

PEHPP 2019**Pedagogical Education: History, Present Time, Perspectives****MANAGING A PROJECT PORTFOLIO IN AN EDUCATIONAL ORGANIZATION**

V. M. Zhurakovskaya (a)*, A. L. Morozova (b), O. A. Olicheva (c)

*Corresponding author

(a) Academy of Public Administration, Moscow, Russia, gvera66@mail.ru

(b) The Odintsovo branch of MGIMO University, Moscow Region, Russia, llg04@yandex.ru

(c) Istra Lyceum, Moscow Region, Russia, licey-istra@mail.ru

Abstract

The article raises the problem of project management in the educational process of a comprehensive school. The paper proposes a temporary organizational structure for managing a portfolio of projects in an educational organization, implemented by teams of teachers focused on solving the problems of strategic development of an educational organization. The paper describes the content of the work, the functions of the entities implementing the project portfolio: the customer of team building - the director of the educational organization, the project portfolio manager, the center of responsibility for the implementation of the project portfolio (project office), the presidents of the clubs directly managing the implementation of the projects, and the teams of teachers implementing projects. In matrix form, a description of the management of the project portfolio by temporary resources, content, and communications is carried out through the establishment of interaction between the subjects of the project activity, expressed in the definition of reporting, its forms, types and frequency of presentation. The content of software, institutional and personal resources providing project portfolio management in an educational organization is disclosed. The paper gives the analysis of the results of experimental work on the implementation of the system of psychological and pedagogical support for the growth of professionalism of a teacher in an educational organization, psychological and pedagogical conditions for the implementation of the system (organization of work of project teams of teachers).

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1. Introduction

In the draft professional standard “Head of an Educational Organization”, the skills and abilities that the head of an educational organization (EO) should have are noted: skills to demonstrate abilities in the field of development, resource and team management in labor and training situations; to demonstrate an innovative approach in the development of projects; to develop and implement strategic guidelines and indicators of an educational organization, etc. Thus, the skills of the heads of an EO, their deputies (head teachers) to carry out team building activities, including project management focused on solving strategic problems development of public education, is relevant at the present stage of education development.

In domestic literature, the problem of project management within the framework of the team building process in EO was studied in (Gorelova, 2018; Kolchina, 2018; Kopylova, 2015; Kuznetsova, 2014; Tsinareva, 2010; Tsyplakova, 2015) and others. The researchers substantiate the dependence between the success of the organization and the joint purposeful teamwork of team members; between the reflective ability of the manager, which is the basis of team building, and the cohesion of staff in the organization, etc. (Khlyzova, 2015). The studies offer a solution for the problem of forming the skills of communicative and strategic behavior of managers in the process of professional training through project activities (Gorelova, 2018). The problem of the formation of innovative and entrepreneurial competence of future managers during the period of higher education is solved through the implementation of a set of situational tasks of an entrepreneurial and innovative nature and project activities, etc. (Kolchina, 2018). The problem of team building at the university is carried out through the organization of trainings, assignments, project activities, etc. (Tsinareva, 2010). The problem of forming management teams for the implementation of state regional programs of Russia is also implemented through project activities focused on solving strategic problems (Kopylova, 2015). The problem of implementing the development strategy of EO is carried out through project activities organized both by educational and extracurricular activities (Tsyplakova, 2015) and others.

In the works of foreign authors, the problem of project management is studied from the following positions: first, a managerial approach taking into account the peculiarities of schools as a special form of organization that differs from commercial firms and enterprises (Yemini, Oplatka, & Sagie, 2018). Second, the perspective of the design activities of STEM high schools, which is implemented using an interdisciplinary and applied approach leading to more advanced studies (Wilhelm & Cole, 2019). Third, in the context of STEM education at the university through project-based training (Capraro, Whitfield, & Etchells, 2016). Fourth, in terms of the Roskilles model of education and educational design, which presents knowledge of how principles of problem-oriented, interdisciplinary and participatory design work can serve as the basis for planning and applying educational activities at universities (Siig & Heilesen, 2015). Fifth, from the perspective of organizing project activities, including innovative curricula based on a social constructivist approach designed to develop independent educational settings for academically successful high school students at the Hwa Chong Institute, a leading independent school in Singapore (Joseph & Chapman, 2016). Sixth, from the perspective of organizing projects in English courses, as well as undergraduate and other higher education courses (McDonald, 1992). Seventh, in the context of the transformation at Minho University (Portugal) of a rather traditional semester of the first year of study into a project based on a topic related to the future professional practice of students (Carlosde, Tadeu, Manrique,

