

The Importance of Imagination and Play

A Neuro-Cognitive Perspective

Imagination plays a vital role in learning. As they grow, children gradually come to learn the difference between reality and fantasy. Throughout this dynamic process, play is a key element, as it promotes cognitive development. Both parents and educators sometimes have difficulty understanding how children develop in this regard.

This article approaches the topic of imagination and play from a neuro-psychological perspective. It includes insights from several authors who have done extensive research on the subject.

Marian Diamond and Janet Hopson¹ say that imagination and play encourage preschoolers to develop “inventiveness and the lifelong creativity into which it can blossom. Parents sometimes inadvertently damage their children’s development by misunderstanding and discouraging two perfectly normal phenomena: a child’s imaginary friendships and her private (although often audible) conversations with herself.”

Yale University’s Jerome Singer suggests that preschoolers with imaginary play-



mates are “more independent, cooperative with teachers and peers, generally happier, and less aggressive than their peers, and have a richer vocabulary.”² It’s not unusual for children to chatter in “private speech” to an imaginary character or friend.

Jane Healy lauds the role of imagination in reading development. She talks about “the importance of words without pictures” in helping

children involve themselves in abstract thinking.³ Referring to research done by Wells and his associates, Healy states, “the most powerful predictor of [children’s] school achievement was the amount of time spent listening to interesting stories,”⁴ a form of play for the mind.

Healy describes “[t]he development of language and symbolic play” as the beginning of abstract thought. Until about age 6 or 7, children’s “work” is to develop the basis for abstract thought, to master their physical environment, and learn to use language.⁵ Thus, children’s play and work are synonymous!

“Patterns are the key to intelligence,”⁶ Healy is convinced. Autistic children cannot play as other children do.

They seem unable to “make

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meaningful connections out of experience, so that the world seems to be a terrifying jumble of sights, sounds, and feelings.”⁷

“For children with these difficulties,” Healy further explains, “we are not sure how much can be done to change things at these fundamental neural levels, but while the brain is still developing rapidly before age four or five, it is wise to focus on helping the child make physical and mental connections through lots of self-organizing play activities rather than emphasizing specific bits of information.”⁸

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Healy says neurological research shows that formal school can be inappropriate and harmful for preschool children if it robs them of time to play freely: “Because of immaturity in parietal lobe areas that connect sight, sound, touch, and body awareness, it is still difficult to combine processes from more than one modality, such as in looking at a letter form and saying a sound to go with it, or hearing a numeral and writing it.”⁹

Diamond cites research¹⁰ supporting the idea of allowing children to be free to play up until kindergarten age. However, she also cautions that “there is a balance to be achieved between too much unguided play, leaving a child unprepared to learn academic skills, and too much book-learning too early, leaving them potentially less creative and less comfortable in school. And we think it is up to parents to find the right balance for their children.”¹¹ When children attend preschool, teachers also must make these determinations.

Even after children enter school, play is still an important part of learning. Vivian Gussin Paley, author of *Wally’s Stories*, documents experiences with her kindergartners that made her aware of the importance of play as children process new information. Paley explains how lessons she thought she had taught superbly actually registered in distorted ways in her students’ thinking.¹² By allowing them to act out their perceptions, she was able to understand how they processed the new concepts she presented in the classroom. These dramatizations became a useful tool for her and a vehicle for helping her students learn to reflect on their own thought processes.

Paley comments: “A wide variety of thinking emerges [during conversations, stories, and playacting], as morality, science, and society share the stage with fantasy. If magical thinking seems most conspicuous, it is because it is the common footpath from which new trails are explored. I have learned not to resist this magic



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but to seek it out as a legitimate part of ‘real’ school.

“*Wally’s Stories* follows a group of five-year-olds through their kindergarten year. The scene is the classroom, and the teacher is the stage manager. . . . The children are scriptwriters and actors who know what kindergartners want to say.”¹³

Listening to her students’ conversations as they engaged in playacting enabled Paley to understand and reflect on their imagined reality. This allowed her to adjust her instruction to accommodate their cognitive processing.

