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## HOLISTIC APPROACH TO GAME TECHNOLOGY FOR INTEGRATION OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS

**Abstract** *The article is focused on the issue of integration of children with special educational needs in kindergarten. The author outlines her views on the importance of pedagogical support, the necessity for a holistic approach to the construction and development of pedagogical techniques in order to develop their abilities and enable full participation of children with special needs in school environment later. She further suggests a scheme for planning game techniques that can facilitate and enhance physical, cognitive and emotional development of children with special needs, as well as their socialization and integration in wider peer environment.*

**Keywords:** *children with special educational needs, integrated education, pedagogical support, holistic approach, game technology.*

## ХОЛИСТИЧКИ ПРИСТУП ТЕХНОЛОГИЈИ ИГРЕ ЗА ИНТЕГРАЦИЈУ ДЕЦЕ СА ПОСЕБНИ ПОТРЕБАМА

**Апстракт** *Чланак је посвећен питању интеграције деце са посебним образовним потребама у забавишту. Аутор износи своје мишљење о значају педагошке подршке, неопходности да се код обликовања и усавршавања педагошких метода примени холистички приступ за циљем да се развију способности и вештине неопходне за касније пуно учење у деце са посебним потребама у школској средини. Предлаже се схема за планирање технологије игре која може да олакша и поспеши физички, когнитивни и емотивни развој деце са посебним потребама, као и њихову социјализацију и интеграцију у ширу вршњачку средину.*

**Кључне речи:** *деца са посебним потребама, интегрисано образовање, педагошка подршка, холистички приступ, технологија игре.*

Individual development of a child reflects a peculiar unity of the physical, psychological and social development. This characteristic refers not only to normal children but also to children who have special educational needs. The peculiarity of the latter's individual development is defined by a disorder, or a number of disorders, which in turn causes disharmony among separate spheres of devel-

opment. Thus, for example, if there is a sensory or a physical disorder in ontogenesis, the acquisition processes and the socialization of the child will inevitably be influenced. L. S. Wigotsky's theory on the effect of the primary defect on the appearance of secondary defects is classical. Without adequate pedagogical support and correction help, the development of a disorder leads to complex changes in the child's general development. Bearing this in mind, we assume that if we want to optimize pedagogical interaction in the conditions of integrated education, it is not sufficient to focus the care for the child with special educational needs on specific organic or functional disorder / multiple disorders/. What is required is the holistic approach, which will also include overcoming negative consequences of the disorder /multiple disorders/ in all the spheres of the child's development – physical, psychological and social.

Integration of children with special educational needs in the kindergarten is possible if teamwork of different specialists – a doctor, special pedagogue (defectologist), psychologist and nursery school pedagogue are provided. Thus, in the specific care required for children with special educational needs each specialist participates within the scope of their professional qualification. Typically, professional training of nursery-school pedagogues is oriented towards upbringing and education of normal children. Hence, a typical nursery-school pedagogue is not qualified to carry out correctional therapy. His/her participation in the integrated education is related to the provision of pedagogical support, which includes developing pedagogical techniques that do not aim at the correction of a disorder in any of the spheres of the child's development, but at the stimulation of the underdeveloped and undamaged links of the chain. The stimulation of the preserved links allows the compensation for the disorder to some extent. This strategy of pedagogical support is within the context of the compensation principle. The compensation principle is among the leading ones in the special /correctional/ pedagogy.

Pedagogical support for children with special educational needs is of crucial importance for their integration due to yet another fact – those children are in the kindergarten for the whole day whereas correctional therapy is conducted daily only if there is a defectologist employed in the respective kindergarten. The correction of the disorders in the child's development is a long and difficult process, which depends on the degree of the disorder and its accompanying manifestations. Therefore, to ensure lasting positive changes in the development of the child with special educational needs it is necessary to provide pedagogical support after the correctional procedures. The holistic approach, with its complex impact on the physical, psychological and social development of the child, makes it possible for the pedagogical support to provide complex maintaining care necessary for children with special educational needs in the process of integrated education.

The pedagogical process in the kindergarten is realized under the constant active interaction between the pedagogue and the children. The specificity of the different forms and methods of this interaction are determined by the age characteristics of the children as well as by the aims and tasks set by the pedagogue. The game has a leading role in pre-school childhood. Although at this age school educational activities are not prevalent, the prerequisites for their future acquisition at school are set. Dimitur Dimitrov's (1989) approach is interesting in this respect. He defines the types of pedagogical interaction from the point of view of the ratio between game and non-game activities. We believe that this is a question of conceptualizing since the construction of any pedagogical technology in the kindergarten is realized on the basis of justified pedagogical interaction strategies. To provide a smooth transition to the following educational stage, the strategies for pedagogical interaction are planned between the prevalent and the emerging activities. In his study D. Dimitrov points out the following types of pedagogical interaction that are realized in the kindergarten:

- Game
- Game-like
- Educational

According to D. Dimitrov, when distinguishing the types of pedagogical interaction, we should consider the pedagogue's role and the degree of independence of children. The classical school interaction implies polarization in the positions of the pedagogue and the children. His/her previously planned objectives and tasks when showing and explaining the method of solving a problem are the driving force for the pedagogue, he/she controls, corrects and assesses the children's performance. The children's activities are aimed at solving explicitly set didactic problems. The method used in the school interaction is related to didactic tasks. With didactic tasks, the pedagogue leads the children by setting explicit didactic tasks without any game components. The level of involvement and independence of the children may be different and the limits are defined by the pedagogue.