Van, & Hattum-Janssen, 2012). Eights, from the perspective of turning their students into “scientists” who use their knowledge and creativity to solve real problems (Baines, 2014). Ninth, from the perspective of issues of design, implementation and operation, instrumentation, management and decision-making (Payne, 1994). Tenth, in the aspect of organizing project activities in mathematics with talented children in extracurricular activities (Andy, 2018).

Thus, in the work of researchers, the problem of project management is relevant, which underlies team building and the implementation of the development strategy of public organizations. It should be noted that the development strategies of EO are usually reflected in the development program of the educational organization, which includes several projects focused on the development of EO and the solution of its problems. However, the problem of managing several projects (portfolio of projects) was not sufficiently raised in the above studies, in addition, the problem of project management, personnel was carried out from the standpoint of traditional methods. Thus, the problem of managing a portfolio of projects based on innovative methods that ensure the successful work of a team of educators is an urgent and understudied problem.

2. Problem Statement

To carry out a description of the management of the activities of teams of teachers implementing projects; to establish and implement pedagogically appropriate relationships between leaders, teachers and students, ensuring the growth of teachers’ professionalism and the manifestation of their personality.

3. Research Questions

How can we manage a portfolio of projects that ensure the implementation of development strategies for EOs and the growth of teachers’ professionalism?

4. Purpose of the Study

To develop and implement a system of psychological and pedagogical support for the development of teachers’ individuality, the growth of their professionalism in the educational organization, through the inclusion of teachers in the implementation of professional projects.

5. Research Methods

The main methods include the following: theoretical methods (studying theoretical sources and scientific publications, Internet resources, analysis, synthesis, generalization); diagnostic methods (questioning, testing); statistical methods for processing experimental data.

Theoretical research methods have allowed us to identify the theory of project management in the enterprise (Illarionov, 2011; Kuznetsova, 2014) and offer theoretical positions for managing a portfolio of projects in education. A project portfolio is understood as a set of programs, projects integrated to ensure productive management and achieve the organization’s strategic goals (Kuznetsova, 2014). The portfolio of projects was managed in our study on the basis of a temporary organizational structure (Figure 01).

