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TECHNOLOGY OF DESIGNING THE ENVIRONMENT OF INSTITUTION OF PRESCHOOL EDUCATION FOR CHILD DEVELOPMENT

Abstract. *The article presents the theoretical, methodological principles of designing an educational environment for the individual development of senior preschool children.*

The article focuses on the substantiation of the peculiarities of modeling and designing the educational environment for the individual development of senior preschool children.

The purpose of the article is to present the results of research work on designing an educational environment for the individual development of senior preschool children.

In the structure of the developmental environment of the preschool institution, there are the following interconnected functional and semantic components: educational-cognitive, educational-production, natural, artistic-artistic, physical-sports-sports, game, medical-health-improving, educational-methodical, economic-household, auxiliary-auxiliary. At the same time, by competently designing, modeling and filling the environment of the educational institution, modern teaching aids and equipment for general and educational purposes should become an important component of the functional-didactic system in the educational process of the educational institution.

The problem of designing, modeling and equipping the educational development environment of preschool institutions is revealed, and the need to create educational development centers / centers for individual development of senior preschool children is emphasized.

The article presents the description of the technology of designing the developmental environment of preschool education, which has absorbed the results of modern research on methodological and conceptual principles of creating the environment in accordance with new paradigm and standards of education

The conclusions emphasize that the research is ongoing, at the next stage of pedagogical research its effectiveness will be tested.

Key words: *child of senior preschool age, designing, developmental educational environment, educational environment, individual development, modeling.*

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ТЕХНОЛОГІЯ ПРОЄКТУВАННЯ СЕРЕДОВИЩА ЗАКЛАДУ ДОШКІЛЬНОЇ ОСВІТИ ДЛЯ РОЗВИТКУ ДИТИНИ

Анотація. *У статті викладено теоретичні, методичні засади проєктування освітнього середовища для індивідуального розвитку дітей старшого дошкільного віку.*

У статті акцентовано увагу на обґрунтуванні особливостей моделювання та проєктування освітнього середовища для індивідуального розвитку дітей старшого дошкільного віку

Метою статті є презентація результатів науково-дослідної роботи щодо проєктування освітнього середовища для індивідуального розвитку дітей старшого дошкільного віку.

У структурі розвивального середовища закладу дошкільної освіти виокремлено такі взаємопов'язані функціонально-змістові складові: навчально-пізнавальна, навчально-виробнича, природнича, художньо-мистецька, фізкультурно-спортивна, ігрова, лікувально-оздоровча, навчально-методична, господарсько-побутова, підсобно-допоміжна. При цьому шляхом грамотного проєктування, моделювання і наповнення середовища закладу освіти сучасні засоби навчання та обладнання загального та навчального призначення мають стати важливою складовою функціонально-дидактичної системи в освітньому процесі закладу освіти, яка визначається метою освіти та впливає на досягнення її якісного результату.

Розкрито проблему проєктування, моделювання та оснащення освітнього розвивального середовища закладів дошкільної освіти, а також наголошується на необхідності створення освітніх розвивальних осередків/центрів для індивідуального розвитку дитини старшого дошкільного віку.

У статті презентовано опис технології проєктування розвивального середовища закладу дошкільної освіти, яка увібрала в себе результати сучасних наукових досліджень щодо методологічних та концептуальних засад створення такого середовища відповідно до нової парадигми і стандартів дошкільної та початкової освіти.

У висновках наголошується, що дослідження триває, на наступному етапі педагогічного дослідження буде перевірено її ефективність.

Ключові слова: моделювання, проєктування, освітнє середовище, розвивальне освітнє середовище, індивідуальний розвиток, дитина старшого дошкільного віку.

