

Artículo de investigación

## Increasing the level of teachers' readiness for pedagogical project

Повышение уровня готовности преподавателей к педагогическому проектированию

Incremento del nivel de preparación de los docentes para el proyecto pedagógico

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### Abstract

In the situation of pedagogical theory focus on a new personality-oriented and competence paradigm of education and upbringing, it becomes necessary to develop design activities of all subjects of educational process in a preschool educational institution. The relevance of the study is due to insufficient development of pedagogical design processes in a preschool educational institution. Therefore, the purpose of the article is to improve pedagogical design process in a preschool educational institution to increase the level of teachers' readiness for pedagogical activity. Pedagogical design in preschool educational institutions is very important due to the following socio-economic, psychological and pedagogical requirements: the development of market relations; development of design taking into account innovative processes in education; need for social protection of a person, preparing him for life in future. The authors developed a model of pedagogical design that ensures unity of administrative, pedagogical, educational activities of the subjects of educational process, thereby improving the level of management activities organization, personal and professional development of teachers and pupils. The treated results will contribute to further improvement of pedagogical design.

### Аннотация

В ситуации, когда педагогическая теория ориентируется на новую личностно-ориентированную и компетентностную парадигму обучения и воспитания, возникает необходимость в разработке проектных мероприятий всех субъектов образовательного процесса в дошкольном образовательном учреждении. Актуальность исследования обусловлена недостаточной разработкой процессов педагогического проектирования в дошкольном образовательном учреждении. Поэтому целью статьи является совершенствование процесса педагогического проектирования в дошкольном образовательном учреждении с целью повышения уровня готовности педагогов к педагогической деятельности. Педагогическое проектирование в дошкольных образовательных учреждениях очень важен в связи со следующими социально-экономическими, психолого-педагогическими требованиями: развитие рыночных отношений; разработка дизайна с учетом инновационных процессов в образовании; необходимость социальной защиты человека, подготовка его к жизни в будущем. Авторами разработана модель педагогического проектирования, обеспечивающая единство управленческой, педагогической, образовательной деятельности субъектов образовательного процесса, тем самым повышается уровень

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**Keywords:** Pedagogical design, students, management system, pre-school educational institution, model of pedagogical design.

организации управленческой деятельности, личностного и профессионального развития учителей и учеников. Выявленные результаты будут способствовать дальнейшему совершенствованию педагогического проектирования.

**Ключевые слова:** педагогический дизайн, учащиеся, система управления, дошкольное образовательное учреждение, модель педагогического дизайна.

## Resumen

En la situación de la teoría pedagógica centrada en un nuevo paradigma de educación y educación orientado a la personalidad y competencia, se hace necesario desarrollar actividades de diseño de todas las materias del proceso educativo en una institución educativa preescolar. La relevancia del estudio se debe al desarrollo insuficiente de los procesos de diseño pedagógico en una institución educativa preescolar. Por lo tanto, el propósito del artículo es mejorar el proceso de diseño pedagógico en una institución educativa preescolar para aumentar el nivel de preparación de los docentes para la actividad pedagógica. El diseño pedagógico en las instituciones educativas preescolares es muy importante debido a los siguientes aspectos socioeconómicos, psicológicos y pedagógicos. requisitos: el desarrollo de las relaciones de mercado; desarrollo de diseño teniendo en cuenta procesos innovadores en educación; necesidad de protección social de una persona, preparándolo para la vida en el futuro. Los autores desarrollaron un modelo de diseño pedagógico que garantiza la unidad de las actividades administrativas, pedagógicas y educativas de los sujetos del proceso educativo, mejorando así el nivel de organización de las actividades de gestión, el desarrollo personal y profesional de los docentes y alumnos. Los resultados tratados contribuirán a una mayor mejora del diseño pedagógico.

**Palabras clave:** Diseño pedagógico, estudiantes, sistema de gestión, institución educativa preescolar, modelo de diseño pedagógico.

