

**PROFESSIONAL RETRAINING OF PEDAGOGICAL AND
MANAGERIAL PERSONNEL AS A PERSPECTIVE
DIRECTION OF THE SYSTEM OF IDENTIFICATION
DEVELOPMENT AND SUPPORT OF GIFTED CHILDREN
AND YOUTH**

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Abstract: *The purpose of the study: an independent evaluation of the professional retraining programs quality and organization of the dialogue between the community of employers and educational organizations; to improve the quality of the pedagogical and managerial personnel professional retraining; to develop the system for the identification and support of gifted children and young people. Research methods: The leading method for the study of this problem is the accreditation expertise method. Experts of the working group of FSBEI HE Sochi State University and students of the programs of the professional retraining of pedagogical and managerial personnel took part in the research. Research results: Organization and holding of the professional retraining programs of pedagogical and managerial personnel that implement programs to identify, train and support gifted children and young people in the region. Significance of the study: the study presents the results of the system indicators development to evaluate the project goals and objectives achievement by monitoring the learner's enrolment; educational process; synthesis of experts' opinions and format for the decision preparation.*

Keywords: expertise, organizational-methodical support, professional retraining, the identification and support of gifted children and youth, efficiency criteria, expert decision.

Now the role of additional professional education system for teachers has been actualized, the primary purpose of which is recognized as:

- development of vocational and personal qualities of teaching staff;
- satisfaction of real educational needs of teachers;
- increasing the general and vocational-pedagogical culture of a teacher.

The problems of the education efficiency determining and, in particular, the professional retraining as additional education for adults are the meaningful issues. Their consideration and solution require

taking into account not only, the standard of the profession, but also the rapidly changing realities of life.

General approaches to defining the content and characteristic of adult education results are presented in the works of native scientists. Nowadays there are not many works that characterize the educational results of the professional retraining of pedagogical and managerial personnel in the system for the identification and support of gifted children and youth.¹

Analysis of a number of studies, as well as of regulatory and legal documents in the field of additional professional education, allows to characterize refresher training as a process aimed at gaining the additional knowledge and skills by the students, necessary to implement changes in their professional activity, or to realize its other kinds. In the situation of refresher training a professional context is mastered, fundamentally different to the prior gained education and experience.²

Refresher training is a professional education that is directly connected with the subsequent realization of professional activity on another level of performance. In its nature it is additional to the basic vocational education, the existence of which is presented by a diploma. The necessity of constant training of teachers is dictated by the need for the expeditious and intensive development of new activities by the specialists to identify and support gifted children and young people.³

¹ N. Balyk, O. Barna, G. Shmyger, V. Oleksiuk, "Model of professional retraining of teachers based on the development of STEM competencies", in *Proceedings of CEUR Workshop*, no. 2104, (2018), pp. 318-331; A. J. Boulton, A. Williford, "Analyzing skewed continuous outcomes with many zeros: A tutorial for social work and youth prevention science researchers", in *Journal of the Society for Social Work and Research*, IX, no. 4, (2018), pp. 721-740; K. E. Larson, E. T. Pas, C. P. Bradshaw, M. S. Rosenberg, N. I. Day-Vines, "Examining how proactive management and culturally responsive teaching relate to student behavior: Implications for measurement and practice", in *School Psychology Review*, 47, no. 2, (2018), pp. 153-166.

² A. Lohbeck, G. Hagenauer, A. C. Frenzel, "Teachers' self-concepts and emotions: Conceptualization and relations", in *Teaching and Teacher Education*, no. 70, (2018), pp. 111-120; N. N. Vasyagina, S. A. Vasyagina, A. V. Seryy, "Features of professional and personal orientation of the teacher", in *Astra Salvensis*, VI, no. 12, (2018), pp. 141-153; R. J. Sternberg, "Direct Measurement of Scientific Giftedness", in *Roeper Review*, 40, no. 2, (2018), pp. 78-85.