Introduction. In the conditions of modernization of the national education system, its content the problem of creation of the developing educational environment in establishments of preschool education remains actual. Such an environment contributes to the timely and full personal growth, successful adaptation of students to the conditions of the educational institution, the formation of the necessary life and subject competencies, and so on. Each participant in the educational process gets the opportunity to realize their own potential in mastering various types of leading activities, to show initiative and fully realize themselves. Consequently, the quality of education largely depends on the educational environment. We can say that in recent years another approach to education has been

formed and updated – the environment.

Designing a developmental educational environment is an urgent need of the time. This is one of the key conditions for the implementation of state policy in the field of education by complying with the Law of Ukraine "On Education" (2019). Without its implementation it is impossible to achieve quality preschool and primary education, to fulfill the tasks and content of the Basic component of preschool education (2012).

Aim and tasks. The purpose of the article is to present the results of research work on designing an educational environment for the individual development of senior preschool children.

The tasks of the research were: to identify the components of the developmental environment of preschool education; to reveal the problem of designing, modeling and equipping the educational development environment of preschool institutions; to present a description of the technology of designing the development environment of preschool education.

Research methods. In the process of empirical research a number of methods was used: theoretical: methods of analysis, comparison and generalization of scientific sources on the research problem gave an idea of the relevance of the problem, the degree of its study, helped to determine the conceptual foundations of research; empirical: the method of experiment (formative stage) served to model the conditions of the phenomenon chosen for study.

Results research. In the course of experimental research the technology of designing the developmental environment of preschool education was developed, which absorbed the results of modern research on methodological and conceptual principles of creating the environment in accordance with new paradigm and standards of education (Hurzhyi, Orlova, & Samsonov, 2001).

It is based on our idea of the developmental educational environment of the

educational institution as a set of specially created and rationally placed in the space of the educational institution functional and semantic blocks, the subject content of which guarantees proper developmental and cognitive content of the subject-spatial environment. At the same time, by competent design, modeling and filling the environment of the educational institution, modern teaching aids and equipment for general and educational purposes should become an important component of the functional and didactic system in the educational process of the educational institution. In turn, the equipment of educational institutions will become a full-fledged and active component of this system only if the set of requirements set for it is met. The diversity of the content of the developmental subject-spatial environment is provided due to its filling with different types of teaching aids and equipment, provided by the modern classification of equipment of educational institutions. The above model is universal for institutions of different parts of the domestic education system. It can vary at the level of individual components (purpose of education, result, content, functional and semantic blocks of the environment, selection of teaching aids and equipment, specific requirements for them) depending on the level of education, type of educational institution.

The developmental environment in an educational institution unites in a specially organized space (in separate or combined locations) various material means that are necessary to ensure life, successful achievement of educational goals and have didactic-psychological capabilities and functional-modeling content for full personal development in certain areas and the formation of relevant life and subject competencies.

In the structure of the developmental environment of the educational institution, we can conditionally distinguish the following interconnected functional and semantic blocks:

Educational and cognitive: group rooms for the organization of educational

work with preschool children, universal classrooms, specialized classrooms of the general educational cycle and auxiliary premises to them, laboratories of natural sciences, preparatory (laboratory) at classrooms and laboratories, classrooms of general technical profile, computer science and computer engineering, drawings), offices of a psychologist, speech therapist, museum rooms.

Training and production: training workshops (handmade, metalworking, wood and combined, for electrical work, fabric processing, cooking), research and experimental sites (garden, vegetable garden, flower garden, greenhouses).

Natural: a corner (center) of wildlife, green areas, "green" corners in the lobbies of the lobbies of institutions.

Artistic: music hall, assembly hall with stage, artistic room, technical center (radio, narration, film projection), conference hall, lobby-dance hall, club and studio premises (for choreography, music, fine, theatrical art, etc.), exhibition areas.

