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**FRIENDLY CITY ENVIRONMENT FOR THE (REH)ABILITATION  
OF CHILDREN WITH DISABILITIES  
IN SOCIAL PARTNERSHIP PROJECTS  
OF F. FROEBEL TEACHERS' SOCIETY OF ST. PETERSBURG**

**Abstract.** The article deals with the scientific and theoretical approaches to the problem of creation of a modern object-spatial developing environment of pre-school education from the perspective of the postulates of F. Froebel. The article presents experimental data and the methods of studying the sensory-motor and speech development of children with disabilities on the basis of F. Froebel's ideas. The experiment showed that characterizing a ball, children with different disabilities often described only the color: children with speech underdevelopment — at the ages of 4-5; those with disorders of psychological development — at 5-6 years of age and children with intellectual disability — at 6 or 7. Six-year-olds with speech underdevelopment made up monotone proposals while playing with the ball; children with intellectual disability distinguished only the basic function of the ball: “to roll” or “to swing”.

The article describes the approaches to the modular integration of poly-functional Froebel's materials in the motivating spatial environment of kindergartens taking into account different levels of “rehabilitation” of children with sensory-motor, speech, and intellectual disabilities. The authors invite parents and teachers to find more information about various kinds of games with “gifts” for preschool children at the specially equipped module-room “Reateque”; they can also use the following links at the web pages: “Reateque”, “Ecoteque”, “Artkardteque”, or visit the specially organized “Mother's School”.

The article informs the readers about the content of the environmental urban projects of the Froebel's society in St. Petersburg kindergartens “1, 2, 3 — divide and take away”, “Child and Metropolis. The Child's Way to Knowing Nature”. The given projects are based on the use of game-driven technologies in the conditions of inclusion and involvement of the families and preschool children with different starting opportunities in the development and acquisition of the friendly accessible city environment.

**Keywords:** F. Froebel's materials, children with sensory-motor, speech and intellectual disabilities, accessible environment, game-based technologies.

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Noting the role of Friedrich Froebel in the history of education, researchers are unanimous in the opinion that his ideas lie “in the common treasury of pedagogical findings of humanity” [13, p. 497]. For a century and a half the “grown-up” mankind has been organizing kinder-

gartens on the basis of ideas underestimated during F. Froebel's life. His ideas became popular in the late 60s of the 19<sup>th</sup> century, and by the late 20<sup>th</sup> century had taken the leading position in the system of preschool education in many countries.

On entering into force of the "Law on Education in the Russian Federation" in 2013, preschool education was considered to be the first stage of continuing education in Russia. In connection with the amendments to the Federal Law # 419-FZ "About Introducing Amendments to Separate Legislative Acts of the Russian Federation on Questions of Social Security of Persons with Disabilities in Connection with Ratification of the Convention on the Rights of Persons with Disabilities" educational institutions began to be regarded from the perspective of creating favorable environment for psycho-pedagogical abilitation and rehabilitation of persons with disabilities [7, p. 34].

For centuries, researchers often expressed contrary points of view about the ideas and theories of F. Froebel on education of man criticizing or supporting various postulates. The fact that F. Froebel was "the first to pay attention to the development of young children and to their aspirations and looked at the child life as a relatively full one the rightful needs of which were to be satisfied by the adults" [13, p. 497], because in games "all instincts were manifested at once in a fuzzy unity" [3, p. 104] was recognized to be his unquestionable merit.

While describing F. Froebel's system, K. D. Ushinskiy treated the

extremely difficult problem which the famous researcher tried to solve with understanding: ... "to think up a child game is, perhaps, one of the most difficult tasks for a grown-up person which have been invented for centuries ..." [13, p. 499]. We may suppose that it was said about a game with a ball or a centuries-tested game with cubes which was also taken as a basis for teaching by M. Montessori [6]. We may see the balls resembling the first "gift" of F. Froebel in the exposition of the Russian folk toys at the Russian Ethnographic Museum in Saint Petersburg [1].

The purpose of our research on the basis of analysis of classical systems of preschool education of young children [3; 4; 5; 6; 11; 13] was the following: revealing the essential features of psycho-pedagogical (reh)abilitation of preschoolers with disabilities and practical substantiation of the modular principle of inclusion of game-driven technologies based on F. Froebel's system in the rehabilitation environment of a preschool education institution for children with sensory-motor, speech and intellectual disabilities.