## Introduction

Preschool educational institutions focus on preparation of independent, creative, comprehensively developed pupils with high readiness for cognitive activity require fundamental changes in management processes of working with a pupil (Ilyashenko, et al 2018a). Pedagogical design is a purposeful, premeditated impact of the subject of management on individual workers and students to organize and coordinate their activities, rational and effective use of educational institution tools for the purpose of personal development (Myalkina, et al 2018). The essence of design lies in the targeted impact on the development of relations between all participants of educational process as objects and subjects of management (Ilyashenko, et al 2018b).

Setting new goals and objectives of training and education leads to changes in the content of education, which causes the need to create new educational programs, and then other elements of educational system. Thus, pedagogical design is

interrelated with the activity of transforming educational systems, which is determined by the pace and characteristics of socio-economic development.

Like any other system, the system of preschool educational institutions can be analyzed in terms of structure, or in terms of process. In the design of social systems, and, consequently, in the design of activities in preschool educational institutions, two functions can be distinguished: improvement and transformation (Vaganova, et al 2017a). Approaches to transformation are different from approaches to improvement: improvement can be without using a systematic approach, whereas transformation is performed only on the basis of a systematic approach. This means that designing in preschool educational institutions involves building a complex of pedagogical ideas and, based on a systematic approach, developing desired transformations and programs for their implementation into specific educational systems (Ilyashenko, et al

2018c). In modern conditions, the main objectives of preschool educational institutions are: meeting the needs of individual and society for educational services and preparing children for school, capable of mastering the main educational curriculum creatively and diversified (Filimonova, et al 2017). In conditions of modern economy phenomena, the question of design activity in preschool educational institutions (Vaganova, et al 2019) is of particular importance.

Design success is achieved if information about the current state of the system arrives in a timely manner, when correction tools are available and are used sufficiently to eliminate inconsistency between the desired and actual state of the system (Vaskovskaya, et al 2018). In preschool educational institutions practice design activity is understood as the activity of subject management. Teaching staff is appraised on their impact on the process of raising children in order to achieve the final goal expressed in the learner's readiness for activity (Bulaeva, et al 2018).

An objective assessment of the level of personal and social qualities of pupils' development requires appropriate methods and organizational forms of control, a comprehensive assessment and prediction of how the structure of personality traits of students, particular professionals and workers meets the requirements of their activities.

### **Theoretical basis**

The study of the teacher's readiness to design activity is widely represented in scientific literature (K.M. Durai-Novakova, M.I. Dyachenko, L.A. Kandybovich, N.V. Kuzmina, V.A. Slastenin, Y.I. Turchaninova and etc.). Active and effective state of the subject, reflecting tasks content facing it and conditions for their implementation is defined as readiness for activity (MI Dyachenko, LA Kandybovich). The consumer demand of the population for the services of pre-school educational institutions, their conjuncture should now determine the development strategy of pre-school education, the requirements for volumes and proportions of pupils' preparation (Bartkiv, et al 2018). Since the demand for the services of preschool educational institutions will be satisfied on a competitive basis between various forms of educational institutions based on different types of ownership, realization of equal organizational and legal conditions for entering different

educational structures in the market is necessary (Garina, et al 2018).

Such conditions are designed to ensure state standards for the quality of a child's preparation (Ilyashenko, et al 2018d). In order to implement the principle of a flexible response to changes in the external environment, pre-school educational institutions must have advanced information about the expected demand and supply for preparation of educational services (Prokhorova, et al 2018).

Preschool educational institutions have come to realize the need to prepare a comprehensively developed and socially active specialist. (Smirnova, et al 2017a). With limited public resources allocated to education, lack of funds for new programs introduction, a noticeable tendency to emergence of alternative educational institutions are becoming increasingly relevant, studying the needs of various population groups, finding new sources of funding and searching for new educational services markets. All these issues can be solved by active marketing activities of preschool educational institutions (Ivanova, et al 2017).