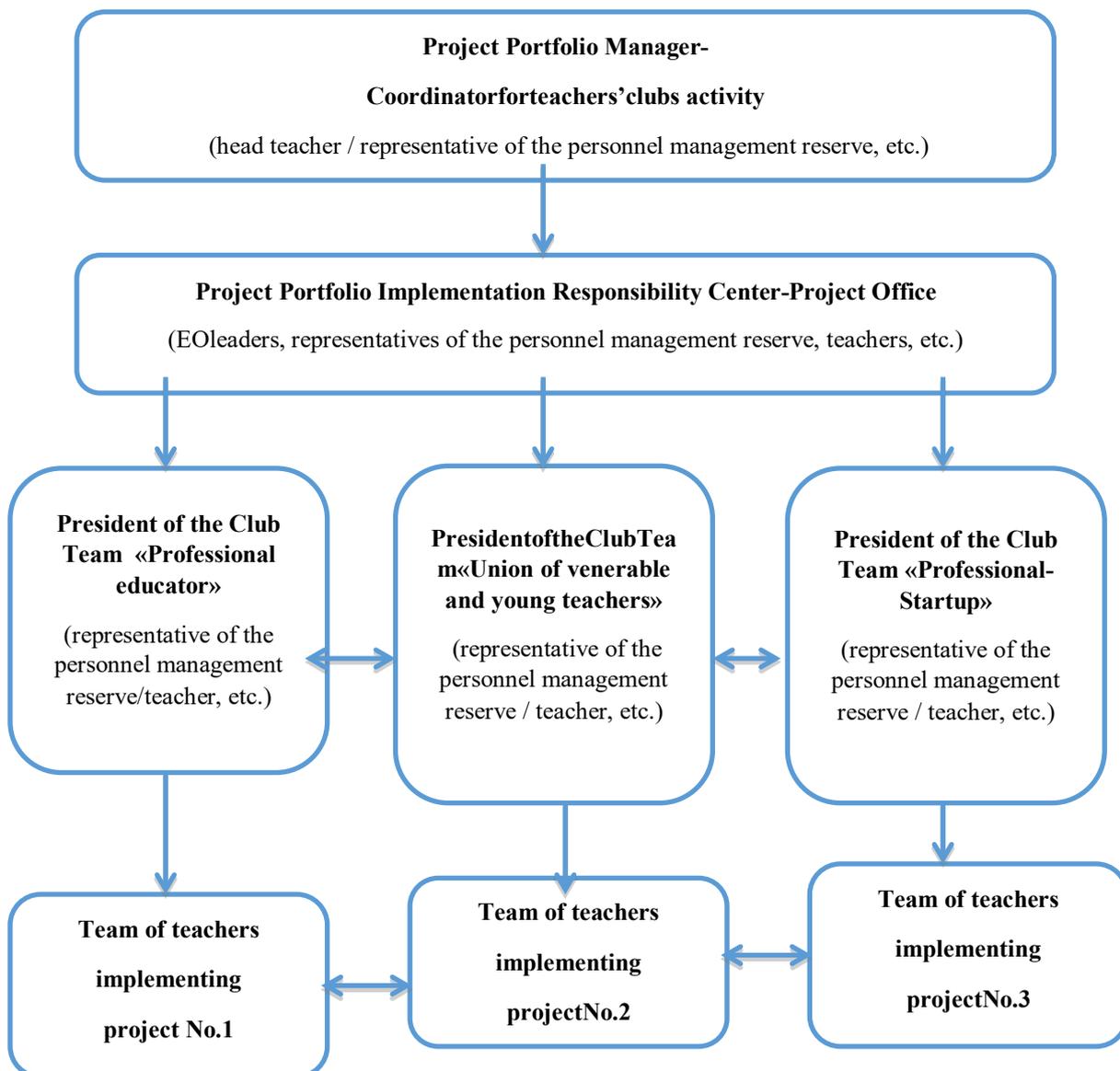


Figure 01 .Temporary organizational structure of project portfolio management

Let us describe the temporary organizational structure of the project portfolio management: purpose and functions of entities implementing the project portfolio:

- *The customer of team building is the director of the EO. He can determine the requirements for ongoing projects.*
- *The project portfolio manager supervises the project activities of teachers' club teams. The project portfolio manager can be the deputy director of the educational institution for educational / training work, representative of the personnel management reserve, etc. The deputy director manages the project teams of teachers through the responsibility center for the implementation of the project portfolio. The project portfolio includes all projects that are implemented within the framework of all pedagogical clubs. Due to the limited volume of this paper, Figure 01 shows only a number of the projects. The project portfolio manager coordinates the activities of*

educational clubs implementing projects; organizes strategic decision-making activities on the portfolio of projects as a whole and on individual components; carries out the selection and appointment of club leaders performing project management; defines reporting for the center of responsibility for the implementation of the project portfolio.

The tasks of the project portfolio manager include the following:

- 1) organize project selection procedures (project selection criteria, etc.),
- 2) determine the structure of the portfolio of projects,
- 3) to determine the totality of internal regulatory documents created in the EO and regulating the principles governing the activities of teachers' project teams, etc.

