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The role of the game in the intellectual development of the preschooler. Tests of vocabulary, similarities and comprehension

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Abstract. The work aims to highlight the effectiveness of the didactic game in influencing the intellectual development of preschool children, with an emphasis on the acquisition of vocabulary, the ability to identify similarities as well as their ability to understand and interpret the ideas presented in a stated text. The subjects of the research were 60 preschool children from the urban environment. Of these, 31 children participated daily in the play activities in the kindergarten, while 29 attended those activities less. The evaluation tools used in the research were: the W.I.S.C. test. (Wechsler Intelligence Scale for Children) and Ped-Evaluation of Children's Cognitive Abilities. The analysis of the data obtained following the application of these tests, led to the confirmation of three of the four formulated hypotheses. The research findings provide a psychological perspective on the importance of didactic play in the intellectual development of preschool children. Significant differences were identified in the acquisition of vocabulary and the ability to identify similarities by comparing the results of the group of children who attended the game activities with the results obtained by those who did not have this opportunity. A positive correlation was also found between the level of understanding and attention in children actively involved in game activities. The obtained results support the integration of play activities in a psychological and educational framework of preschool children, contributing to the development of their intellect, creativity and social skills. By freely exploring various aspects of play and actively interacting with the environment, these children develop the psychological skills essential to their success in learning and in life.

Keywords. play, intellectual development, understanding.

1. Introduction

The paper focuses on the importance of play in the intellectual development of preschool children. In the specialized literature, the intellectual development of these children is considered a complex problem from an educational and psychological point of view.

The theoretical part of this paper presents definitions and theoretical approaches to play, children's intellectual development and brain mechanisms during playful activities, and the



practical part aimed to provide results that confirm or refute the hypotheses formulated in relation to the impact of play on intellectual development of preschool children.

The statistical analysis of the results obtained from the testing confirmed three of the four formulated hypotheses, thus providing support and validity for the theoretical statements presented in the first part of the study.

Through this theoretical and practical approach, the paper aims to provide a comprehensive perspective on the importance of play in the intellectual development of preschool children. During this period, children begin to develop their thinking and understand the world around them, communicating with other children and adults, and acquiring problem-solving skills. Their ability to process information and to organize is limited, but once these skills are developed, children can improve their thinking and intellectual skills.

2. Peculiarities of intellectual development in preschoolers

The intellectual development of preschool children is a crucial stage in their lives, where cognitive and intellectual abilities develop significantly. During this period, children improve their ability to think abstractly, solve problems and apply knowledge in different contexts (Piaget, J. 1964). Intelligence represents the thinking ability of a person, his/her level of mental development and rationality, and intellectual development is a process and level of cognitive activity in all its manifestations: knowledge, cognitive processes and abilities. This is achieved through interaction with life circumstances and the environment. Systematic intellectual education has a main role in the intellectual development of the child (Vygotsky, L. S., 1978).

Preschoolers are beginning to develop the ability to think in symbolic terms. This means they can use and understand signs and symbols, such as drawings or role plays, to represent real objects and situations. At the same time, their memory and attention improve as they grow, so they can remember and recognize events, objects and people from the past. Their ability to focus on an activity or follow a long story develops gradually (Stan, L., 2016).

Intellectual development involves the fruition of reasoning and simple problem solving skills. These can include understanding causality (for example, understanding that an object can cause a certain effect) and solving age-appropriate puzzles or logic games. Preschoolers show strong imagination and creativity, making up stories, playing different roles, and making imaginative drawings or constructions. This ability to think freely and express their ideas is essential for their intellectual development (Sălăvăștru, D., 2004). Also, as children grow older and approach school age, they begin to develop an early form of abstract thinking.

This means they can understand more complex concepts, such as numbers and simple mathematical relationships, and make connections between ideas and events. They become more independent, and develop decision-making and initiative skills. They can express their preferences, try new activities, and take initiative in games and group activities (Berk, L. E., 2018).

The importance of environment and interactions in the intellectual development of preschool children is particularly significant. The environment in which children live and the interactions they have with adults and other children have a profound impact on how they develop their intellectual abilities (Shonkoff, J. P., et.al., 2009).



A stimulating environment rich in learning resources provides children with opportunities to explore and discover the world around them. These learning opportunities allow them to develop their cognitive skills, expand their knowledge and understand new concepts.

