Well-Being: A 35-Year Longitudinal Study // Journal of Educational Psychology. – 2020. – №4(111). – P. 830–845. DOI: <https://doi.org/10.1037/edu0000500>

14 Llopis-Bueno M., Casino-Garcia A., Llinares-Insa L. Emotional Intelligence Profiles and Self-Esteem/Self-Concept: An Analysis of Relationships in Gifted Students // International Journal of Environmental Research and Public Health. – 2021. – №3(18). – P. 1–23. DOI: <https://doi.org/10.3390/ijerph18031006>

15 Preckel F., Weyns T., Verschuere K. Teachers-in-training perceptions of gifted children's characteristics and teacher-child interactions: An experimental study // Teaching and Teacher Education. – 2021. – №97. – P. 103215. DOI: <https://doi.org/10.1016/j.tate.2020.103215>

16 Garcia-Perez J., Llinares-Insa L., Casino-Garcia A. Subjective Well-Being, Emotional Intelligence, and Mood of Parents: A Model of Relationships. Impact of Giftedness // Sustainability. – 2020. – №12. – P. 1–22. DOI: <https://doi.org/10.3390/su12218810>

17 Belous J., Sushkov A., Eghizarians M., Spirina M. Development of social competence of teacher-tutors in supporting gifted children in crisis situations // Perspectives of Science and Education. – 2023. – №6(66). – P. 612–628. DOI: <https://doi.org/10.32744/pse.2023.6.36>

18 Mambetalina A., Nurkeshov T., Satanov A., Karkulova A., Nurtazanov E. Designing a methodological system for the development and support of gifted and motivated students // Frontiers in Psychology. – 2023. – №14. – P. 1–8. DOI: <https://doi.org/10.3389/fpsyg.2023.1098989>

REFERENCES:

1 Hornstra L., Bakx A., Denissen J., Mathijssen S. (2020). Motivating gifted and non-gifted students in regular primary schools: A self-determination perspective. Learning and Individual Differences, vol. 80, p. 101871. DOI: <https://doi.org/10.1016/j.lindif.2020.101871>

2 Cash T., Lin T. (2021). Psychological well-being of intellectually and academically gifted students in self-contained and pull-out gifted programs. Gifted Child Quarterly, vol. 66, pp. 188–207. DOI: <https://doi.org/10.1177/00169862211032987>

3 Liashenko A., Arsalidou M., Kuznetsova E., Zhzhikashvili N. (2024). Giftedness identification and cognitive, physiological and psychological characteristics of gifted children: A systematic review. Frontiers in Psychology, vol. 15, pp. 1–20. DOI: <https://doi.org/10.3389/fpsyg.2024.1411981>

4 Taverna L., Brighi A., Marinoni C., Zanetti M., Intra F. (2024). The influence of gifted children's stress management on parental stress levels. Children, vol. 11, no. 5, pp. 1–20. DOI: <https://doi.org/10.3390/children11050538>

5 Шолпанқұлова Г.К., Торғауыт Д.Ж. (2020). Napravlenie raboty sotsial'nogo pedagoga s odarennymi detmi [Directions of social teacher work with gifted children]. Vestnik KazNPU imeni Abaia. Seria: «Pedagogicheskie nauki», no. 4(68), pp. 163–169. DOI: <https://doi.org/10.51889/2020-4.1728-5496.25> (in Russian)

6 Matayev B.A., Mukhametkairov A.E., Makhmetova N.K., Utegenova M.S. (2025). Innovative system of teacher training as a condition for effective support of gifted children in Kazakhstan. 3i: intellect, idea, innovation, vol. 4, no. 2, pp. 172–182. DOI: <https://doi.org/10.52269/NTDG2542172>