Carla Hannaford agrees with Paley about the value of make-believe and play: “The value of make-believe cannot be stressed enough. The child can take its world, and through play and familiarity organize it into more and more complex mental and emotional patterns. The time from ages two to five is a crucial stage for children’s cognitive development as they learn to process information and expand it into creativity. Interactive communication and play, when children are learning from each other’s imagination, accelerates the process.”¹⁴

Paley warns, however, that without monitoring and guidance, distorted thinking can occur. Children’s playtime offers a valuable opportunity for the teacher to get into the heads of his or her students—not to intrude and control, but to connect with their realities and to discover what they know. The teacher can gently modify children’s misperceptions through questions and comments, and model and define new knowledge so that it aligns with children’s reasoning and understanding. By using these processes, Paley was able to help her students modify their misperceptions. For example, she posed key questions and used their responses to guide them into rethinking their positions and ideas.



Chief of the Laboratory of Brain Evolution and Behavior at the National Institute of Mental Health in Washington, D.C., Paul MacLean “ties the process of imaginative development to the development of play.”¹⁵ Using MacLean’s research, Hannaford concludes that play becomes the essence of creativity and high-level reasoning. She stresses the value of intrinsic motivation in the play environment and cautions that even on the playground, extrinsic motivation (teacher direction) often threatens to take over. “The marvelous changes unfold naturally [in playtime], and happily do not require adult supervision and meddling. Unfortunately, however, these days there seems to be less time and opportunity for children to simply play. Even playgroups seem to be organized and structured. There

appears to be an assumption that children need to be entertained and their play orchestrated. I see it a lot in organized sports for children. Adults are in charge and competition is the goal. Rarely do you just see children initiate ‘pick up’ games that were routine when I was a child.”¹⁶

In playtime and in other aspects of learning, the concept of time, though abstract, helps to promote creativity.¹⁷ As children playact, they have interesting ways of using time and space to construct knowledge. For example, they may say something like “Pretend it’s raining. What will happen to our [pretend] house when the rain comes? We’d better hurry and make a shelter!”

Through the use of imagination and creativity, children’s brains construct meaning and acquire skills that are vitally important for them to make sense of future experiences. Trying to force this development can have devastating effects. An example from nature may help to illustrate the importance of timing.

Yesterday, while reading in our family room, I glanced through the ceiling-to-floor windows that offer a panoramic view of Glendale and Burbank, California, beyond our patio. Hanging from the eaves of the house is a drooping potted fern, a reminder of our horticultural neglect while traveling last month. A family of birds has made this planter its home. During the past week or so, the baby birds, except for one, have taken flight.

Occasionally the fledgling flaps its wings, hinting that flight is soon to come. However, it continues to clutch the edge of the fern pot. About every 20-30 minutes, the mother bird returns with a morsel of food for energy and encouragement. But still, the tiny bird clings to security.

Finally, after occasional gentle encouragements and beckoning, the mother leaves the baby to decide for

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itself what to do and when to do it.

And then the tiny bird tests its wings. Successfully, it alights on a downhill limb.

I may have read more into this nature lesson than actually was there, but perhaps this was a lesson on the importance of intrinsic motivation. I like to think so. The baby bird took flight when the timing was right and all systems were “go.”

Hannaford describes play as an opportunity for learning to take place in a wholistic way—involving all learning systems. She explains: “Play at the simplest physical level as well as the furthest reaches of the intellect, depends on a balance of all the elements of our humanity [mental, physical, emotional/social]. . . . When the emotions are brought into dynamic equilibrium with reason, insight, action and even survival, learning becomes a rational, creative process. If any part of the brain processing is left out of the learning process, integra-

tion of patterning and appropriate action are limited. When dynamic equilibrium is lost, learning and creativity suffer.”¹⁸

Educators often lament the drop in creativity they observe between kindergarten and third grade. Is this inevitable? Or does the emphasis on early skills development and extrinsic motivation conspire to diminish creativity at a time when children are passing through critical periods of neural patterning and networking? Are educators unknowingly truncating human potential during prime-time development?

Both extrinsic and intrinsic motivation belong in the classroom. To function well in society, children need the skills that develop under extrinsic motivation. They also need the creativity that blooms when intrinsic motivation is nurtured. To neglect either during the most critical patterning times in brain development is a serious matter.



It is our privilege as teachers to nurture the “child of the pure unclouded brow and dreaming eyes of wonder,” as Lewis Carroll put it in *Through the Looking-Glass*.¹⁹ But, even more precious is the awesome responsibility of partnering with God to unleash human potential and creative expression. We must ask for divine guidance as we seek to meet this important challenge. ✍



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