The first who attempted to systematize accumulated experience of scientific and practical management and design activities in education was A.G. Sokolov (Kochetova, et al 2017). He accurately noted that management of any team, including the team of any educational institution has its own laws and these laws have not been fully studied. Therefore, the task of management theory of an educational institution is to investigate and identify team formation patterns and development of each of its members' personality in the management process and under its influence (Smirnova, 2018). Considering multilaterality of the problem of managing educational institutions, A.G. Sokolov came to the conclusion that this new direction of professional pedagogy should be based on the provisions of related sciences, primarily general pedagogy, psychology, sociology and economics (Markova, 2018).

N.M. Talanchuk focused on the development of collective forms and methods of leadership, on improving pedagogical work programming and planning organizational work (Sazhienko, et al 2017). In this aspect, with the benefit of further improving educational institution management N.M. Talanchuk proposed to use new collegial bodies, in particular, management advice (Vaganova, et al 2018). Considering that the problem of the unity and interconnection of the

two learning subsystems — general and educational — is closely related to the problem of managing a new type of educational institution, all the above conclusions and noted patterns also concern general education management in vocational educational institutions (Natalie, et al 2019). The problem of pedagogical design has been debated in studies of R.Kh. Shakurov, A.A. Bulgakov and M.I. Makhmutova.

Research R.Kh. Shakurov showed that the level of pedagogical competence of administration which occupies a key position in the system of pedagogical design is the most important condition for improving students' general education, creating creative atmosphere in the team that stimulates constant growth of each teacher's professional skills. R.H. (Smirnova, 2017b). The development pedagogical design theory has made it necessary to clarify the functions of all participants in educational process, highlighting the basis of educational system as a set of fixed and variable parameters (Vaganova, et al 2017b). In the studies of Bogachek I.A. the following variables are highlighted: the idea of pedagogical team management as a solution to a number of managerial tasks; classification of management tasks by difficulty groups; integration of such management tasks, the solution of which is necessary for adequate functioning of educational organization. the ratio of participation in solving the problems of managing collective bodies and management services; degree of participation in solving problems of management and members of the teaching staff; timing and pace of management tasks.

### Analysis

Based on the study of pedagogical design system in preschool educational institution No. 114, we established the need for its improvement. 32 people took part in a survey among school staff. Almost all respondents are interested in pedagogical design. The main constraining factors, in their opinion, are: lack of special knowledge in the field of management theory and pedagogical design (67%), imperfect management technology and unsatisfying teaching methods (87%). Considering their needs and abilities, 52.3% of teachers want to master design activities, most administration representatives want to master innovative approaches to managing pre-school education. 67.9% of teachers would like to master pedagogical design mechanisms in order to

create conditions for educational, cognitive and social-development activities of pupils.

We also analyzed dynamics of managers' design activities formation and dynamics of the development level of management activities of teachers and educators before and after the introduction of the model (Not formed; I - Minimum; II - Functional; III - System). The results of the study showed that the level of design activities development increased and accounted 62%. The teachers' motivation has become significantly higher, a low level of motivation is observed only in 4.7% of respondents, whereas before the introduction of the model it was found in 16% of respondents. At the first stage of the study, as a result of studying the initial state of management in a higher educational institution, we made the following conclusions. The existing system does not provide enough quality of pedagogical design. Analysis of the design activities in higher education showed that there a single hierarchical structure of pedagogical design was not created; the system integrity of the managed object is not secured. The revealed data created objective prerequisites for reforming the system of pedagogical design in educational institution.

With the help of the survey, we identified the attitude of educational institution employees to pedagogical design. The respondents in questioning and interviewing were administration, educators and teachers in pre-school educational institutions.

On the basis of the data obtained, it can be stated that almost all respondents are interested in pedagogical design. The main constraining factors, in their opinion, are: lack of special knowledge in the field of management theory and pedagogical design (67%), imperfect management technology and teaching methods (87%).

Considering their needs and abilities, 52.3% of teachers want to master design activities, most administration representatives want to master innovative approaches to managing pre-school education.

