Ilkogretim Online - Elementary Education Online, 2021; Vol 20 (Issue 1): pp. 7174-7181
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2021.01.742

Development Of Cognitive Parameters In Children Through Play

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Abstract

Play is essential for children's overall growth and development as it helps them to think more abstractly and creatively. When they get to play, they get to immerse themselves in playing activities. Children develop solutions to self-generated problems and other cognitive thought processes through play. Cognitive development is the construction of thought processes, including remembering, problem-solving, and decision-making, from being an infant child to an adolescent or adult. Recent studies have shown that play contributes to cognitive development by enhancing imagination and memory, reasoning, social skills, linguistic abilities, creativity, and mental health, which is essential for shaping the child's future. The primary purpose of this study is to assess the parameters of cognitive development through play in children by delving into a review of recent research and studies on the matter. For this purpose, this study has used the qualitative research method, which is descriptive. The study concluded that cognitive development in children is majorly dependent on the play. This review study claimed that parents and teachers play a significant role in providing play opportunities, which also benefits them in staying mentally happy.

Keywords: Cognitive parameters and development, play, children, problem-solving, decision making, creative thinking.

1. Introduction

Cognitive development is a broad idea referring to various types or parameters of mental abilities like problem-solving, creative thinking, reasoning, social and linguistic skills, etc., in children. Research and studies point out that children may improve their cognitive parameters by playing. When a young child is allowed to play and engage in playing, they develop the ability to think more abstractly and imaginatively. A child's mental development is divided into four stages, each corresponding to a different way of thinking and seeing the world. Concepts like "sensorimotor intelligence," "pre-operational thinking," "concrete operationalism," and "formal operationalism" are used to describe stages of cognitive and emotional growth. Childhood progresses through several stages that roughly correspond to chronological ages (Piaget, 1970). Playing may boost a child's creativity. Creative problem-

solving shows cognitive development. Children learn so much through play, from how to interact with others to how to solve problems. As a result, they have a more well-rounded perspective and a more confident sense of themselves. Play helps a kid develop their creativity and imagination. In a nutshell, children's play greatly enhances their mental development. Jones (2003). Santrock (2005) recommends playing activities for developing young children's cognitive characteristics since they provide command, exploration, and refinement. Early Childhood Education (ECE) proponents emphasize play (Wood and Attfield, 2005).

Thus, this study aims to assess and review the parameters of cognitive development in children through play. This study includes these parameters: problem-solving, decision-making, creative thinking, social and linguistic skills, and personal development through the works of several existing pieces of literature.

2. Parameters of Cognitive Development and related literature

There exists a plethora of literature concerning the topic, which can be discussed under the following headings:

2.1 Problem-solving, Creative thinking, and Decision Making

Children learn to think more nuanced and complicated when they have chances to engage in play and completely immerse in what they are doing. Through role-playing and props, children develop their communication skills and learn that one item may stand in for another and that they, too, can take on a different persona. Children may find their voices via dramatic play and start to understand that people's perspectives on the world might vary. Children learn about equilibrium, gravity, and the relationship between cause and effect as they construct with blocks. They get some exercise in trying things out, keeping careful notes, making comparisons, and dealing with numbers by handling objects of varying sizes and amounts. Children who regularly engage in mathematical play develop a wide range of abilities that facilitate the transition from concrete to abstract thinking. Children may practice scientific thinking and learn to evaluate ideas via sensory play. Children may acquire the ideas of more, less, more significant, more minor, equal to, and volume via sensory play when measuring tools are included (Ahmad et al., 2016).

Hestenes and Carroll (2000) The experiences of 29 preschoolers in an inclusive preschool environment were studied by observing their interactions in the classroom and on the playground. In response to the need for children to be put in the least restrictive surroundings, legislation has mandated an explosion of inclusive programming for kids of all ages. While the preschoolers in the research ranged in age and ability, they all showed interest in a wide variety of play activities. All kids, even those with disabilities and their

typically developing peers, spent more time engaged in gross and fine engine play than in tangible or spectacular play. Students' ability to work together effectively was significantly correlated with the proximity of their instructors in this research.

There are several categories of play, to name a few: unoccupied play, Social play, constructive play, onlooker play, parallel Play, etc., every category of play is associated with the stages of play. In short, categories are the age of children involved in play activities. An infant is involved in the unoccupied play, and a toddler is involved in onlooker play. So, various cognitive development parameters are linked to the play activities and the specific age group Danniels and Pyle (2018).

The benefits of play extend beyond moulding one's character and the maturation of one's mind. A study by researchers at the University of North Carolina indicated that children whose parents participated in an enhanced, play-based early development and parenting program had considerably higher IQs at the age of five.