Physical culture and sports: physical culture and sports, gym with auxiliary premises (shell, instructor's office), swimming pool, physical culture and sports ground (for athletics and gymnastics, basketball games, volleyball, football / hockey, roller skating), premises for sports and fitness sections

Game: game recreational premises, game room (game library), a platform for studying of traffic rules, recreation and playgrounds (the platform for active rest can adjoin to physical culture and sports, and for quiet rest – to the green areas of the territory)

Medical and health-improving: therapeutic office / nurse's office, procedural, isolator, psychophysiological unloading room

Educational and methodical: teacher's room, methodical office, library (subscription room, reading room with an area of individual work, audio and video materials, open access fund, book depository, study room)

Household: dormitories for children of early and preschool age, 1st grade

students, food block (dining room, cupboard, pantry, kitchen, laundry, washroom), laundry and ironing rooms, engineering structures and premises, warehouse, garage, sheds and etc.

Auxiliary: lobbies, cloakroom, recreation rooms, bathrooms for students and staff, showers, locker rooms at the gym / swimming pool / training workshops, storage rooms and pantries, rooms for cleaning equipment, living room for technical staff.

Residential (for boarding schools): residential buildings for students, teachers, staff.

Administrative and office: offices of the director, his deputies, reception, rest room and psychophysiological unloading of staff, archive.

As we can see, both the institution of preschool education and the institution of general secondary or primary education have a similar structure of subject-spatial environment in terms of functions and content. This makes it possible and necessary to ensure continuity in its innovative organization, content and development.

According to the environmental approach, for the successful solution of educational problems at the stage of preschool and primary school age it is important to competently equip the educational process, rationally design and model the subject-spatial development environment of the educational institution, fill it with modern teaching aids and equipment. This will increase the effectiveness of forms and methods of implementing the content of the educational process, to teach, develop and educate the applicant in accordance with age norms and taking into account his individual capabilities, interests, needs, and the applicant – to master the basic educational content, confidently move along individual development trajectories, at the same time – taking into account the requirements of State educational standards and programs, to successfully move to a new educational level.

The environmental approach in education can be provided that a functional

approach to creating an innovative subject environment in educational institutions. In the works of domestic researchers (Hurzhyi, Orlova, & Samsonov, 2001) the basic principles of this approach were stated: the principles of development and implementation of the latest teaching aids and equipment in the educational process, the system of regulatory requirements for equipment modern educational institutions, methodological approaches to its classification, etc.

The functional approach is considered, first of all, through the prism of a set of requirements to the equipment of educational institutions:

● standard (compliance with the requirements of state educational standards, international, national and industry standards for the production of equipment of educational institutions),

● sanitary-hygienic, technical-ergonomic, safety requirements (observance of requirements of technical and sanitary regulations, state sanitary norms and rules, state building norms, departmental instructions and recommendations, technical descriptions and technical conditions, etc.),

● psychological and pedagogical, aesthetic (compliance with the definition, purpose, place in the educational process, design requirements, etc.).

Based on them, recommendations should be made on the introduction of the latest teaching aids and appropriate equipment in the educational process of educational institutions.

Designing the educational environment is a complex multi-level process that encompasses all its components and components. During the design, a prototype of this environment is developed: structure, spatial location of individual centers in the premises and on the territory, their rational combination and compatibility, the possibility of transformation, mobile movement, occupancy, etc.

When designing the educational environment of a preschool institution, it is important to adhere to the following principles: age appropriateness (taking into

account the age of education seekers, sensitive periods of development, leading activities); semantics (fullness of content in accordance with the requirements of educational standards and curricula); development orientation taking into account the zone of actual and immediate development in the context of personality-oriented approach and creative development of participants in the educational process as subjects of their activities; amplification (enrichment) of development conditions in the environment, the ability to live qualitatively today in a 3-dimensional subject space.