³ N. A. Mazilina, "Didactic conditions for training of a competent specialist in the system of Secondary Vocational Education", in *Secondary Vocational Education*, no. 11, (2006), pp. 34-35; I. A. Mushkina, S. S. Novikova, I. I. Ukraintseva, "The basis of Secondary Vocational Education students professional self-determination", in *Proceedings of the international scientific conference "Methods and mechanisms for implementing the competence approach in psychology and pedagogy"*, no. 8, (2017), pp. 51-53; E. V. Yakovlev, *Theory and practice of university quality management*, Chelyabinsk, Chelyabinsk State University Press,

Into the retraining program one may include the following categories of learners:

- 1) the teachers of regional centers on identification and support of gifted schoolchildren;
- 2) the teachers of general and additional education system, working on the preparation of students for competitions (Olympiads, contests, conferences) on the high level;
- 3) the high school teachers providing vocational guidance, selection and support of the gifted youth at the pre-university education stages and training at the junior courses;
- 4) the managers who are responsible for implementing the programs to identify and support gifted children and young people in the region.

In the process of mastering the program a listener will possess the competencies and skills to effectively implement the educational programs for gifted children and young people:

- 1) can build (and justify) the model of giftedness, allowing to design effective educational environments and programs;
- 2) will develop valuable bases for designing educational environments for gifted youth in the context of the 21st century educational request;
- 3) will identify the design patterns for the short-term intensive specialized programs; the programs of additional education;
- 4) will study the organization peculiarities of research and project work with gifted children;
- 5) will master the methodology on the preparation of students for competitions (Olympiads, competitions, festivals) at the Russian and international level (the highest level of qualification);
- 6) will develop a package of methodological materials for their implementation within the framework of the activities of the Regional Centre on the work with gifted children (specialized program, educational module, club association program);
- 7) will learn through his/her own educational practice a range of modern educational technologies (case study, critical thinking at reading and writing, scientific debates, etc.);
- 8) will take part in designing the educational environment for the implementation of the programs for gifted learners;

2000. p. 181; S. I. Gilmanshina, F. D. Khalikova, Y. A. Cherkashina, I. R. Gilmanshin, "Formation of the future engineering chemical elite in lyceums for gifted adolescents at universities", in *Proceedings of IOP Conference, Series: Materials Science and Engineering*, 412, no. 1, (2018), pp. 48-55.

- 9) will undertake a study in the laboratory;
- 10) as a part of the project team will develop a project of the scientific and technological orientation;
- 11) as a part of the authors team will develop an educational resource of new generation (including distance education system);
- 12) internship will take place on the key types of educational process organization (input analysis, verification of works, consulting project teams, etc.).⁴

Professional retraining program can be modular in nature, can be generated by the learner by choice (in the part of the calendar period of full-time subject module studying), and contains basic and variable parts.⁵

Implementation in the full-time and part-time forms, at that not less than half of the program content is mastered distantly.

1) A learner performs the work on the educational program or distance education module development (based on the submitted samples) as well as its implementation in the educational environment in his/her region (the subject of the work is submitted to the employer's approval and confirmed by the program council).

2) According to the results of the training each participant is interviewed according to the materials of the works, performed during the educational process.

3) The presentation form of the results: the developed educational program, report on the presented program testing.

The main directions of the program can be: "Biology", "Computer Science",⁶ "Mathematics",⁷ "Physics", "Chemistry", "Philology", "Management".⁸

⁴ I. Rissanen, E. Kuusisto, E. Hanhimaki, K. Tirri, "Teachers' Implicit Meaning Systems and Their Implications for Pedagogical Thinking and Practice: A Case Study from Finland", in *Scandinavian Journal of Educational Research*, 62, no. 4, (2018), pp. 487-500; S. Moran, "Purpose-in-action education: Introduction and Implications", in *Journal of Moral Education*, 47, no. 2, (2018), pp. 145-158.

⁵ G. Fournier, C. Gauthier, E. Perron, H. Zimmermann, L. Lachance, "Processus de reconversion professionnelle de travailleur: Entre le deuil du métier et le désir d'être autrement", in *Orientation Scolaire et Professionnelle*, 46, no. 3, (2017), pp. 363-399.