For example, exposure to books, interactive games, art and science materials, and age-appropriate intellectual challenge stimulate their curiosity and develop their critical and creative thinking (Fleer, M., 2015).

In addition, interactions with adults and other children are essential in preschool children's intellectual development. These social interactions provide opportunities for communication, collaboration, and problem solving in a social context. Through interaction with adults, children receive guidance, support, and role models for appropriate behavior. By interacting with other children, they learn to express their ideas, listen and respect their peers, collaborate and resolve conflicts constructively (Berk, L. E., 2018).

Positive social interactions also contribute to the development of children's language skills. Through conversations and discussions with adults and other children, they improve their vocabulary, develop communication skills and understanding of others. Social interactions also provide them with opportunities to practice social and emotional skills such as empathy, understanding rules, and solving social problems (Shonkoff, J. P., et al., 2009).

A stable and safe family environment contributes to the intellectual development of the child. Children who live in a happy and stress-free environment have more ability to concentrate and are more likely to engage in intellectual activities. Regular and interactive conversations with parents and other family members can stimulate a child's language and cognitive development.

Discussions about various topics, reading books, playing word games, and engaging in intellectual activities help develop critical thinking and enrich vocabulary (Eccles, J. S., et al., 2002).

The home environment can provide access to educational resources such as books, games, teaching materials and technology. These resources can stimulate a child's curiosity, creativity and intellectual exploration, providing them with additional learning opportunities. Parents and family members can play an important role in modeling positive intellectual behavior. When children observe their parents engaged in intellectual activities such as reading, problem solving, or academic discussions, they are more likely to develop a similar interest and motivation (Dweck, C. S., 2006).

2.1. The role of play in the intellectual development of preschoolers

Play is the characteristic part of all children, the predominant opinion of psychologists being that games have a major implication in the psychological development of preschoolers. Play is the main form of activity, which has the same importance as learning and work activities and appears as spontaneous activity from the earliest ages (Stan, L., 2016).

Children learn better through play than through verbal guidance, and verbal communication is essential in group play for language and vocabulary development. Play allows children to develop their emotions and socio-moral feelings and to develop varied behaviors. Throughout the research, the following functions of the game were identified (Dinu, A., 2012).



□ The game is the crucial exercise for the formation and development of ethical responsibility: The child practices, at the same time, communication, social solidarity and manifests his values in judgments that involve the separation of good from evil, in a social context.

□ The game rouses imagination and perception of ideas. The child is stimulated and establishes intuitive connections between things, transforms them according to his imagination.

□ The playful activity stimulates the aesthetic judgment of the preschooler, he learns to appreciate works as beautiful or ugly, right or wrong. At the same time, play prepares children for life because they exercise themselves as agents of the environment in which they live. They can make decisions, they can choose right from wrong, they can weigh situations so that they manage to choose the optimal option for the situation in which they find themselves.

□ The game ensures the harmonious development of physical and mental health, the child feeling good in his body. He acquires a number of fundamental skills, necessary for the next stages of his growth. Functional play theory focuses on the functions and benefits that play provides to children in their development. It explores how play contributes to children's physical, emotional, social and cognitive development (Pellegrini, et al., 1998).

Sigmund Freud's psychoanalytic theory brings an interesting perspective on preschool children's play, highlighting its role in the expression and satisfaction of inner desires and impulses. According to Freud, children have certain emotional desires and conflicts that may be difficult to express or resolve directly and openly in society. Through play, children find a safe and acceptable way to express these desires and release repressed energies (Freud, S., 1958).

Through play, children can experience and explore various roles and identities. They can play the role of an adult, an animal or a fictional character, which allows them to explore and understand different perspectives and points of view. Thus, play gives them a way to practice empathy and develop understanding for others. The game can also serve as a mechanism to release emotional tension and accumulated energy. Through physical or imaginative play, children can release their energy and relax, which contributes to their emotional balance and stress reduction (Freud, S., 1962).

It is important to note that Freud's psychoanalytic theory of play also has its critics. Some critics argue that the theory relies heavily on Freud's subjective observations and interpretations, and that there is a lack of empirical studies to conclusively support these claims. However, psychoanalytic theory has had a significant influence on the understanding and research of preschool children's play, opening doors to the exploration of emotional and symbolic aspects of play and children's psychological development (Erikson, E. H., 1963).