According to the psychological and pedagogical concept of amplification developed by Zaporozhets (1941), the content of the environment ensure the diversity and effectiveness of tools for this activity; integration of educational-cognitive, search-research, communicative, motor, art-speech, visual, game, subject-practical, transformative and other types of age-appropriate activity of the personality of the preschooler and the younger schoolboy; *functionality,* adaptability to fulfill certain educational goals and program content, ease of use of content, transition from one activity to another; *universality* – the possibility of using the equipment of the educational institution to solve a set of problems in various forms of organization of the educational process, different educational lines and subject areas, using different methods, pedagogical technologies, etc.; *sensorimotor heterogeneity* (variety of sensory stimuli directed to different senses); *socio-cultural context, cultural relevance, connection with real life*; *dialogicity,* co-creation and cooperation of the subjects of the educational process; *interaction of socio-cultural,* professional, personal experience of the teacher and life experience, subject competence of the student; *openness of interpretation; truthfulness* (correspondence of forms and content); *dynamism-stability, mobility, variability* (with the relative constancy of the environment, it must be flexible; can be periodically updated); *activity,* independence and creativity (allows participants in the educational process to build an

individualized, objective environment, comfortable and full of content close to their own preferences, moods, abilities, change it); *emotional well-being* (based on the feeling of individual comfort of participants in the educational process in the environment, the importance of providing everyone with diversity, variability of impressions in the environment on a general positive emotional background); *centering* (provides students with the opportunity to disperse in the space for simultaneous employment in different activities, without interfering with each other, to unite in subgroups according to the interests or suggestions of the teacher, alternately changing the type of activity and appropriate locations); *aesthetics* (subject to compliance with the general canons of aesthetic organization of the subject-development environment, it is important to combine the usual and extraordinary elements in the arrangement and design of premises, design of sites, other parts of the institution); *safety* (achieved by compliance with sanitary and hygienic, technical and ergonomic norms and fire, electrical safety of buildings, sites, equipment of educational institutions, as well as compliance with their psychological and pedagogical requirements, health standards of students and labor protection of educational institutions).

Based on the design, a certain variant of the educational environment is modeled. Such modeling can take the form of an elementary layout of the room or area, as well as the form of a diagram, drawing, plan, description, which illustrate the idea of design. On the basis of designing and modeling of the environment its filling (equipment) is developed.

The processes of designing, modeling and filling the environment have, in particular, such a qualitative characteristic as variability, because their product can be different variants of the developmental subject-spatial environment. This variability is observed in each educational institution, for example, in the arrangement of group rooms, classrooms, game recreation, music and sports halls and playgrounds, other

rooms and areas of institutions built on the same architectural projects. Variability of design and modeling, arrangement of subject-spatial environment creates an original, individual image of each educational institution, group, bedroom, classroom, office, auditorium, playground, etc.

The developmental subject environment and institution of preschool education is designed and modeled so that full educational work with students can continue throughout their stay in kindergarten or school, during different moments of the educational process, in different types of their organized and independent activities as indoors, and on sites, other parts of the territory of the institution, provided for educational work. With the help of such a subject environment, important conditions for the personal growth of children in a modernized educational process are provided.

Under such conditions, the key principle is the above-mentioned principle of centering, proposed by the famous psychologist Petrovskii (2003). It allows to ensure the multifunctionality of the space of the group room and classroom for various forms of work by concentrating the subject-spatial environment around the functional centers (in the recent past they were called corners, zones). In particular, the following centers are arranged in each group room (with variable changes depending on the age of the pupils):

● game (with stationary and mobile locations/centers for role-playing, design and construction, theatrical, didactic, sensorimotor, intellectual games);

● natural (with locations for the care of plants, animals, research activities, storage of necessary equipment, supplies, natural materials, recording the results of observations of weather and seasonal changes in nature, etc.);

● educational and cognitive (with age-appropriate tables and chairs, boards, screens, other devices for organized educational and cognitive activities on various educational lines, storage of necessary didactic materials, devices, etc.);

● book (with locations/centers for storing books and children's magazines,

reviewing and self-reading, repairing books, working with coloring books, organizing thematic book exhibitions, book-crossing, etc.);