For our research, the fact that most teachers (67.9%) would like to master pedagogical design mechanisms in order to create conditions for educational, cognitive and social development activities of pupils, develop projects for training sessions and prospects for pedagogical process development is significant.

According to the data obtained, we can talk about the actual need to develop a model of pedagogical design.

The logic of the modeling process determined the main stages of this process in this study. The sequence of stages of modeling can be represented as follows: setting goals and objectives for modeling, studying the phenomenon of pedagogical design (collecting and analyzing theoretical and empirical data), developing a model; testing it in the experiment. When developing a model of pedagogical design, the main components of teachers' readiness to develop and implement the design process were taken into account: axiological, technological, personal-creative, normative-pedagogical. The axiological component of the design activity forms a set of pedagogical, psychological and managerial values that matter and make sense in organizing an effective educational process. These are the ideas, concepts, theories, knowledge and skills that the teacher acquires and develops in the course of their practical activities, and which have a particular qualitative significance in a particular life situation. The technological component includes directly the methods, techniques, methods, tools, technologies, organization of the process of training and education.

The solution to pedagogical problems is based on teachers' skills in the field of pedagogical analysis and planning, organization, control and vocational training regulation. The personality-creative component characterizes design as a creative act and defines a creative approach to projects development, teaching methods, plans, programs as well as research and development. With all algorithmic nature of educational process, the activity of the teacher is always creative which is primarily due to the psychological and personal characteristics and abilities of the teacher, as well as child's traits. The normative-pedagogical component ensures compliance with the norms and requirements governing pre-school education.

The model we developed reflects the system of pedagogical design in preschool educational

institutions, which, like any other system, carries the following features that determine its development: openness; activity; innovation; reflexivity. The beginning of modeling process is preparatory stage at which the concept is formed, goals and objectives are defined, criteria are formed, research methods, objects and subjects of modeling are selected and modeling process is planned.

The main components in the model developed by us are external factors, internal factors, design subsystems, theoretical foundations of design, design goals, design principles and functions and the results of pedagogical design in preschool educational institutions.

The objectives of pedagogical design are: ensuring pre-school preparation quality, creating conditions for achieving goals, and increasing effectiveness of pre-school educational institutions activities.

Theoretical foundations are: modern trends in preschool education development, systemic and personal-activity approaches, laws and principles of pedagogy, laws and principles of management. The subsystems of design include: organizational design, design of the process of education and training, self-design. Structural design levels: theoretical design, structural-functional, organizational, socio-psychological. The result is an increase in pedagogical design process effectiveness in a preschool educational institution.

Pedagogical design model functioning is impossible without appropriate knowledge and skills as well as without the constant growth and development of professionalism of teachers.

Testing pedagogical design model in preschool educational institutions was carried out on the example of preschool educational institution No. 114.

The results of determining the level of formation of design and management activities of managers, teachers and educators are presented in Table 1 and 2.

Table 1. Dynamics of the level of formation of design activities of managers

Availability levels	Before model introduction (%)	After the introduction of the model (%)
Not formed	12,2	
I - Minimum	34,4	12,0
II - Functional	39,0	61,3
III - System	14,4	26,7

Table 2. Dynamics of the level of formation of management activities of teachers and educators

Availability levels	Before model introduction (%)	After the introduction of the model (%)
Not formed	13,3	7,0
I - Minimum	28,1	13,0
II - Functional	47,2	62,8
III - System	11,4	17,2

The results of the study showed that the level of design activities development among subjects of educational process was 62%.

The study of personal and professional development level of teachers and educators was investigated by the following indicators: level of

motivation of teachers in advanced training; level of professional qualifications of teachers; level of readiness for pedagogical design.

Figure 1 shows the change in the motivation of teachers to improve their skills, in particular, design activities coaching.