Experimental study of accessible environment was carried out in the course of project interaction with the F. Froebel Teachers' Society of St. Petersburg (existed in 1871-1918 and was revived in 2012). The given kind of interaction facilitated the selection of the most efficient factors of creation of accessible environment on the meso-level [7, p. 34]. The notion of "accessible environment" presupposes the creation of conditions for inclu-

sion and barrier-free access to a preschool education institution, provision of special equipment, conduct of informative and educational events aimed at overcoming separation of the members of the education process and social barriers [10, p. 112], and formation of positive motivation in all interested parties [10, p. 108]. We based our research on the parameter of participation in game-based activity included in the International Classification of Functioning, Disability and Health (ICF) and uniform for children of all ages. Products and preschool education techniques were used to characterize the indicator of the level of formation of the environment.

The experiment was carried out in 2013-2016; typically developing children and children with disabilities aged 3-7 took part in it.

The number of typically developing children was 200 persons; the number of children with disabilities amounted to 500 persons. The contingent of the children with disabilities could be classified in the following way:

- 100 persons — children with severe speech disorders (SSD);
- 100 persons — children with disorders of psychological development (DPD);
- 100 persons — children with mild intellectual disability;
- 50 persons — children with moderate intellectual disability;
- 50 persons — children with a multiple developmental disorder combining intellectual disability with autism spectrum disorders (ASD);
- 100 persons — children with sensory-motor disorders which com-

bined sensory disorders with cerebral palsy (CP); 30 children had SSD, 30 children – DPD, 20 children – mild intellectual disability.

Children with disabilities were in different inclusive and integrational conditions of education – at preschool education institutions of a compensatory type, combined type and at education centers.

The experimental study oriented towards determination of games accessibility for children with disabilities and revealing differences in their development trajectory was carried out in Saint Petersburg on the basis of State Budgetary Preschool Education Institution of a combined type # 5 (Neva District), State Budgetary Preschool Education Institution of a compensatory type # 103 (Neva District), State Budgetary Preschool Education Institution of a compensatory type # 14 (Vasileostrovskiy District), Preschool Department of State Budgetary Preschool Education Institution # 25 (Petrogradskiy District). Control groups were formed in *Naberezhnye Chelny, Republic of Tatarstan* (“Reacenter” of the charity fund “Children with CP”, Municipal Education Institution # 35), and in *Pskov* (preschool department of the Pedagogical Treatment Center).

The research hypothesis consisted in the assumption that while using an interdisciplinary approach in the framework of pedagogical rehabilitation of children with disabilities proceeding from the goals and tasks of different educational fields in accordance with FSES PE the functional and rehabilitation level of these children would be higher if integration of various game-

based technologies designed according to the principle of taking into consideration individual-pedagogical characteristics of the learning and rehabilitation potential of children with disabilities were implemented.

It turned out in the course of the experiment that the first F. Froebel's "gift" (games with a ball) was unknown to all children including the typically developing ones. Almost all groups of children were interested in manipulations with the ball. It was only in groups of children with mild intellectual disability combined with ASD where about 40% of the children did not pay attention to the adult's ball manipulations though the majority of them had a special interest for swaying objects. This fact corroborates the data obtained by E. I. Gracheva who claimed that few children of this category were distracted by the "gifts" [4, p. 22]. Following the recommendations of E. I. Gracheva, we used a silver or mirror ball for such children which caught the attention of most of them.

The children aged 6-7 with typical development named a geometric solid correctly and suggested its various usages including highly imaginary ones, for example, six boys from the control group proposed to use the ball for hypnosis. The typical children aged 5-6 (40% of children) called the ball "a clew", "threads" and suggested using it to play with a cat. Such answers were similar to the ones given by the children with SSD at the ages of 6-7 (alongside with correctly naming the object *a ball* – in 70% of cases). The children aged 5-6 often used incorrect variants of word formation,

for example: "threads of rope ball" (40% of cases).