- *The responsibility center for the implementation of the portfolio of projects or the project management office* links the plans of all projects in terms of time and resources to each other; receives reports from club presidents on the implementation of project activities; reduces resource conflicts at the project portfolio level; and motivates club presidents for successful project implementation activities.

The Center's meeting, guided by the head of the project portfolio, takes the following decisions: inclusion / non-inclusion of the project in the portfolio of projects; the launch or suspension of the project; building a monitoring system for the implementation of the portfolio of projects; definition of reporting for club presidents; resolving resource conflicts; strategic decisions related to the resource support of the project portfolio, etc. A meeting of the Center, for example, can be held once a month. The responsibility center for the implementation of the project portfolio or the project management office is needed to create a single project implementation policy.

Monitoring the implementation of the portfolio of projects is a means of supervising its implementation and is carried out on the basis of regular analysis of reporting on the portfolio of projects. The construction of a monitoring system includes the selection and evaluation of various indicators of project implementation, which can be expressed quantitatively and qualitatively.

- *The club president* directly supervises the project: he/she is responsible for the implementation schedule and project results to the project portfolio manager or the project management center; responsible for managing project activities within the club; responsible for achieving the objectives of the projects; reduces resource conflicts at the project level; receives reports from teachers on the implementation of the project and provides information to the center of responsibility for the implementation of the portfolio of projects; motivates club teachers to successful project implementation activities.

The tasks of the club president together with teachers (members of the club) include the following:

- 1) identifying the project theme and those responsible for the development of the project and its implementation;
- 2) determining the directions of the team of teachers in the implementation of the project;

3) planning together with club members and implementing a calendar and thematic plan for the club team of teachers, including informal communication of teachers, sports and fitness activities of teachers, social and creative activities, artistic and creative activities, etc.

- *The team of teachers implementing the project* ensures its successful achievement.

Institutional resources for managing a portfolio of projects include such forms and methods of personnel management *associo-psychological methods* (assessing the individual qualities of employees, methods of forming a corporate culture of EO, reflective sessions from the perspective of a coaching approach, ensuring a conscious, free inclusion of teachers in the process of team building, facilitation sessions, etc.); *organizational and administrative methods* (orders, plans, instructions, orders, etc.); *economic methods* (salaries, bonuses, grants, as well as Scrum project management technology, etc.).

- *Individual resources* of managing a portfolio of projects include the ability of the management staff of EOs to manage personnel effectively using a coaching approach; to organize a creative team of like-minded people at a conceptual, target, substantive, activity level based on subject-subject communication, interactions, etc.

A portfolio of projects on temporary resources, content and communications is managed through the establishment of interaction between the subjects of project activities, expressed in the definition of reporting, its form, type and frequency of presentation. Due to the limited volume of this paper, Table 01 doesn't present all the projects included in the portfolio.

Table 01. Project portfolio management: time, content, communications

Project entities	Venue, frequency, interim reporting form			
	Responsibility Center (Project Office)	Teachers' Club President – Project Manager	Director of the EO	The Project Portfolio Manager
The project portfolio manager			Meeting once a month. Reporting in the form of a schedule, project results, etc. Planning.	Coordinates the activities of the project office and project teams. Planning.
Project Implementation Responsibility Center (Project Office).	Linking plans for all projects. Resolves resource conflicts at the project portfolio level. Coordinates the activity of project teams.		Meeting once a month together with the club presidents. Discussion of project implementation problems at round tables. Planning.	Meeting 1-4 times a month. Reporting in the form of a schedule, Gantt chart posted in the Tilda service – project office.