Playing games and solving puzzles helps kids develop their problem-solving skills. Engaging in role-playing activities has been shown to promote several forms of learning in young children. The linguistic abilities of youngsters may be improved by seeing and imitating the behaviour of older children and adults (Mcleod, 2022).

2.2 Social and Linguistic skills

While pay children interact with the world and its many objects, processes, and events. In the presence of a new object, even the youngest child will first investigate it via the senses (touching, observing, tasting, gazing, and hearing), and only then will he or she take charge of it. Children learn through interacting with and making sense of the objects, situations, and shapes that make up their everyday world (Jones, 2003).

John Dewey says, "Play is that absorbing activity in which healthy young children participate with enthusiasm and abandon" (Bergen, 2002). Kids pick up on social cues, figure out how things function, and practise problem-solving skills, all via play, as stated in the quote below Klein, Wirth, & Linas, (2003). Young minds grow and develop with the aid of play. According to the description above, play is a means through which children get familiar with their surroundings and make discoveries about the world. They are up-to-date on the latest trends. Learning new talents, managerial skills, and problem-solving abilities are all fundamentally facilitated by play. There are several ways in which play aids kids' mental growth. The development of children's imaginations and memories, both crucial to abstract thought, is aided.

Adolescents get a sense of mastery over their world when they experiment with and alter various materials via play. Since kids make the decisions, they usually choose games and activities in which they are at least somewhat proficient or interested. Moreover, they gain confidence from their favourable experiences while playing (Brewer, 1995).

Sometimes kids may express their emotions to adults via vigorous physical play, and sometimes they will use pretend play to convey their thoughts and feelings. Although children cannot talk and express clearly like an adult, they express their feelings through demonstration. While children cannot verbalize their disappointment to us, they may show it by crashing cymbals or acting like overbearing parents to their dolls. Creative expressions arise from play activities when children imitate wild animals, monsters, or evil characters. Feelings such as elation, joy, pain, disappointment, anger, and vitality may all be expressed freely during play (Santrock, 1990).

Through play, children learn to interact with others, have fun, discover their world, develop empathy, solve problems, and hone skills that will serve them well in adulthood (Harley, 1971). There are advantages of play for developmental learning and academic learning. These are examined from different perspectives. Developmental learning helps children in unique ways, like fighting autism or developing better motor skills (Adele, 2017). It serves a child in adulthood self-regulation, cognitive development, and social-emotional competence. The importance of child-directed, free play in the classroom has also been repeatedly affirmed in articles discussing play's educational advantages (Danniels and Pyle A. (2018). (National Research Council (US) Panel, 1984) For healthy development, kids need plenty of opportunities to try various kinds of play. There are many different types of play, such as free play, organized play, indoor play, outdoor play, play by oneself or with others, play with tools, play with ideas, etc. Variety benefits children's growth in every way: intellectually, physically, socially, emotionally, and creatively.

2.3 Stages of Cognitive Development Parameters

Malik & Marhawa (2020) discuss Piaget's theory of cognitive development in children through play. According to them, there is no way to conceptualize brain growth without including Jean Piaget. Piaget highlighted that when encountering novel knowledge, children strike a delicate balance between assimilation and accommodation. "Assimilation" is taking in new information and making it fit into preexisting mental schemas.

Piaget recognized four childhood stages. First-stage Sensorimotor development teaches causality and object persistence (birth to two years old). The "pre-operational" stage, from age 2 to 7, involves symbolic thinking, language, and mental representations. Baby imitates others to develop pretend play. Everything, good or bad, centres around him, and he has trouble trusting others' perspectives. Between 7 and 11, the child enters the "concrete

operational stage" when he or she uses reasoning to solve problems. Formal operational stage (12+), adolescents may employ logic and abstractions. He can understand metaphysical ideas like love and justice and theories and hypotheses. Vygotsky (1978) argued that much of modern sociology might be attributed to his dialectical-materialist theory of cognition in Mind in Society. Piaget's work influenced many modern studies and academic papers. He says children's mental maturity has four phases, each with a particular way of thinking and seeing the world. Pre-operational thinking, sensorimotor intelligence, concrete/formal operationalism. Each developmental phase has an age range. Piaget claimed everyone experiences the same cognitive phases (all children pass through these stages regardless of social or cultural background).

Play between typically developing infants and toddlers with disabilities by imitating and supervising the interaction. This and other studies show that a teacher's presence and support are significant components in children's frequency of inclusive interactions. However, more research is needed to understand how teacher interactions impact children's play in inclusive environments. This serves as a timely reminder that we need to do more than just group kids of similar ages together; we also need to find out how to best provide for them in fully inclusive classrooms Hestenes & Carroll (2000).