● independent artistic activity (with locations for drawing, modeling, artistic work, making music, storage of consumables, instruments and accessories for artistic fine arts, children's musical instruments, samples of folk and author's fine arts, etc.);

● independent motor activity (if there is enough space in the group room);

● rest / solitude (except for a special location for a nap, in a group room there is a place where the child can be alone, sit or lie down in a comfortable position);

● exhibition (more often arranged in the locker room, but can be located locally in the group near/in the center of artistic activity, book; if necessary, thematic exhibitions of children's, parental and joint works are arranged in common corridors, halls);

● educational (with a desk, chair, cabinets /shelves for storing documents, computers and office equipment, etc.).

It is important to ensure the participation of children in the organization of the group room. The experience gained in kindergarten will help to form in them an active, conscious, responsible, caring attitude to various aspects of school life, including – and the arrangement of a comfortable and accessible subject environment. Both educator and teacher should involve children in discussion and resolution of issues of grouping, location, labeling of educational and play materials, the aesthetic appearance of the centers, as well as in determining those responsible for maintaining order in them and so on. It is necessary together with children to come up with interesting names for these centers, to develop rules of conduct, to make a schedule of shifts in them. There is a boundless field for the manifestation of pedagogical skills and psychological diplomacy of the teacher.

Of course, periodically the arrangement of centers in kindergarten groups should be updated, changed by partial or temporary removal of individual

components, introduction of new materials, manuals, changes in the location of equipment, etc. Such variability of the developmental subject environment should be ensured as the program material is mastered, taking into account current learning topics, seasonal changes, calendar events, news of group or class life, etc. This will create the effect of novelty and will serve as a factor in maintaining interest in learning and other activities, will contribute to the gradual and systematic formation of a small person's sense of mastery, personal responsibility and importance in the subject environment, society, personal success.

Discussion. In many studies, the environment is given special importance as a component of the structure of the educational space, in particular, the educational environment was considered by scientists, deriving different its definition.

The educational environment is an environment in which there is a system of conditions, influences, ways of learning, education and development of the individual, it is a whole world of interconnected objects, phenomena and people that constantly surround the individual, determining its development.

It is distinguished by the following essential characteristics (Methodical recommendations on the organization of the educational space of the New Ukrainian School, 2018): integrity, subjectivity, variability, multi-vector, socio-cultural mobility, coordination, emotional saturation, etc.

The concept of "developmental educational environment" is widely used in the modern educational space. It is interpreted differently: 1) as a system of conditions and influences that contribute to the active development, learning, education of the child's personality, the formation of its ability to work independently, the ability to adapt to change (Krutii, 2009); 2) as a sphere of personal growth, a space of human life capable of ensuring the purposeful development of personality (Tsymbalaru, 2016), etc.

With differences in wording, scientists agree that the living environment

should be developmental for the child, it favorable for personal growth in physical, cognitive-intellectual, socio-moral, communicative-speech, artistic-aesthetic, subject-practical and other areas of children's life through creating conditions for the manifestation of different types of children's activity, age-appropriate opportunities for self-expression, self-development, self-knowledge, self-realization. Moreover, the development environment contains a set of opportunities for self-development of all subjects of the educational process.

The participants in the educational process directly (directly) or indirectly, situationally (short-term) or systematically (long-term) are influenced by various environmental factors of development: natural, subject-cultural, social, informational, psycho-physiological and others. By the nature of the factors of developmental influence, we can distinguish the main types of developmental educational environment: subject-spatial, natural, informational, social, internal (proper "Self" of the individual – physical, mental, social).

To summarize, the developmental educational environment is considered as a special technological tool, the formation of which can be managed. Various conceptual and structural models of the educational environment were created. In particular, there are three main groups of components:

● physical environment (construction and architectural features and equipment of the educational institution, including teaching aids and equipment for educational and general purposes);

● human factors (spatial and social density of the subjects of the educational process, personal characteristics and success of students, gender, age and national characteristics of students and teachers, etc.);

● curricula (content of educational standards and programs, forms of education, structure and style of teaching, the nature of socio-psychological control, etc.).