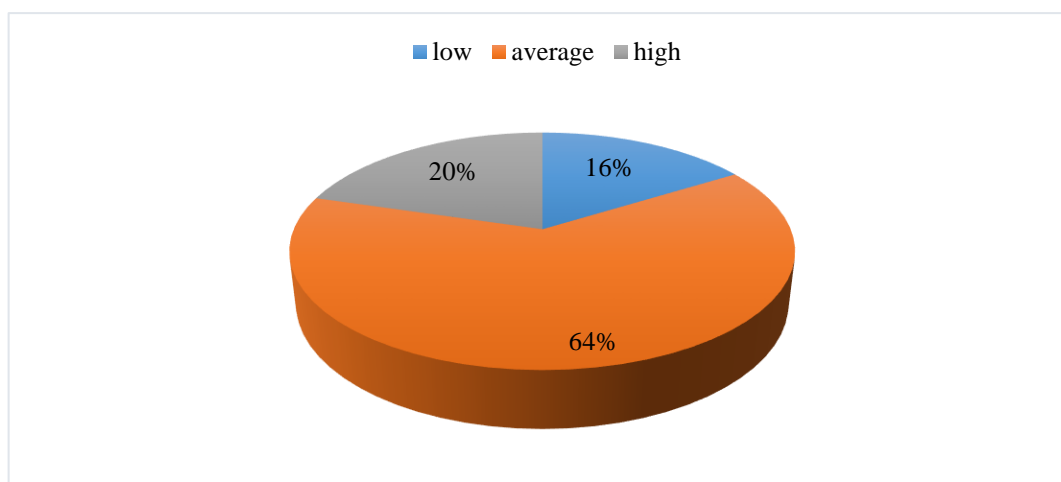


Figure 1. The change in teachers' motivation to improve their skills before introducing the model into the institution.

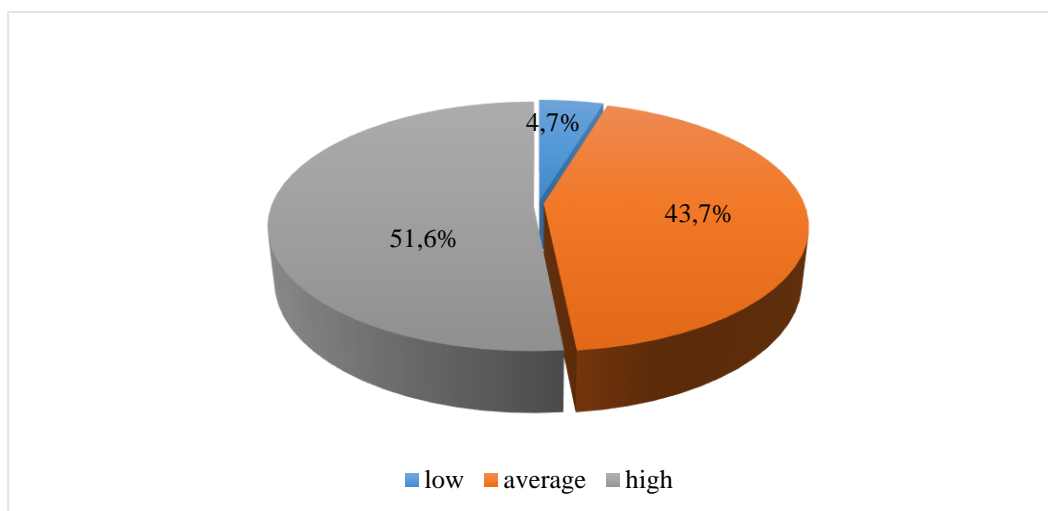


Figure 2. Changes in teachers' motivation for advanced training after the introduction of the model in the activities of the institution.

Figure 3 shows the dynamics of the level of teachers' readiness for pedagogical design development.

As you can see, teachers' motivation has become significantly higher, a low level of motivation is observed only in 4.7% of respondents, whereas before the introduction of the model it was 16%.