⁶ F. M. Zakirova, S. K. Pozilova, "Creative learning with inprofessional development courses for IT-teachers of higher educational institutions", in *Novosibirsk State Pedagogical University Bulletin*, 8, no. 3, (2018), pp. 23-36.

⁷ D. N. Munahefi, S. B. Waluya, "Rochmad analysis of creative mathematic thinking ability in problem based learning model based on self-regulation learning. Creative learning with professional development courses for IT-teachers of higher educational institutions", in *Journal of Physics: Conference Series*, 983, no. 1, (2018), pp. 57-62.

Materials and Methods

Any professional retraining program shall be subjected to the evaluation procedure. The contents of additional professional programs must take into account the professional standards, qualification requirements specified in the skilled manuals on the corresponding positions, professions and specialties, or qualifying requirements for professional knowledge and skills required for the performance of official duties.

Expertise of the programs is carried out by the team of professionals taking part in the independent expertise implementation of the additional professional education programs. In our study, the expert group included: 2 doctors of science, 4 candidates of science of FSBEI HE Sochi State University with the specialized education.

Expertise functions: helps the specialists, professional and teaching staff to formulate the main idea of the program, supports the teacher's innovative search, stimulates the professional growth and productivity of the study, estimates on the basis of a set of basic and specific criteria.

Criterion is a sign, on the basis of which one makes an assessment of the educational program compliance with the requirements of the professional standards, to the labor market requirements to specialists, workers and employees of the corresponding specialization. Indicators by the criterion are directly estimated signs of the educational program, which aggregate gives an opportunity to evaluate the program by this criterion.

The reason for the expertise criteria of the professional retraining program were the regulations: of the Federal law "On education",⁹ the order "On approval of the procedure and organization, and the implementation of educational activities for additional professional programs",¹⁰ the criteria for the evaluation of educational programs formulated in the requirements specification for the methodology design

⁸ O. V. Shatunova, E. E. Merzon, "Social and psychological factors of influence on athletic progress of gifted students in non-sporting academic disciplines", in *Teoriya i Praktika Fizicheskoy Kultury*, no. 3, (2018), pp. 12-14.

⁹ Federal Law, "On Education" 273-FZ of December 29, 2012 with amendments in 2018.

¹⁰ Order of the Ministry of Education and Science of the Russian Federation (Ministry of Education and Science of Russia) of July 1, 2013 N 499 Moscow "On approval of the procedure for organizing and conducting educational activities for additional professional programs".

(table 1), prepared by the working group experts; the sample methodology, prepared by the working group experts. (table 2).

Table 1: Requirements specification

Nºin order	Name of the event.	Quantity specification of the work	Results
1	Development of the analytical reference for the study of the educational space in order to identify and support gifted children and young people in the Russian Federation.	Not less than 1,5 sheet, 1 presentation.	Analytical report "Study of the educational space in order to identify and support gifted children and young people in the Russian Federation".
2	Estimation of the predictable risks, possible ways of preventing and minimizing the negative effects of the project implementation.	1 presentation.	Presentation.
3	Development of the requirements specification on pedagogical and managerial personnel retraining in order to implement the programs of identification and support of gifted children and youth.	1 requirements specification.	Requirements specification developed and agreed with MES of RF.
4	The auction holding for the right to conclude a contract on rendering services of pedagogical and managerial personnel retraining in order to implement the programs of identification and support of gifted children and youth.	Organization of 1 auction.	The contract conclusion with the service provider.
5	Development of the system of indicators to estimate of the goal and objectives of the project.	Methodology of the system of indicators to estimate the achievement of the goal and objectives of the project.	Survey of learners.
6	Monitoring of the enrollment of learners.	From 10 and more regions.	Reporting in MES of RF.
7	The retraining program implementation.	Formation of the package of educational and methodic provision of the program.	The educational program implementation.
8	The concluding attestation holding	Quantitative	The concluding

	by the results of the program mastering	analysis of the results of the concluding attestation (at least 5 indicators).	attestation holding.
9	The monitoring organization of the educational process.	Work on the preparation of 1 report.	Report on the monitoring conducting.
10	Presentation of the vocational retraining diplomas to the learners, who successfully completed the educational program.	The qualification documents were issued.	The order of dismissal of the learners.
11	Sizing up on the retraining program conducting	Reporting on the program results.	The report adoption in MES of RF.