Integrated education, in which disabled children study together with normal children bears some specificity. The presence of disorder / disorders makes it harder for children to achieve educational requirements postulated by the state regulations, and limits their abilities for showing initiative. It is necessary to modify educational contents and adapt didactic materials according to the abilities and needs of children requiring special educational considerations. The principles of individualization and differentiation of pedagogical interaction are obligatory so as to help the child with special educational needs to acquire educational standards to some extent. That is why it is impossible to overcome existing obstacles

without the leading role of the pedagogue and his/her adequate help. In classical school interaction the explicit setting of a didactic task would hardly motivate the children with special educational needs. Therefore, didactic tasks have a limited application as a method in the process of the formation of new notions / knowledge/ and skills.

According to D. Dimitrov's classification the game-like pedagogic interaction is of two types. The first one requires the inclusion of games in the structure of educational interaction. The didactic task is clearly formulated and the game elements included simply boost the children's motivation. The main method in this type of game-like pedagogic interaction is the task having a game component.

The second type of game-like pedagogic interaction is implemented with the help of a game objective or a game task. The pedagogue conceals the didactic task with a game task. Thus the game activity becomes the main method of this second type of game-like pedagogic interaction.

In the kindergarten, the game-like pedagogic interaction has a wider application in comparison with classical school interaction. Game-like pedagogical interaction is suitable for integrated education of children with special educational needs, too. New knowledge and skills will be acquired through explicit or game-concealed didactic tasks. The presence of a game component or a game task in the respective methods allows us to maintain the interest and motivation of the children. These children need more time to acquire required knowledge and skills. Their abilities for perception and acquisition of educational contents are limited because of the presence of an organic or functional disorder / multiple disorders.

According to the characteristics of the game interaction, suggested by D. Dimitrov, the pedagogue and the children hold equal positions. Children are given freedom to choose, there are no strict regulations or obligations that concern the achievement of the didactic tasks. This kind of interaction meets the age specificities and needs of pre-school children to a greatest extent. Game interaction is manifested in situational role-plays, dramatization plays, construction games and autodidactic games. At the level of a method, the autodidactic game corresponds to the didactic task, the task with a game component and the game task. The autodidactic task presupposes equal positions of both the pedagogue and the children. In the conditions of freedom and self-organization, children teach themselves. This kind of game is possible to set to children at the age of 6 – 7. The types of autodidactic games are as follows:

- Individual-competitive, which have an embedded algorithm of constructing or functioning /pyramids, puzzles, Rubik's cube, etc./;
- Coordination-competitive, which require two or three players /twister, domino, etc./;
- Cooperative-competitive, which are between teams.

The selection of the types of pedagogic interaction is specific when talking about normal children and integrated children with special educational needs. Normal children show an independent free choice and self-organization and discrete presence of the pedagogue as a facilitator is sufficient. With disabled children, the leading role of the pedagogue is required to a greater extent. We cannot expect from children with intellectual or emotional disorders to show a free choice or self-organize themselves. The pedagogue must take a leading position to overcome conflicts in the children's group that may be caused by the presence of a different child. In the integrated education it is not enough to mix disabled children with normal children. It is necessary for the chosen type of pedagogic interaction to gradually overcome the developmental disharmony. That is why the pedagogical support is essential.

The child gets to know the world through and in the game. The developmental role of the game is mostly manifested not in single, isolated games, but in the realization of a whole game technology. This optimal strategy requires the systematization of a set of games aimed at the realization of the set objectives. The construction of a game technology, according to O. A. Stepanova (2003), starts from defining the leading task and its accompanying tasks /for example, for developing the concentration span and its sustainability, memory, speech activity/. Further on, the pedagogue should define what forms and time are necessary for the realization of the planned game technology /as main or supporting forms of pedagogic interaction, the particular time in the daily routine in the kindergarten/. The next stage of the game technology construction is aimed at the selection of the games that will lead to the optimal realization of the set objectives.