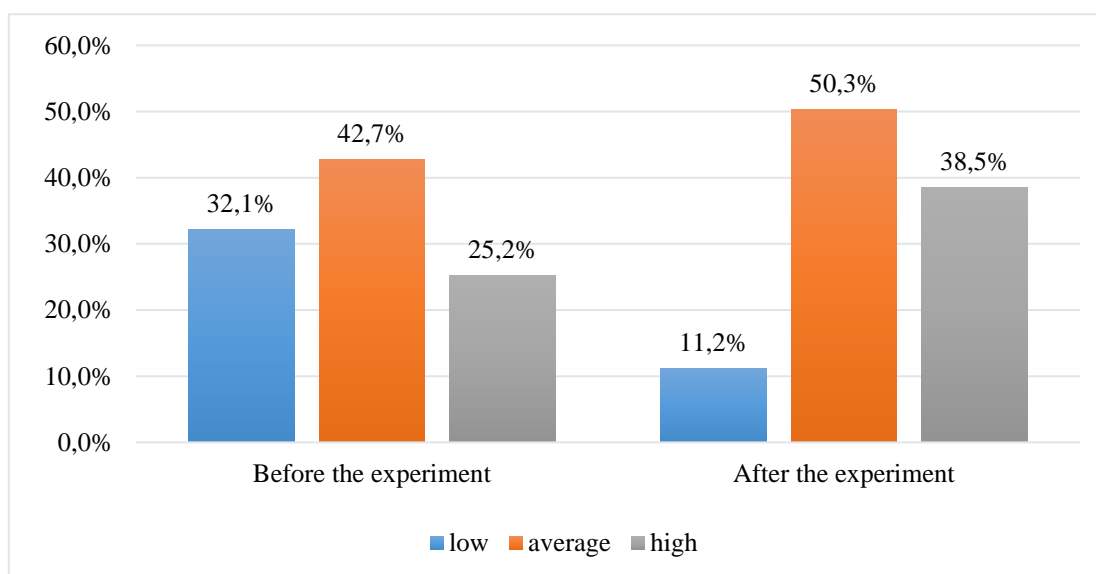


Figure 3. Dynamics of changes in the level of teachers' readiness for pedagogical design.

Throughout the experiment, the students of the preschool educational institution conducted control sections to determine motivation level, knowledge level, skills and ways of activity.

Table 3. Generalized results of pupils development during the experiment (%).

	Experiment stages		
	Elementary stage	Intermediate Stage	After the experiment
«fine»	5,4	9,1	26,2
«good»	38,3	45,2	54,4
«satisfactorily»	48,7	42,0	18,1
«unsatisfactory»	7,6	3,7	1,3

Thus, generalized effectiveness of the developed model of continuous management of vocational training is presented in table 4.

Table 4. The results of the model of pedagogical design introduction in pre-school educational institution.

Title	Content
Criteria for organizing design activities of managers, teachers and educators	<ul style="list-style-type: none"> <li>- Change the parameters governing the activities of managers, teachers, educators;</li> <li>- Improvement of regulatory documents;</li> <li>- The number of methodological developments, project activities (increased by 45%);</li> <li>- Change and clarification of the functional responsibilities of managers, teachers, educators;</li> <li>- Setting requirements for pedagogical projects of employees.</li> </ul>
Criteria for the personal and professional development of teachers	<ul style="list-style-type: none"> <li>- Increasing the level of motivation of teachers in advanced training (2.5 times);</li> <li>- Raising the level of professional qualifications of teachers (1.7 times);</li> <li>- Mastering design activities (62%)</li> </ul>
Criteria for the ownership of innovation in educational activities	<ul style="list-style-type: none"> <li>-Implementation of innovations in educational practice (34%)</li> </ul>

## Conclusion

We have achieved our goal to improve pedagogical design process in preschool educational institution due to which the level of teachers' readiness for pedagogical design has increased. A model of pedagogical design in preschool educational institutions has been developed, ensuring administrative, pedagogical, educational activities of subjects in educational process unity, innovative processes introduction, continuity of transferring theoretical knowledge to real practical activities. Effectiveness of pedagogical design model in preschool educational institution is proved, as evidenced by increased level of management activities arrangement, the level of personal and professional development of teachers and pupils

after its introduction into preschool institution activities.

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