Table 2: Expertise criteria

Expertise subject	Expertise criteria
Orientation of the program	Compliance of the program focus on improving and (or) obtaining a new competence necessary for professional activity, and (or) increasing a professional level within the present qualification.
Structure of the program	Presence of the following components in the program: - list of professional competences in the framework of the present qualification, qualitative change of which takes place as a result of training in accordance with the program structure; - objective; - planned results of the training; - syllabus; - training program; - organizational and pedagogical conditions; - form of attestation; - evaluation materials.
Structure of the syllabus	Presence of the following components in the syllabus; - listing, distribution and sequence of the sections, topics (modules), other types of learning activity of the learners; - term of study/labor intensiveness; - form of attestation.
Content of the program	Compliance of the program content with: - the professional standard "Teacher", the qualification requirements for educators on appropriate positions, or qualification requirements to professional knowledge and skills; - abilities to achieve the expected results of the program mastering and obtaining the new competencies (professional skills), declared in the program.
Term of the program mastering	- compliance of the term of the program mastering with the ability to achieve the expected results of its mastering and obtaining the new competencies (professional skills), declared in the program; - compliance of the term of the program mastering with the requirement to the minimum allowable term.
Category of learners	Compliance of the learners' education with the required level-complete/incomplete secondary professional and (or) higher education.
The forms of the program realization	Compliance of the forms of the program realization with the possible forms: traditional organization of training, training in the

	form of internship, distance learning, e-learning, learning on the individual curriculum, network learning.
Types of training classes and educational works	Representation of the training classes and educational works from the list in the program: lectures, practical and seminar lessons, labs, round tables, workshops, business games, role-playing, trainings, seminars to exchange experience, visiting classes, consulting, execution of attestation, project work, etc.
Concluding attestation	Compliance of the attestation forms and assessment materials with the expected results of the program mastering.

Expertise is carried out in accordance with the group of criteria established by the basic principles with the clarifications that are just for professional retraining of pedagogical and managerial personnel in the system of identification and support of gifted children and youth.

In addition, the expertise of the program includes the following sections:

In the first section “General characteristics of the program” the structure of the program, its total volume, and its modular nature are analyzed.

The second section “Basic requirements to the content and structure of the set of teaching materials” provides a list of specific criteria and benchmarking indicators.

Evaluation and content of the structure of the set of teaching materials is conducted on 15 criteria, each has from 1 to 3 indicators.

Evaluation of criteria and indicators of the content and structure of the set of teaching materials of the following point system:

0 points is exposed when the criterion does not manifest, manifests sometimes or is poorly expressed;

1 points-rarely and insufficiently expressed;

2 points-often and quite expressed;

3 points-always and brightly expressed.

Each indicator in all the groups is assigned with a weight coefficient based on the meaning content of indicators and comparability of their significance. Weight coefficient determines the degree of indicator influence on the quality and effectiveness of the set of teaching materials, and in the light of which the integrated result is calculated. Weighting coefficients of the partial criteria were established by experts and accepted by equal values.

The main requirements for the content and structure of the set of teaching materials are shown in table 3.

Table 3: The main requirements for the content and structure of the set of teaching materials