The Club president – project manager No.1 «Together we are strong» (a project to create a children’s volunteer club for the 6-th grade pupils in a secondary school).	Meeting once a month. Reporting in the form of photos, video materials, schedule, presentation. Project manager motivation.		Meeting participants: director, club president, teachers’ teams. Frequency 1-4 times a quarter. Demonstration of an intermediate product.	Participates in the round table discussions on the problems in project implementation. Planning. Project manager motivation.
Teachers implementing project No.1	Monitor the activities of teachers’ project teams using the Trello service (online).	Project team meeting (1-4 times a month). Drawing up a diagram of “combustion of tasks”, reflection on the results, planning.		
The Club president – project manager No.2 “Naukograd” (working with gifted children).	Project Reporting (Gantt Charts, “Combustion Tasks”) posted in the Tilda and Trello services.		Holding a round table (1-4 times in a quarter). Participants: director, club president, teachers’ team. Motivation of teachers.	
Teachers implementing project No.2	Organizing master-classes, open lessons, etc.	Reporting in the form of photos, videos, presentations posted in the Tilda service - project office		

Responsibility matrices developed from the perspective of management functions (planning, motivation, control, organization, consulting, evaluation, etc.) can be used in managing a portfolio of projects. We can also consider task combustion diagrams, Scrum boards made in the Trello service (Figure 02), etc., providing management of teachers' self-fulfillment as part of their project activities. In accordance with Scrum technology (project management technology), an action plan is created at the beginning of each month for a month. This takes into account the priorities of the owner of the product and the amount of work that the team hopes to complete in a month. At the end of each month, the project team of teachers demonstrates the product of the project to the interested parties of the project - its owner (director of the EO). After that, the team conducts a reflection to discuss and improve the process of working on the project (Ageev, Kavin, & Pavlovsky, 2018).

The project manager (president of the club of educators) is responsible for the following processes:

- coordinates the work of the team and supports the working atmosphere in the team,
- helps to develop a work plan for a month, makes sure that meetings begin and end on time (15 minutes for each teacher to speak);

- at the end of the month, organizes a demonstration of the monthly work results and conducts reflection of the work carried out with the participation of the entire team.

Scrum - the product owner (school principal) is responsible for the following:

- carries out the selection of user wishes for the product;
- prioritizes requirements;
- exercises control over the spending of the project budget.

In the Trello service, the project team of teachers carries out the following work:

- The project tasks for the month are formulated on stickers/cards, their importance (priority of implementation) and the complexity of the implementation are set. At the beginning of the month, all stickers / cards are located on the Scrum-board in the left column “Plan” and sorted by importance from top to bottom.

In accordance with the plan, within a month the team performs tasks of importance, starting with the highest, bringing them to the status of "Ready". On the last day of the month, stickers / cards occupy the right-hand column of “Ready”. When the sprint is over, the board is cleared - all elements are removed.

