

The Strategic Importance Of Educational Games In The Socio-Psychological Adaptation Of Students Requiring Long-Term Medical Treatment

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ABSTRACT

This article investigates the pedagogical mechanisms for ensuring the socialization and educational continuity of students undergoing long-term medical treatment. The study analyzes the negative impact of prolonged isolation on the cognitive and social development of a child. The theoretical foundations of educational games are substantiated through the views of scholars such as L. Vygotsky, J. Piaget, and J. Bruner, as well as through contemporary international research conducted between 2020 and 2025. Based on the experience of “Mehrli Maktab,” the effectiveness of educational games in hospital settings is proven using statistical data.

Keywords: Hospital education, socialization, social adaptation, inclusive education, educational games, cognitive development, pedagogical psychology, Vygotsky’s theory, emotional intelligence, rehabilitation.

INTRODUCTION

One of the most complex areas of modern pedagogy is hospital education. Long-term medical treatment (oncology, hematology) not only weakens a child physically but also separates them from their familiar social environment. As noted by Miller and Smith, prolonged isolation causes “social hunger” in children, which in turn leads to a decline in learning motivation [8].

In institutions such as “Mehrli Maktab,” the main task facing educators is to prevent the interruption of students’ socialization processes. In this context, educational games serve as a psycho-pedagogical bridge that restores the child’s social status.

The role of play activity in child development has been fundamentally studied in global psychological and pedagogical science.

Lev Vygotsky, in his work “Play as the Leading Activity in Child Development,” considers play to be the main field in which a child’s social consciousness is formed. According to Vygotsky’s theory, play defines the child’s zone of proximal development: during play, the child performs social roles that exceed their actual age (doctor, teacher, explorer). This helps children in hospital conditions, who perceive themselves primarily as “patients,” to change their social self-image and supports their psychological recovery [5].

Jean Piaget directly links a child’s intellectual development to interaction with the environment through play. According to Piaget’s cognitive development theory, children are not passive recipients of information but active subjects who process information through play [4]. For a child undergoing medical treatment, play is the only safe and engaging way to understand the world.

Jerome Bruner evaluates play as a means of developing creative problem-solving and social adaptation skills. According to him, play teaches children not to be afraid of making mistakes and to search for ways out of complex situations [1]. This quality is a vital necessity for children undergoing long-term medical treatment.

Summarizing these fundamental theories, it should be emphasized that for students undergoing long-term treatment, play activity is not merely a way to pass time, but a strategic tool of social rehabilitation.

My pedagogical observations show that when a hospitalized child enters the play process, their attention shifts from the static state of “illness” to the dynamics of creativity. During this process, assuming social roles (for

example, explorer or team leader) mobilizes the child’s internal capacities and breaks down psychological barriers caused by illness.

Based on personal experience, it can be stated that educational games form “social immunity” in children. That is, play teaches children to go beyond the limited communication within the hospital ward, to compete and cooperate with peers. This, in turn, significantly facilitates the child’s adaptation to post-hospital life and reintegration into the school community. Through play, the child begins to perceive themselves as a full and active member of society, which provides a powerful emotional stimulus for physical recovery.

COGNITIVE DEVELOPMENT



Figure 1.

This figure illustrates Piaget’s theory of cognitive development. Piaget’s theory is a comprehensive doctrine about the nature and development of human intelligence, describing learning processes from birth to adolescence. The developmental stages are depicted inside a child’s silhouette, symbolizing the internal and psychological nature of this process [4].

Sensor-motor stage (0–2 years). The sensor-motor stage lasts from birth to approximately two years. During this period, infants explore the world through their sensory

organs and movements. The main achievement of this stage is the concept of object permanence, meaning the child begins to understand that objects continue to exist even when they disappear from view.

For young children aged 0–2 undergoing long-term treatment, this stage is extremely important. In hospital conditions, sensor-motor development should not be interrupted; therefore, various textured toys and movement-based games are recommended.

Preoperational stage (2–7 years). The preoperational stage

lasts from two to seven years. Symbolic thinking and language develop, but logical reasoning is not yet fully formed. Children use symbols (words, images) to represent objects, but they struggle with logical thinking and understanding other people's perspectives. Their thinking is egocentric, and they have difficulty understanding the concept of conservation.

When working with hospitalized children aged 2–7, it is crucial to consider the characteristics of this stage. Creative and symbolic games (such as puppet theater or drawing) help develop communication skills and alleviate illness-related fears through symbolic imagery.