Conclusions. Democratic tendencies of public life had a positive effect on the system of preschool and primary education, opened wide opportunities for reforming these two first and most responsible in the life of each stage of education, personal growth. It is important that the improvement of these educational units is not contrary to each other, but in unison with the general needs of the time and the main customer of change – the child who has the right to live quality unique periods of his life: preschool and school years. Therefore, this is what our further scientific research, cooperation with pedagogical teams of preschool institutions, parents and educational community, ensuring partnership in the development, testing, implementation of technologies for designing an educational environment for individual development of the child will be aimed at.

Список використаних джерел

Богуш, А., & Сідєльнікова, О. (2012). *Базовий компонент дошкільної освіти*. Київ. МЦФЕР.

Гуржій, А., Орлова, І., & Самсонов, В. (2001). *Засоби навчання загальноосвітніх навчальних закладів (теоретико-методологічні основи)*. Київ. НМЦ засобів навчання.

Закон України «Про освіту» [Електрон. ресурс]. Взято з: https://zakon.rada.gov.ua/go/2145-19.

Запорожец, А. (1941). *Особливості розвитку процесу сприймання.* Харків: Наукові записки ХДПІ.

Крутій, К. (2009). Освітній простір дошкільного навчального закладу. *Монографія.* Київ: Освіта.

Методичні рекомендації щодо організації освітнього простору Нової української школи (2018). [Електрон. ресурс]. Взято з: https://mon.gov.ua/ua/npa/pro-zatverdzhennya-metodichnih-rekomendacij-shodo-organizaciyi-osvitnogo-prostoru-novoyi-ukrayinskoyi-shkoli

Петровский, В. (2003). *Построение развивающей среды в дошкольном учреждении*. Москва.

Цимбалару, А. (2016). Освітній простір: сутність, структура та механізми створення. *Український педагогічний журнал.*

References

Bohush, A., & Sidelnikova, O. (2012). *Bazovyi komponent doshkilnoi osvity* [Basic component of preschool education]. Kyiv: MTsFER.

Hurzhyi, A. Orlova, I., & Samsonov, M. (2001). *Zasoby navchannia zahalnoosvitnikh navchalnykh zakladiv (teoretyko-metodolohichni osnovy)* [Means of teaching secondary schools (theoretical and methodological foundations)]. Kyiv: NMTs zasobiv navchannia.

Zakon Ukrainy "Pro osvitu" [Law of Ukraine "On Education"]. Retrieved from https://zakon.rada.gov.ua/go/2145-19.

Zaporozhets, A. (1941). *Osoblyvosti rozvytku protsesu spryimannia* [The peculiarities of development of the perception process]. Kharkiv: Naikovi zapysky KhDPI.

Krutii, K. (2009). *Osvitnii prostir doshkilnoho navchalnoho zakladu* [Educational environment of preschool educational institution]. Kyiv: Osvita.

Metodychni rekomendatsii shchodo orhanizatsii osvitnoho prostoru Novoi ukrainskoi shkoly [Methodical recommendations on the organization of the educational space of the New Ukrainian School]. (2018). Retrieved from https://mon.gov.ua/ua/npa/pro-zatverdzhennya-metodichnih-rekomendacij-shodo-organizaciyi-osvitnogo-prostoru-novoyi-ukrayinskoyi-shkoli

Petrovskii, V. (2003). *Postroenie razvivaiushchei sredy v doshkolnom uchrezhdenii* [Building a developmental environment in a preschool institution]. Moscow.

Tsymbalaru, A. (2016). Osvitnii prostir: sutnist, struktura ta mekhanizmy stvorennia [Educational space: Essence, structure and mechanisms of creation]. *Ukrainian Pedagogical Journal*.