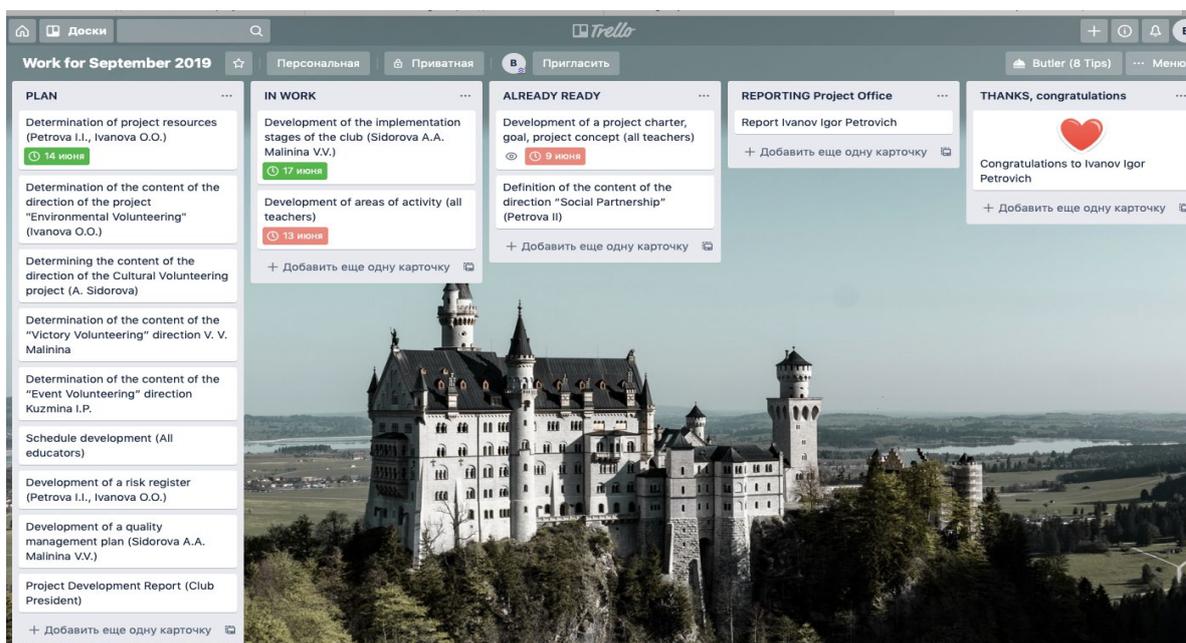


Figure 02. Service Trello, providing work with Scrum-boards

- With the start of a new plan for the following month, a new Scrum-board is created with new elements in the left column. Only one team uses the Scrum-board. Although it is available for viewing to everyone, only the Scrum-team that owns this board can make changes. The number of fields on a Scrum may vary. In the simplest case, the following fields are available: Plan, In Work (Development), and Ready. The fields “Reporting”, “Thanks”, etc. can be added.

- The team monitors the current state of the plan for the month on the Task Board with the columns: "Plan"; "In Work"; "Ready". A representative of the Project Office can enter the Scrum-board field and control the progress of the project team for the project. The team members place on the cards project tasks for a month, which in the process of work are alternately moved from the "Plan" column to the "In work" column, and then to the "Ready" column.

The project manager and the team of educators hold meetings 1-3 times a week, at which each team member answers the questions: "What did you do to complete the plan for the month?", "What are you going to do today/ tomorrow to complete the plan for the month?", "What are the obstacles that stand in the way of the team to complete the plan for the month?"

Upon completion of the monthly plan, the product owner (the director of EO), the project manager and the team of teachers conduct a review of the results of the month. Members of the team of educators tell what has been done in a month. The project manager and the team of teachers summarize, outlining what can be improved, etc.

6. Findings

During the implementation of the teachers' project activities, the professional development of teachers in public education was monitored, including continuous diagnostic and prognostic monitoring of changes in their professional activity.

The criteria for assessing the professional development of teachers include the following:

- reflexive criterion, expressed in the teacher's active position towards self-development;
- motivational-value criterion, reflecting the value-motivational orientation of the pedagogue to realize their professional potential;
- cognitive criterion that determines the cognitive activity of the teacher in continuous self-education;
- activity criterion, expressed in the willingness of the teacher to introduce innovations, implement innovations in the educational process.

To evaluate the results according to the reflexive criterion, an indicator of the formation of reflection was chosen. Diagnostics of the teacher's personal qualities was used (Zvereva, 1998). Based on the motivational-value criterion, changes in value orientations, the level of motivation, and the nature of the professional orientation were determined. A test of value orientations (Vedenkina, 2013) was used as diagnostics. The indicator of changes by the cognitive criterion was the degree of the cognitive activity of the teacher to lifelong learning and self-education. The following questionnaires were used - "Identification of the teacher's ability to self-development", "Factors that stimulate learning and impede the development and self-development of the teacher in school". In addition, cognitive activity was determined on the basis of the analysis of the teacher's activities: advanced training in the system of additional education, work in methodological associations of teachers, participation in the work of creative groups for the implementation of innovations, self-education. The activity criterion was determined by identifying the teacher's readiness for the use of modern technologies, determining the level of creative activity of the teacher. We used

observation, a survey, analysis of professional activity products, questionnaires: “The teacher’s susceptibility to new things,” “The teacher’s willingness to innovate”, “Anti-innovative barriers to the teacher’s teacher innovations in the school team ”, and others (Diagnostics..., 2013).