- 7 Papadopoulos D. (2021). Parenting the exceptional social-emotional needs of gifted and talented children: What do we know? *Children*, vol. 11, pp. 1–15. DOI: <https://doi.org/10.3390/children8110953>
- 8 Casino-Garcia A., Guillen-Martin V., Llinares-Insa L., Ibanez-Garcia A. (2024). Giftedness and family well-being: The role of emotional intelligence, perceived social support and stress. *Psicothema*, vol. 36, no. 3, pp. 277–286. DOI: <https://doi.org/10.7334/psicothema2023.401>
- 9 Dilda M., Renati R., Penna M., Bonfiglio N., Mascia M. (2022). Gifted children through the eyes of their parents: Talents, social-emotional challenges, and educational strategies from preschool through middle school. *Children*, vol. 10, no. 1, pp. 1–18. DOI: <https://doi.org/10.3390/children10010042>
- 10 Mammarella I., Toffalini E., Cornoldi C., Giofre D. (2021). Emotional response to testing in gifted and highly gifted children. *Gifted Child Quarterly*, vol. 66, pp. 208–219. DOI: <https://doi.org/10.1177/00169862211042901>
- 11 Benoit V., Gabola P. (2021). Effects of positive psychology interventions on the well-being of young children: A systematic literature review. *International Journal of Environmental Research and Public Health*, vol. 18, no. 22, pp. 1–22. DOI: <https://doi.org/10.3390/ijerph182212065>
- 12 Panaghi L., Fathabadi J., Shokri O., Raoof K. (2024). Unpacking the underachievement of gifted students: A systematic review of internal and external factors. *Heliyon*, vol. 17, pp. 1–22. DOI: <https://doi.org/10.1016/j.heliyon.2024.e36908>
- 13 Lubinski D., Benbow C., Bernstein B. (2020). Academic acceleration in gifted youth and fruitless concerns regarding psychological well-being: A 35-year longitudinal study. *Journal of Educational Psychology*, vol. 111, no. 4, pp. 830–845. DOI: <https://doi.org/10.1037/edu0000500>
- 14 Llopis-Bueno M., Casino-Garcia A., Llinares-Insa L. (2021). Emotional intelligence profiles and self-esteem/self-concept: An analysis of relationships in gifted students. *International Journal of Environmental Research and Public Health*, vol. 18, no. 3, pp. 1–23. DOI: <https://doi.org/10.3390/ijerph18031006>
- 15 Preckel F., Weyns T., Verschueren K. (2021). Teachers-in-training perceptions of gifted children's characteristics and teacher-child interactions: An experimental study. *Teaching and Teacher Education*, vol. 97, p. 103215. DOI: <https://doi.org/10.1016/j.tate.2020.103215>
- 16 Garcia-Perez J., Llinares-Insa L., Casino-Garcia A. (2020). Subjective well-being, emotional intelligence, and mood of parents: A model of relationships. Impact of giftedness. *Sustainability*, vol. 12, pp. 1–22. DOI: <https://doi.org/10.3390/su12218810>
- 17 Belous J., Sushkov A., Eghizariants M., Spirina M. (2023). Development of social competence of teacher-tutors in supporting gifted children in crisis situations. *Perspectives of Science and Education*, vol. 66, no. 6, pp. 612–628. DOI: <https://doi.org/10.32744/pse.2023.6.36>
- 18 Mambetalina A., Nurkeshov T., Satanov A., Karkulova A., Nurtazanov E. (2023). Designing a methodological system for the development and support of gifted and motivated students. *Frontiers in Psychology*, vol. 14, pp. 1–8. DOI: <https://doi.org/10.3389/fpsyg.2023.1098989>

ДАРЫНДЫ БАЛАЛАРДЫҢ ДАМУЫНДАҒЫ ПСИХОЛОГИЯЛЫҚ- ПЕДАГОГИКАЛЫҚ ҚОЛДАУДЫҢ РӨЛІ: ТЕОРИЯДАН ПРАКТИКАҒА ДЕЙІН

Б.А. Матаев, А.Ж. Асаинова, Б.С. Есенгельдин, Г.С. Аяпбергенова*

Әлкей Марғұлан атындағы Павлодар педагогикалық университеті,

Қазақстан Республикасы, Павлодар қ.