Criteria and indicators	Point	Weight coefficient	Result
Abstract			
Relevance and novelty			
Goal-setting			
The presence of clearly and diagnostically specified goal			
Tasks			
Tasks specify the goal			
Tasks do not correspond to the theme, the goal of the program			
Competences, generated in the process of implementing programs			
Teaching load			
Rational distribution of hours by the forms and kinds of classes			
Misallocation of hours by the forms and kinds of classes			
Methods and technologies of teaching			
Diversity of the presented methods and technologies			
Requirements to the learners meet the qualifying characteristics of the target audience			
Requirements to the results of the program mastering			
Requirements formulated in accordance with the presented objectives			
The content of the program sections			
Name of the sections is fully reflected in the content of the program			
Forms and kinds of control			
Variety of forms and kinds of control is presented (input survey, methods and forms of reflection)			
Survey example shown in tables 4, 5			
Test questions for quality control of learner training by the program			
Requirements for the graduation work of a learner			
Instructor's manual is presented for the graduation work execution (0-3)			
Criteria for evaluating the graduation work is presented (0-3)			
Educational-methodical provision of the course promotes the quality mastering of the provided material.			
Abstracts of lectures and demonstration materials to them			
Methodical instructions to all the practical lessons and laboratory works (include the theoretical part; assignments to each lesson and algorithm of their performance; control questions)			
Methodical instructions for the independent work of the learners (problematic issues; a list of information sources; forms of presentation of the work results)			
	Total points		

The third section "Guidelines for authors" includes the comments of experts-specialists in the subject area, and recommendations for the further improvement of the program.

The fourth section-"Final conclusion". According to the results of the performed work a final conclusion is submitted on the possibility or impossibility of a positive evaluation of the program.

During the development of the program, expertise and feedback questionnaires we have taken into account the experience of the native and foreign studies.¹¹

Table 4: Sample feedback questionnaires by the modules

Questionnaire	
Assessment of the training ability of the module	
Title of the module:	
Surname, name, patronymic, profession of an expert	
Evaluation criteria	Comment
Subject content of the module (relevance, maturity, novelty)	
Motivation to action (meaningful challenges, problematic situations, practical relevance.)	

¹¹ Y. L. Zhukovskiy, N. I., Koteleva, M. S. Kovalchuk, "Development of course feedback questionnaires of continuing professional education in the mining industry", in *Innovation-Based Development of the Mineral Resources Sector: Proceedings of 11th conference of the Russian-German Raw Materials*, no. 1, (2018), pp. 589-597; I. R. Gilmanshin, S. I. Gilmanshina, "Technology of e-learning in the university education", in *Proceedings of IOP Conference, Series: Materials Science and Engineering*, 412, no. 1, (2018), pp. 112-118; I. R. Gilmanshin, S. I. Gilmanshina, "Stages of formation of scientific thinking of students in terms of engineering education at the university", in *Proceedings of IOP Conference*, pp. 69-75; R. H. Stupnisky, N. C. Hall, L. M. Daniels, E. Mensah, "Testing a Model of Pretenure Faculty Members' Teaching and Research Success: Motivation as a Mediator of Balance, Expectations, and Collegiality", in *Journal of Higher Education*, 88, no. 3, (2017), pp. 376-400; S. Koshova, V., Horachuk, V., Pishchikov, "Psychological features of the motivation component in the training of doctors in the system of postgraduate education", *Wiadomości lekarskie*, 71, no. 3, (2018), pp. 723-727; Z. Jamil, S. S. Fatima, A. A. Saeed, "Preclinical medical students' perspective on technology enhanced assessment for learning", in *Journal of the Pakistan Medical Association* 68, no. 6, (2018), pp. 898-903; R. J. Sternberg, "Direct Measurement of Scientific Giftedness", in *Roeper Review*, 40, no. 2, (2018), pp. 78-85.

Research independence of the learners (kinds of works, share in comparison with the teacher's initiative)	
Project independence of the learners (kinds of works, share in comparison with the teacher's initiative)	
Ideas for using the content in the educational process	

Table 5: Questionnaire of indicators for evaluating the achievement of the goal and objectives of the project

Indicators for evaluating the achievement of the goal and objectives of the project