Cognitive play theory focuses on how play contributes to children's cognitive development and learning. Cognitive approaches look at how play involves symbolic thinking, problem solving and the development of planning and reasoning skills (Piaget, J., 1951).

Urie Bronfenbrenner's theory of human development is an important perspective in understanding preschool children's play. According to this theory, children's development is influenced by their interaction with the social and physical environment in which they live. Bronfenbrenner identified several factors that are relevant in the context of game development (Bronfenbrenner, U., 1979).

Age group and interactions with other children are also important factors in the development of play. Preschool children learn to play together, cooperate, negotiate and develop



social skills through interaction with other children. Through group play, they learn to assume different roles and to collaborate in common activities (Bronfenbrenner, U., 2005).

The community and culture in which children live have a significant influence on play. A community's cultural values, norms, and traditions can affect how children play and what types of play are encouraged or allowed. For example, in some cultures role-playing or group games may be more prevalent, while in others individual games or competitive games may be more common. Thus, human development theory emphasizes the importance of children's interaction with their social and physical environment in the development of play. Family, age group, community, and culture are key factors that shape and influence the nature and characteristics of play in the lives of preschool children (Bronfenbrenner, U., 1979).

3. Research design

This research study focused on a participant pool of 60 preschool children, all 6 years of age or older, who went on to be enrolled in school in the following school year. These children come from two state kindergartens in Constanta, an urban city. The selection of these children was relatively easy. Having access inside the two educational institutions, we had the unique opportunity to observe and evaluate the children during the entire study. The constant presence allowed us to obtain a detailed understanding of their behavior and evolution over time, thus providing reliable and coherent data for further analysis.

In the research approach, we chose to use exclusively those questions that focus on the detailed assessment of memory and attention skills, because only these provide useful information for us to be able to confirm the proposed hypotheses. The answers were scored by the teachers, on the tested subjects.

The preschool child's memory plays a significant role in intellectual development and in the learning process. The ability to retain and retrieve information is essential for understanding new concepts, solving problems, and building knowledge and skills in various fields. (Lazau, T., 2014)

As preschool children develop their memory, they become able to recall and use information more and more effectively. It involves storing and organizing information in the brain, forming connections between information and using it in new and relevant situations. (White, M., 2013)

Memory development at this stage of life involves a number of cognitive processes. Working memory, which is responsible for the temporary retention and manipulation of information, is a key skill for preschool children. Through working memory, they can hold information in mind and use it in cognitive activities such as problem solving or understanding instructions. Preschoolers are also beginning to develop long-term memory, which involves storing long-term information and accessing it in the future.

This allows them to remember past events, experiences and previously acquired knowledge. (Gathercole, S. E., & Alloway, T. P., 2008)

Attention plays a crucial role in children's intellectual development and ability to focus, understand and process information from the environment. At this stage of life, they begin to develop their skills of focusing attention, maintaining attention, and shifting attention between different stimuli or activities. (Sălăvăstru, D., 2004)



Preschoolers attention spans are generally shorter and more easily distracted than adults' ones. They may have difficulty sustaining attention for long periods of time and may be more sensitive to distracting or insignificant stimuli in their environment. However, as they develop, preschool children's attention skills gradually improve. (Schneider, W., 2015)

This paper presents an important and relevant approach in understanding the influence of play on the intellectual development of preschool children, from a psychological perspective.

4. Hypotheses

Hypothesis 1: It is assumed that there are statistically significant differences in vocabulary acquisition between children who have been actively involved in learning through play and those who have not frequently participated in such activities.

Hypothesis 2: It is assumed that there are statistically significant differences between the similarities found by children who have been actively involved in learning through play and those who have not participated in such activities.

Hypothesis 3: It is assumed that there is a significant positive correlation between the level of comprehension and attention of children who frequently participated in play activities in kindergarten.

Hypothesis 4: It is assumed that there is a significant positive correlation between the results obtained in the tests that evaluate memory and those that evaluate the way in which children identify similarities between objects.

5. Objectives

Objective 1 Evaluation of the intellectual skills of children who participated in game activities,

Objective 2 To determine statistically significant differences in intellectual development between children actively involved in the process of learning through play and those who did not frequently participate in such activities.

6. Research tools

Two established instruments were used in the research to obtain relevant and valid information about the intellectual development of preschool children.