*e-mail: matayev_berik@teachers.ppu.edu.kz, assainovaa@ppu.edu.kz,
bauyrzhan_yessengeldin@ppu.edu.kz, gulsumas@mail.ru

Аңдатпа. Бұл мақала дарынды балаларға көрсетілетін психологиялық және педагогикалық қолдаудың ерекшеліктерін зерттеп, олардың дара тұлғалық қасиеттеріне сәйкес білім алу жолындағы оңтайлы механизмдерді анықтауды мақсат етеді. Зерттеуге ғылыми әдебиеттер мен құжаттарды шолу, эмпирикалық бақылаулар, балалардың дарындылық деңгейі мен мазасыздық деңгейін диагностикалауға арналған тестілеу, сондай-ақ сапалық және сандық деректерді талдау әдістері қолданылды. Экспериментте зерттеудің зерттеушілік сипаты, дарынды балаларды тартудағы қиындықтар және әрбір жеке жағдайды егжей-тегжейлі қарастыру мүмкіндігіне байланысты өте шектеулі үлгі көлемі (N = 20, әр топта 10 қатысушы) қолданылды. Әртүрлі сценарийлерге негізделген дараланған жолдарды пайдалана отырып, дарынды балалардың дамуын қолдауды жақсарту механизмдерін жасауға арналған алгоритм әзірленді. Әзірленген механизмдерді практикалық қолдану ұсынылады. Жеке оқу жолдарын қолдану дарынды балалардың психикалық, шығармашылық және интеллектуалдық әлеуетін арттыруда және реактивті әрі

жеке мазасыздықты азайтуда тиімді екені дәлелденді. Бұл эксперименттік топта барлық өміс санаттары бойынша айтарлықтай өсім байқалса, бақылау тобында даму деңгейлері іс жүзінде өзгеріссіз қалғанымен түсіндіріледі.

Үш бағыттағы жоғары нәтижелер балалардағы мазасыздықтың төмендеуімен сәйкес келеді, бұл дарынды балалардың психоэмоционалдық денсаулығын сақтау үшін осы компоненттерді мақсатты түрде дамытудың маңыздылығын көрсетеді. Сондықтан арнайы қолдау механизмдерін пайдалану дарынды балалардың әлеуетін барынша іске асырудың бір факторы болып табылады.

Кілт сөздер: дарынды балалар, психологиялық және педагогикалық қолдау, механизмдер, дараланған жолдар, жеке сценарийлер.

РОЛЬ ПСИХОЛОГО-ПЕДАГОГИЧЕСКОЙ ПОДДЕРЖКИ В РАЗВИТИИ ОДАРЕННЫХ ДЕТЕЙ: ОТ ТЕОРИИ К ПРАКТИКЕ

Матаев Б.А. *, Асаинова А.Ж., Есенгельдин Б.С., Аяпбергенова Г.С.

Павлодарский педагогический университет имени Әлкей Марғұлан,
Республика Казахстан, г. Павлодар

*e-mail: matayev_berik@teachers.ppu.edu.kz, assainovaa@ppu.edu.kz,
bauyrzhan_yessengeldin@ppu.edu.kz, gulsumas@mail.ru

Аннотация. Целью данной статьи является изучение особенностей психолого-педагогической поддержки одаренных детей и выявление оптимальных механизмов в их образовательном процессе, соответствующих индивидуальным особенностям их личности. Использовался комплексный подход, основанный на обзоре научной литературы и документации, эмпирических наблюдениях, тестировании для диагностики уровня одаренности и тревожности у детей, а также на анализе качественных и количественных данных. В эксперименте использовалась крайне ограниченная выборка ($N = 20$, по 10 участников в группе), что было обусловлено исследовательским характером работы, сложностями с набором одаренных детей для участия в исследовании, а также возможностью детально изучить каждый отдельный случай. Был разработан алгоритм для создания механизмов улучшения поддержки в развитии одаренных детей с использованием индивидуализированных траекторий, основанных на различных сценариях. Предложено практическое применение разработанных механизмов. Применение индивидуализированных траекторий обучения оказалось эффективным для усиления психического, творческого и интеллектуального потенциала одаренных детей и снижения реактивной и личностной тревожности. Это связано с тем, что экспериментальная группа продемонстрировала значительный рост по всем категориям измерения, тогда как уровни развития в контрольной группе практически не изменились. Высокие результаты во всех трех областях коррелируют со снижением тревожности у детей, что указывает на важность целенаправленного развития этих компонентов для поддержания психоэмоционального здоровья одаренных детей. Следовательно, использование специализированных механизмов поддержки можно считать одним из факторов, позволяющих максимально раскрыть потенциал одаренных детей.