The game technology constructed for the needs of the integrated education has some specific features. As already mentioned, the application of the holistic approach in the pedagogical support is connected with the complex development of the child with special educational needs. From this point of view, we accept that the chosen techniques of game and game-like pedagogical interaction should be planned and made part of the game technology for all the spheres of child development and they should lay emphasis on the weakly developed or undamaged links. We suggest a sample scheme for planning a developmental game technology in the conditions of integrated education:

Child development	Objectives	Game and game-like techniques
Motor development	Developing basic motor skills	Game activities and activities with a game component for the development of general and sophisticated motorics as well as for the acquisition of basic motor skills
Sensor development	Stimulation of the analyzers' activity	Game tasks and tasks with game component for the stimulation of visual, auditory, tactile, smell and taste perceptions
Cognitive development	Stimulation of the cognitive processes and speech	Game tasks and tasks with game component for the development of concentration, perception, memory, thought and speech
Emotional development	Stimulation of positive emotions and feelings	
Social development	Social skills formation	Game tasks and tasks with game component for gradual transition through the phases of adaptation, individualization and integration

Physical development is shown in the suggested planning scheme as motor and sensory development. The motor skills and the activity of the analyzers connected with them have a fundamental role in child development. Through them the child makes its first steps in learning about the world. When a motor activity has characteristics of a game, it creates positive emotions. This emotional enhancement improves the stamina of the child's organism. Consistent motor activities exercise the nerve system and balance the processes of excitement and retention. The so-called motion games have become very popular in pre-school pedagogy of the child's motor development. From the viewpoint of the studied types of pedagogical interaction, the motion games belong to the game and game-like pedagogic interaction. At the level of method, the motion games correspond to the game tasks and tasks with game component for the development of general and more sophisticated motorics as well as for acquisition of basic motor skills. In integrated education, the application of these techniques aims at optimization of motor activity. When selecting the techniques, we should take into consideration physical abilities and health condition of the child with special educational needs. The principle of being systematic and consecutive in motor activities requires considerate and gradual increase in the intensity not only in a separate technique but in the complex of techniques as well.

Planning sensory development techniques aims at stimulation of the preserved analyzers as well of the weakly developed ones. The selection of these techniques follows the compensation principle: if a given analyzer has been damaged, the preserved ones should be stimulated. For the purposes of integrated education we can plan game tasks and tasks with game components for stimulating visual, auditory, tactile, smell and taste sensations. Planning sensory development techniques in integrated education has its own specificities. "The exclusion" of a

certain analyzer in a game or game-like technique allows a normal child to experience the sensations of his / her disabled peers. Thus, for example, a blindfolded child can feel how a child with damaged sight orients him/herself in space. When a child with damaged sight plays the role of a deaf character, he/she feels confident and becomes part of the normal children team.

Psychological components presented in the suggested planning scheme aim at cognitive and emotional development. When there is a deficit in cognitive psychological processes we apply strategies for the stimulation of weakly developed links. In these strategies, the pedagogue stimulates the weak link in the cognitive psychological processes by working with the “zone in the closest proximity to development” (L. S. Vygotsky). The pedagogue sets a cognitive task to the child and aims at activating a weak link, thus enabling the child to solve the problem while withdrawing himself/herself or offering help when necessary. Game tasks and tasks with game components are suitable for the stimulation of cognitive development by focusing on developing concentration, perceptions, memory, thought and speech. The selection of the mentioned techniques is done in compliance with the state educational regulations and is modified depending on the abilities of children with special educational needs.

Special techniques for emotional development are usually not planned. Each of the selected game and game-like techniques should be oriented, in principle, to the creation of positive emotions and feelings.

Social development is an essential part of integration of children with special educational needs. Any difference can provoke negative reactions among normal children if they are not prepared in advance. On the other hand, children with special educational needs have to form social skills, which is an inherent and important part of their integration in the children society. According to A. V. Petrovski (1984), when the individual enters a relatively stable social community, his/her establishment as a personality goes through three phases: adaptation, individualization and integration. Within the context of integrated education, Petrovski's concept entails the formation of social skills through the selection of techniques providing gradual transition through the phases of adaptation, individualization and integration. Adaptation is characterized by acquisition of the social norms of relationships between peers and adults. Individualization is manifested in the storage of one's individuality and uniqueness among other children. Integration consists of harmonization of relationships between the child and the rest of the group. Each of these phases requires the planning of separate game and game-like techniques. Thus, for example, adaptation requires techniques that are governed by partnership: children work in pairs and coordinate their activities so as to achieve the final outcome. Individualization makes use of individual work

activities, which allows for the manifestation of the child's uniqueness. Techniques that are suitable for integration rely on group work as a means to an end.

We should mention that the presented distinction between the techniques for physical, psychological and social development is conditional. Each of these techniques has a wider function. When planning the game and game-like techniques for the mentioned spheres of development, we should bear in mind the ultimate aim. The planning of the techniques should also consider their timing within the daily routine. The suggested game technology planning scheme provides complex pedagogical support for the children with special educational needs who are integrated in the regular kindergarten. The technology has a developmental character because it is constructed on the basis of interaction between a leading and emerging activity.

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