To conduct the experiment, we determined the experimental group (78 teachers from the Lyceum of Istra, Moscow Region) and the control group (64 teachers of Secondary School No. 1, the town of Protvino). In the course of experimental work, teachers of the Istra Lyceum implemented innovative projects: “Together we are strong” (project to create a children's volunteer club), “Naukograd” (work with gifted children), etc. For example, as part of the “Naukograd” project the innovative technology was tested — the game technology of multilevel student learning (combination technology), aimed at helping students to develop their personality. This combination-type technology is a system of technologies: multilevel learning technology, technology for developing critical thinking of students, technology for rating knowledge, game technologies, interactive technologies that are interconnected (Zhurakovskaya, 2014).

The analysis of the results of experimental work on the implementation of the system of psychological and pedagogical support for the development of teachers’ individuality, the growth of their professionalism in the EO, the psychological and pedagogical conditions for the implementation of the system showed a positive dynamics in the formation of the level of teachers’ professional development in the EO.

The analysis of the results of diagnosing the effectiveness of the formation of the reflective abilities of teachers at the ascertaining and controlling stages of the experiment showed an increase in the number of teachers with a high level of reflection from 3% to 21%, and a decrease in the number of teachers with a low level of reflection from 35% to 20%. The teachers used reflexive abilities, including in the framework of reflexive sessions from the perspective of a coaching approach, ensuring conscious, free adoption by teachers of the goals of self-development, inclusion in innovations, competitive movement, etc.

The analysis of the results of the experimental work showed a positive dynamics in the motivation of teachers to master innovations: from 14% to 46% (among teachers of experimental groups with a high level of motivation). It should be noted the increase in the level of cognitive activity among teachers from 40% to 87% (according to the results of the survey), expressed in their readiness for the use of modern educational technologies in the educational process. It should be noted the dynamics of the formation of the creative activity of the teacher from 7% to 24%, expressed in the desire of teachers to engage in research activities: to participate in the development of new methods, technologies, the development of ideas of known technologies. An increase in awards of various levels is attributed to indirect indicators of the dynamics of the teacher’s creative activity, assessment of the activities of the teacher by social partners (bonuses, grants). Thus, the analysis of the results of experimental work showed a positive dynamics in the formation of the professional development of the teacher in the experimental groups from 22% to 43% (by its high level). In addition, at the end of the experiment, the total number of teachers with the highest and first categories increased from 72% to 83%.

7. Conclusion

As part of the study, we have worked out a system of psychological and pedagogical support for the development of teachers’ individuality, the growth of their professionalism in the educational organization.

The organizational and pedagogical conditions for the implementation of the communicative component of this system were as follows: conducting scientific, methodological, and educational seminars, business games, reflective sessions for the heads of EO from the perspective of a coaching approach; providing consultations related to the problems of organizing teachers' project teams work, such as Subject clubs, Clubs for young teachers, Clubs for venerable educators, Professional startup clubs, aimed at professional and personal self-development of a teacher; the introduction of innovations in the educational process (combination type technologies); courses for leaders of the EO ("Teambuilding in an educational institution of general education", "Improving the emotional intelligence of the head of an educational organization"), ensuring professional success, and project management in education.

Institutional resources for managing the system include the forms and methods of personnel management, such as: *socio-psychological methods* (assessing the individual qualities of employees, business games, trainings for building a corporate culture, reflective sessions from the perspective of a coaching approach, focused on the conscious, meaningful inclusion of teachers in innovative processes, competitive movement, facilitation sessions aimed at solving team problems, etc.); *organizational and administrative methods* (orders, plans, instructions, orders, etc.); *economic methods* (wages, bonuses, grants).

Project management software includes: Trello project management service; SmartSheet program for building a Gantt chart, Tilda service for designing a project office, etc. The portfolio of projects was also managed through Scrum technology.

The analysis of the results of experimental work on the implementation of the system of psychological and pedagogical support for the growth of teacher professionalism in an educational organization, together with psychological and pedagogical conditions for the implementation of the system (organization of work of project teams of teachers) showed a positive dynamics in the formation of levels of professional development of a teacher in a public educational institution. This allowed us to consider the developed system effective.

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