Given the specific objectives, the following set of methods was applied:

- **Screening of cognitive skills**

The PED test, published by Ed. Cognitrom, was used to assess children's cognitive skills, in terms of memory and attention. This screening provided an overview of their level of intellectual development and helped to identify possible differences in intellectual abilities between children.

- **The W.I.S.C (Wechsler Intelligence Scale for Children) test**

The Vocabulary, Similarities and Comprehension tests of this test were applied to assess the level of verbal intelligence and intellectual skills of the children. These tests provided detailed information about their vocabulary, ability to find connections between concepts, and general language comprehension.



The "Vocabulary" test contains 40 items that the subject will be asked to define. Scores will be marked with 0 or 1 point.

The "Similitudes" test contains 16 items and involves finding similarities between different objects, words or concepts. This tests the ability to make connections between different ideas or concepts, which can be useful in abstract thinking problems and understanding relationships. Maximum score: 28 points.

The "Comprehension" test contains 14 items that test the ability to understand the meaning of words, sentences and texts, as well as the ability to extract relevant information from them. This can be useful in assessing the ability to learn and use verbal information effectively. The maximum total score is 28 points.

7. Research results

In the case of the first hypothesis, following the two tests applied, the absence of confirmation of the hypothesis according to which there are significant differences in vocabulary acquisition between children involved in interactive games and those who did not frequently participate in such activities can be attributed to the individual variability of children but also to limitations study and the influence of other factors and contexts on vocabulary development.

To verify and confirm the second hypothesis, the following two tests were applied: the normality test for the similarity variable according to children's participation in play activities, as well as the T-test which, for independent samples, resulted in a Sig value (2 - tailed) 0.000 greater than 0.05. Thus, in terms of similarities, the differences are statistically significant, so the hypothesis is confirmed.

In the process of validating the third hypothesis, the normality test for the previously mentioned variables was applied to verify the normality of the distributions for attention and comprehension in the children who participated in the game activities, as well as the Sperman test whose results obtained after statistical testing result in Sig (2-tailed) with value of 0.000 in both variables, which means that there is a significant correlation.

Later, the correlation coefficient with a value of 0.751 demonstrates the existence of a high correlation between the two variables.

Thus, there is a positive, high and statistically significant correlation, so the hypothesis is confirmed.

In the case of verifying the fourth hypothesis, namely the existence of a significant positive correlation between the results obtained in the tests that evaluate memory and those that evaluate the way in which children identify similarities between objects, both the normality test for the memory and similarities variables were applied to the children who participated in the game activities but also the Sperman test.

According to the results obtained from the statistical testing results Sig (2-tailed) with a value of 0.000 for both variables, which means that there is a significant correlation. Later, the correlation coefficient with a value of 0.680 demonstrates the existence of a high correlation between the two variables.

Thus, there is a positive, high and statistically significant correlation, so the hypothesis is confirmed.



Conclusions

In accordance with the concrete and objective results of the research, the present paper emphasizes the importance of play in the intellectual development of preschool children, from a psychological perspective, highlighting the multiple beneficial effects on their mental functioning. Play is a complex and engaging activity that involves exploration, interaction and the development of cognitive, emotional, social and motor skills.

Through play, preschool children develop intellectual skills such as attention, memory and abstract thinking. They are exposed to new challenges and situations, which stimulate their creativity and give them the opportunity to expand their knowledge and develop their problem-solving skills. At the same time, the game has a significant impact on the emotional development of children. Through play, they can express and regulate their emotions, learning to recognize and manage them in a healthy way.

Research conducted on the importance of play in the intellectual development of preschool children provides solid evidence supporting the need to integrate play activities into their educational and psychological program. The general objective of the study was to evaluate the impact of game activities on the acquisition of vocabulary, the identification of similarities and the level of understanding in 6-year-old children enrolled in kindergarten. A positive correlation was found between the level of understanding and attention in children actively involved in game activities. Participation in play activities was associated with significant gains in vocabulary and similarity identification. It was also observed that these children showed a higher level of understanding and attention, thus confirming three out of four formulated hypotheses.

Socially, play has an essential role in developing communication, cooperation and conflict resolution skills. Interacting with other children during these activities gives them opportunities to learn to listen, collaborate and negotiate, developing their social and relational skills.

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