At the ages of 4-5, the children with SSD described mainly the color out of all properties of the ball, which was characteristic of 3-year-olds with typical development, 5-6-year-olds with DPD and 6-7-year-olds with intellectual disability. At the ages 4-5, the typically developing children assisted by the teacher noticed that the balls differed in the property "soft – hard". This property was also described by the 5-6-year-old children with SSD with the help of verbs "may be squeezed, and this one rattles" (40% of children). The children with DPD (60% of children) often demonstrated movements and used additional semantically irrelevant words like "strong". The children with mild intellectual disability aged 6-7 suggested words-actions: "throw", "catch", "sway", which was already done by typically developing children at the age of 3.

The children with mild intellectual disability reproduced the adult's swaying movement not with fingers but with the palm or the wrist. The children with CP could not hang several balls on the fingers. The children of all groups had a difficulty in replacing the balls from the fingers of one hand to those of the other. Motor clumsiness was noted in the groups of children with DPD and SSD; and there were also problems with counting, which corroborates the data provided by S. Yu. Kondrat'eva [9, pp. 73–79]. This game was too difficult for the children with intellectual disability.

The experiment employed game-based technologies aimed at improvement of the following ICF indicators: object and toy manipulation, inclusion in game-based activity, independent games, or games with other people [10, pp. 79—81].

The experiment was carried out in accordance with the variable program “Froebel’s Star” and the program of teaching and upbringing of children with DPD [12]. The teaching took into account the factors of environmental impact and the principles of environmental inclusion mentioned by V. P. Kashchenko when he attributed children exclusiveness not so much to biological reasons as to “defective socialization”: “Children exclusiveness is, primarily, a deficiency of the society on the whole. And struggling with it should be based on wide social measures” [8, p. 5].

The formative experiment involved polyfunctional usage of games with F. Froebel’s “gifts”: games accompanied by songs, games with lines, planes, points [14, pp. 227—228]. Involvement of kindergarten teachers in the projects of the F. Froebel’s Society of Saint Petersburg functioning at the Center of Russian-German meetings appeared to be an important component of the formative experiment. The principles of F. Froebel’s pedagogy and the requirements of the FSES PE were used for designing “the kindergarten model of the future from the past” [15].

The teaching in experimental groups lasted three years on the basis of a complex approach reflected in using games in ecological project ac-

tivity of preschool children [2, p. 6]. This brought about activation of position of the participants of educational relations in reference to creation of accessible environment [10, c. 96].

The process of teaching was built with reference to the children’s products and education technologies, organization of their leisure activities and natural environment. Project activity was based on Froebel’s postulate “Playing, movement, garden” which presupposes the man’s tendency to “harmony with life and nature” [14, p. 242]. The psycho-pedagogical examination of children targeted at revealing special educational needs was conducted in partnership with parents. Not only was counseling of the closest surrounding people in the questions of development of the child’s game-based and productive activity organized, but there was also created “Mother’s School” for passing teaching experience to the parents.

The technologies of leisure activities organization were placed on the site of the Froebel Society as measures for creation of friendly environment. Conduct of games-lessons aimed at the acquisition of the “forms of life”, “forms of cognition”, “forms of beauty” [14, p. 93] was coordinated with the organization and conduct of mass cultural and leisure activities for children.

Socio-cultural integration processes were oriented towards the formation of motivation of social consciousness of representatives of different “focus groups”. In 2015, the contest “1, 2, 3 — Divide and Take Away” initiated by the F. Froebel So-

ciety of Saint Petersburg and aimed at the formation of ecological awareness of preschoolers united ten city kindergartens. The given project was presented in the course of the “Ecological Action” during the German Week (April 2015). The next project of the F. Froebel Society “Child and Megapolis. The Child’s Way to Knowing Nature” was initiated in 2016. The given project also focused on the socio-cultural and nature-oriented aspects of acquainting children with the world of nature [14, pp. 242, 251].

A number of contests for parents and children were held at kindergartens in the framework of the given project: making dolls out of recyclable materials as the project symbol, competitions of drawing, posters and making objects on the topics “Clean City – Healthy Me, Healthy Family”, “Light and Shadow”, exhibitions on the portal of ecological safety and other events.

The project activity with ecological material resulted in the formation of preconditions for game-based, communication and cognitive activity of children, including preschool children with disabilities.

We believe that the game-based technologies of project activity described above are effective constituents of the accessible rehabilitation environment facilitating socio-communicative, ecological and artistic-esthetic development of children and involvement of social partners and resources of public organizations in innovative network projects vital for the families bringing up children with disabilities.

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