Please rate the level of difficulty of the learning content for you personally 5 – very high, 4 – high enough, 3 – medium, 2 – below average, 1 – low	min	Scale of assessment					max
		1	2	3	4	5	
Your comment:							
Please give an assessment of the quality of teaching materials on the program 5 – very good, 4 – good enough, 3 – acceptably, 2 – insufficient, 1 – bad	min	Scale of assessment				max	
		1	2		1	2	
Your comment:							
Your opinion about the work of the program teaching staff 5 –excellent, 4-good, 3- acceptably, 2-below average, 1-bad	min	Scale of assessment					max
		1	2	3	4	5	
Your comment:							
Which of the topics included in this program seemed the most useful to you, in terms of the application of the acquired knowledge in the professional activity, and how much it	min	Scale of assessment				max	
		1	2		1	2	

interested you? 1 – not interested at all, 5 – aroused the highest interest							
Your comment:							
Did the Program meet your expectations in general? 5 – completely met, 4 – rather yes than no, 3 – neutral, 2 – rather no than yes, 1 – did not meet at all	min	Scale of assessment				max	
		1	2		1	2	
Your comment:							
What institutional proposals you could mention?							
Your suggestions and recommendations for the organizers of the program							

Results and Discussion

With the introduction of criteria for detailed evaluation and self-evaluation of the additional professional retraining program for pedagogical and managerial personnel, in the system of identification and support of gifted children and young people, the authors of the methodology:

- analyzed the specification of the criteria for the professional retraining program of pedagogical and managerial personnel in the system of identification and support of gifted children and young people;
- defined the lists of indicators that are set in the sample methodology and the requirements specification for the development

1) Explanatory note to the report on the program of professional retraining of pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and young people.

2) Order of the program conducting of professional retraining of pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth № 72/1 of April 11, 2018.

3) Regulations on the Competition commission to conduct the competitive selection for pedagogical and managerial personnel admission to the retraining program for implementation of the programs on the identification and support of gifted children and young people on the basis of the Educational center "SIRIUS" (504 hours).

4) Order of enrolment of learners for the professional retraining program of pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth № 73/1 of April 12, 2018.

5) Order of dismissal of the learners from the professional retraining program for pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth № 148/2 of June 26, 2018.

6) Order of enrolment of learners to the professional retraining program for pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth (supplementary list) № 152/2 of June 30, 2018.

7) Teaching staff of the program.

8) Event schedule (schedule of classes) of full-time sessions:

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Mathematics").

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Informatics").

-Event schedule of the full-time session "Project and research methods of cognition".

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Chemistry").

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Physics").

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Management").

-The full-time session program "E-learning and training of school-children to participate in the high rating contests, competitions, Olympiads" (specialization "Biology").

9) Report on mastering of the distance modules.

10) Methodical recommendations for the processing of graduation examination works on the retraining program "Big challenges".

11) Order of approving the topics of the graduation examination works for learners of the professional retraining program of pedagogical and managerial personnel for implementation of the programs on

identification and support of gifted children and youth, and assignment of the scientific supervisors.

12) Order of approving the membership of the certification commission of the professional retraining program for pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth.

13) Order of admission of learners to the concluding attestation of the professional retraining program of pedagogical and managerial personnel for implementation of the programs on identification and support of gifted children and youth.

14) Order of graduation of learners of the professional retraining program of pedagogical and managerial personnel for implementation of the programs on identification and support talented children and youth.

15) Meeting minutes of the Concluding certification commission of the retraining program for pedagogical and managerial personnel for implementation of the programs on identification and support of talented children and youth of November 28, 2018.

16) The registry of issuing the diplomas on vocational retraining.

17) Copies of the diplomas on vocational retraining.

18) Photo report (submitted in the electronic form).

In our research the experience of development and implementation of the programs and the experience of conducting the expertise educational retraining programs were taken into account, considering the demands of the requirements specification.

The program, submitted for expertise, demonstrates the quality of the educational-methodical base, possibility to use the infrastructure of the educational organization and receive the most up-to-date knowledge with the use of the advanced techniques, which are fundamental in mastering the professional retraining program for pedagogical and managerial personnel in the system of identification and support of gifted children and young people, by the authors of the method.

A thorough analysis of the program, undertaken in our study, has allowed committing a wide range of the set goals and objectives of refresher training. In such a diversity of proposals there is the possibility of choosing the subject-matters, problematic of courses, their informative content.

Results of the study will be presented in the methodical recommendations.