Ключевые слова: одаренные дети, психолого-педагогическая поддержка, механизмы, индивидуальные траектории, индивидуальные сценарии.

Information about authors:

Matayev Berik* – Doctor of Philosophy (PhD), Associate Professor, Pavlodar Pedagogical University named after A. Margulan (Kazakhstan, Pavlodar, e-mail: matayev_berik@teachers.ppu.edu.kz, ORCID: <https://orcid.org/0000-0002-0610-5108>).

Assainova Almagul – Candidate of Pedagogical Sciences, Professor, Pavlodar Pedagogical University named after A. Margulan (Kazakhstan, Pavlodar, e-mail: assainovaa@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-0909-9767>).

Yessengeldin Bauyrzhan – Doctor of Economics, Professor, Pavlodar Pedagogical University named after A. Margulan (Kazakhstan, Pavlodar, e-mail: bauyrzhan_yessengeldin@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-4155-3616>).

Ayapbergenova Gulsum – Doctor of Philosophy (PhD), Associate Professor, Pavlodar Pedagogical University named after A. Margulan (Kazakhstan, Pavlodar, e-mail: gulsumas@mail.ru, ORCID: <https://orcid.org/0000-0002-4952-3289>).

Авторлар туралы мәліметтер:

Матаев Берік Айтбайұлы* – философия докторы (PhD), қаумдастырылған профессоры, Ә. Марғұлан атындағы Павлодар педагогикалық университеті (Қазақстан, Павлодар қ., e-mail: matayev_berik@teachers.ppu.edu.kz, ORCID: <https://orcid.org/0000-0002-0610-5108>).

Асаинова Алмагуль Жаяковна – педагогика ғылымдарының кандидаты, профессор, Ә. Марғұлан атындағы Павлодар педагогикалық университеті (Қазақстан, Павлодар қ., e-mail: assainovaa@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-0909-9767>).

Есенгельдин Бауыржан Сатыбалдыұлы – экономика ғылымдарының докторы, профессор, Ә. Марғұлан атындағы Павлодар педагогикалық университеті (Қазақстан, Павлодар қ., e-mail: bauyrzhan_yessengeldin@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-4155-3616>).

Аяпбергенова Гульсум Сагындыковна – философия докторы (PhD), қауымдастырылған профессоры, Ә. Марғұлан атындағы Павлодар педагогикалық университеті (Қазақстан, Павлодар қ., e-mail: gulsumas@mail.ru, ORCID: <https://orcid.org/0000-0002-4952-3289>).

Сведения об авторах:

Матаев Берик Айтбаевич* – доктор философии (PhD), ассоциированный профессор, Павлодарский педагогический университет имени Ә. Марғұлан (Казахстан, г. Павлодар, e-mail: matayev_berik@teachers.ppu.edu.kz, ORCID: <https://orcid.org/0000-0002-0610-5108>).

Асаинова Алмагуль Жаяковна – кандидат педагогических наук, профессор, Павлодарский педагогический университет имени Ә. Марғұлан (Казахстан, г. Павлодар, e-mail: assainovaa@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-0909-9767>).

Есенгельдин Бауыржан Сатыбалдыұлы – доктор экономических наук, профессор, Павлодарский педагогический университет имени Ә. Марғұлан (Казахстан, г. Павлодар, e-mail: bauyrzhan_yessengeldin@ppu.edu.kz, ORCID: <https://orcid.org/0000-0003-4155-3616>).

Аяпбергенова Гульсум Сагындыковна – доктор философии (PhD), ассоциированный профессор, Павлодарский педагогический университет имени Ә. Марғұлан (Казахстан, г. Павлодар, e-mail: gulsumas@mail.ru, ORCID: <https://orcid.org/0000-0002-4952-3289>).