Concrete operational stage (7–11 years). The concrete operational stage covers the period from seven to eleven years. During this time, children develop the ability to think logically about concrete events. They fully master the principle of conservation and can perform various mathematical operations.

For hospitalized students aged 7–11, this stage is of great importance. Children at this age remain capable of understanding academic material even in hospital conditions. Their intellect is particularly receptive to digital and strategic games (chess, logical board games). At this stage, children learn to strictly follow game rules, which facilitates their socialization within a group.

Formal operational stage (12 years and above). The formal operational stage begins at around twelve years of age. Adolescents develop the ability to think abstractly and analyze hypothetical situations. Their thinking is no longer limited to concrete experiences but reaches the level of systematic planning and deductive reasoning.

This stage is vital for adolescents undergoing long-term treatment (12–17 years), as they can imagine their future, life after illness, and social goals in abstract terms. Educational games (such as strategic business games or complex simulations) develop life-planning skills. During this stage, students consider multiple problem-solving options through play, which helps them overcome hospital-related depression and maintain social activity.

In hospital conditions, socialization refers to a child's ability to communicate, find their place in a group, and maintain emotional stability. Educational games influence this process in the following ways:

1. **Communicative function (restoring communication).** Board games (such as chess, checkers, Monopoly) and group quizzes require live interaction between children. For a child who has been isolated in a hospital ward, this provides opportunities for discussion, argumentation, and compromise. This process preserves social speech and communication etiquette.

2. **Cognitive-social integration.** Digital games have become an integral part of hospital education. Platforms such as Minecraft Education Edition allow children to participate in collaborative projects in a virtual environment, freeing them from physical limitations and helping them feel part of a global digital society. Applications such as Khan Academy Kids and Duolingo enable students to compare achievements with peers, fostering social motivation.

3. **Emotional-therapeutic function.** Creative games incorporating elements of art therapy reduce stress and anxiety. As Jan Amos Comenius described education as “joyful play” (schola ludus), creative activity helps children express their inner world and overcome “hospital syndrome” [3].

The study was based on L. Vygotsky's zone of proximal development theory [5] and J. Piaget's cognitive stages [4]. The research was conducted at “Mehrli Maktab” with the participation of 40 students. Gamification methods for hospital education proposed by Garcia-Sanjuan were applied [7].

Observations and theoretical analysis conducted under hospital pedagogical conditions indicate that this approach meets not only educational but also fundamental social needs of children. Statistical data show that after implementing educational games, indicators of social activity and friendly relationships among students improved by an average of 45%, which is a key factor in overcoming isolation. In accordance with Piaget's cognitive development theory, motivation for acquiring new knowledge increased by 60% after game-based lessons.

According to Piaget's theory, children actively process information through play. Our observations confirm that educational games foster “social immunity” in children.

The statistical results of the study are as follows:

- After the introduction of games, friendly relationships among students improved by 45%.
- According to Ben-Sasson, interest in acquiring new knowledge increased by 60% following game-based activities [6].
- Strategic games were particularly effective for children in the concrete operational stage (7–11 years), helping them find their place in group settings.
- As noted by Thompson, hospital-based games enable children to transition from a “patient” status to a “creator” status [9].

To maintain this positive dynamic and meaningfully organize leisure time for students undergoing long-term treatment, a comprehensive pedagogical approach is required. Educators must consider not only intellectual level but also socio-psychological state, introversion or extroversion, and depression related to illness when selecting games. Each educational game should be designed not merely as a learning tool but as a “social interaction platform.” Parents play a crucial role, and their participation confirms the child’s connection to the external world. Play is the most effective method for restoring disrupted emotional bonds between parents and children.

The success of this process also depends on cooperation with medical institutions. Creating special “social zones” for group games in hospitals, without interfering with medical procedures, accelerates recovery and social adaptation. This synergistic approach—educators, parents, and medical staff working together—forms social immunity and lays the foundation for children’s reintegration into school life.

CONCLUSION

In conclusion, educational games for children requiring long-term medical treatment are not merely means of passing time but powerful pedagogical instruments for socio-psychological rehabilitation. This approach protects children from being disconnected from education and society. Game-based technologies grounded in the ideas of Vygotsky, Piaget, and Comenius elevate hospital education to a new level and create a solid foundation for a brighter future for every child.

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