The need for "The Power of Play: Learning That Comes Naturally" is emphasized by Dr Elkind (2007) in his book "playful culture." Babies and toddlers use play to learn the fundamentals. Play fosters affection and friendship. Through play, students in primary schools gain confidence in their interpersonal, collaborative, and competitive abilities. Teens use to play for stress relief, physical activity, and personal development. Work may be a condition of pleasure and productivity for grownups when "flow," "play," and "love" are all present. Through play, a young kid acquires essential abilities that cannot be acquired in any other manner.

Johnathan K. Anderson-McNamee (2010) By engaging in "fantasy play", young children have the opportunity to experiment with language and practise taking on different roles in social situations. Young people's critical and creative thinking goes beyond their direct experiences. The ability to think abstractly is one of the hallmarks of adulthood. Young people need time for play since it is crucial to the development of the body and the mind. Parents may get the advantages of playing with their children. (Wadley, 1974).

During "pretend play" at home, kids may practise imagining themselves in various roles and telling tales about them, such as "I am the Mom." (Whorf, 1940). Additionally, they mimic their upbringing. This is a great way to teach kids about the importance of everyone in the family's contributions. He emphasizes that way of thinking is influenced by the norms and expectations of a social group, as expressed via language. Whorf argues that language sets

how we think and feel. Play involves the use of language and the development of thinking abilities and social skills. Play is good for learning a language, interacting with others and enhancing motor skills. In young children, play coincides with rapid growth in critical areas of the brain. Extreme discipline is the norm in some households, so more playtime might be encouraged (Mazarin, 2021).

3. **Analysis**

Theories and research highlighting the parameters of a child's cognitive development are used in education to enhance cognitive development in children. For example, Piaget's theory helps educators comprehend and communicate with youngsters. Even though Piaget's theory was not designed for learning, many instructors utilize it (Miller, 2010; Woolfolk and Margetts, 2016: 90). A significant downside of great understanding is that in developing countries like India, children of specific economic and social class do not have access to play opportunities. Instead, they are involved in child labour or domestic help. Most of the reviewed works do not take up the issue of cognitive development in children of poor economic backgrounds. Through play, children learn to find answers to self-generated problems like "Does this piece go here?" and "What happens when I do this?". When underprivileged kids are made to play, they can develop these abilities.

Vygotsky (1966) pointed out the problem with most preschool play activities. We all know that play is pleasurable for children and preschoolers. However, we seldom realize that most play activities of infants or preschoolers are pleasurable only when the play results please the child. In other words, the child loses interest if they do not like what they are doing. They do not find their play activity "interesting" either due to the results that the mind was expecting or their failure to reach a result. One may have seen several children are impatient and have difficulty concentrating on single-play tasks. The reason is often associated with the uninteresting nature of play. This may make parents' tasks more troublesome, for they not only have to provide play opportunities but make sure that their child is engaged in the activity for a substantial time. Parents' role applies in cases of teachers as well in preschool or kindergarten to provide children with the appropriate type of play activity.

It can be said that play activities impact children in several ways, and it also involves parents, siblings, and teachers. Whoever is regularly involved in play with a child is bound to benefit from it. Sometimes adults find it challenging to solve puzzles a child can quickly solve. The role of adults is all the more critical, for they should understand the importance of play and be aware of how play may affect their child's mental growth. This brings to the issue of parents' mental health or situation in personal life. Parents' inability to understand the need for play for child's cognitive development due to their problems is an ignored element in the studies catering to this issue.

Positive parental mental health boosts children's cognitive abilities, according to research. Multiple studies found that playing together strengthens children's connections with their family, classmates, and neighbours. Unbreakable and permanent friendships are forged (Bordova and Leong, 2005). The majority of research shows that shared play benefits parents and children. Parents are a child's first and most influential educators, and teachers also shape their intellectual development. Teachers start monitoring pupils in the second cognitive stage (Piaget, 1978). Educators are actively engaged in developing cognitive characteristics that affect student growth. Various studies claim that not only does the kid benefit from play, but so do the child's instructors, family, and parents, who work together to support cognitive progress.

Conclusion

The play introduced at several stages in children's lives increases the development of cognitive parameters. Social and linguistic skills, problem-solving, creative thinking, memory, etc. The findings also showed that the importance of play in learning is not modified by the age of the students or youngsters but by the amount of time spent playing. The significance and utility of play in childhood are for children, and its extended benefits are for their parents, siblings, teachers or whoever is involved in the play. Studies highlight that play is associated with pleasure, and this causes children to play mobile games for longer, doing more harm to themselves than good. Children follow adults; thus, adults should engage in play activities to encourage children to play. Finally, it can be said that the benefit of play for children is comprehensive and touches every genre of cognitive development.

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