Montessori and Imagination in the First Plane of Development

Introduction

The topic of imagination and Montessori is a source of much misunderstanding from both Montessori professionals as well as those unfamiliar with Montessori practice. The focus on reality-based experiences in Montessori environments has lead to a widely accepted dismissal summarized by this contemporary psychologist, “Although Montessori made important contributions to early childhood education and many of her ideas continue to be influential today, one of the major criticisms of her approach is the total focus on intellectual exercises and exclusion of imaginary play.”

She continues, quoting an article about Montessori from the New York Times Magazine written in 1965, “Children in ‘pure’ Montessori schools are virtually restricted to materials she devised, which are intended to suppress fantasy and imaginative play. Children should not make believe, Montessori proclaimed; to encourage them along such lines is to encourage defects of character.”

Montessori’s reality-based approach to early childhood education also appears at odds with national standards for “best practice.” According to a statement of policy issued by the NAEYC, “It is vital for early childhood settings to provide opportunities for sustained high-level play and for teachers to actively support children’s progress toward such play.”

Whether we agree or disagree with these categorizations, the message heard is the message given. To some degree, we perpetuate these misunderstandings ourselves.

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1 In the introduction to The Science Behind the Genius (2005), Angelina Lillard writes, “For psychology researchers, attitudes toward Montessori are mixed: some know enough to appreciate it, others misunderstood a small aspect and dismiss the entire approach. Very few know more than a smidgen about it.” (p.viii) Paul Harris, eminent developmental psychologist, in an interview with the Harvard Graduate School of Education (2002) mentions Montessori in connection with outdated Piagetian thinking using “the stubborn auto-didactic model” and not the imagination. In a study assessing make-believe play and self-regulation, a Montessori classroom was used as a setting that “actively discouraged make-believe” (although the author stated that not all Montessori classrooms do) and when the children “lapsed into make-believe,” the “teachers often interrupted, drawing them back to workstation pursuits” (Berk, Mann, Ogan 2006, citing study by Krafft and Berk, 1998).


4 Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8, Third Edition, Carol Copple & Sue Bredekamp, eds. Copyright 2009 by the National Association for the Education of Young Children
Montessori discussions regarding imagination are largely contained to the second plane of development, the years from 6-12, where imagination is considered an essential tool of the mind used to explore history and the cosmos through storytelling, drama, and allegory. Any discussion of imagination for children under age 6 generally consists of differentiating between fantasy and imagination.

Many Montessori teachers are conflicted as to the role of imagination in the primary classroom. More than one teacher has confided, somewhat guiltily, that at one time or another she had told children not to “play” with particular materials, the materials are for “working.” To be sure, there is a fine line between meaningful exploration with the geometric solids and “playing with the blocks.” The elegant presentation of materials can easily slip from “This is one way to build the pink tower,” to “This is the way to build the pink tower.” What if a child is walking around serving pieces of the trinomial cube as a “snack” for her friends, is that just an active imagination, or is she escaping into a fantasy because of an ungratified need? The children too, are absorbing negative attitudes regarding imaginative play in Montessori classrooms. I recently observed in a very nice classroom, and saw a child pretending to bake cookies while using a measuring cup/spoon activity. Two other children overheard her and wasted no time in telling her; “We aren’t allowed to pretend inside. We can only pretend on the playground.”

Let’s think about pretending for a moment. Pretend play is an intriguing enigma of childhood. On one hand, pretending appears to be innate. Children all over the world engage in pretend play on a predictable timetable (Lillard, 2002). Pretending is considered evidence of a biological process at work, manifesting according the child’s physical and cultural context (Smith, 2002). On the other hand, infancy and early childhood are the period during which children are trying to understand and adapt to the real world. Since young children’s survival depends on adapting to reality, why do they pretend the world to be different than it is? What evolutionary function could pretending possibly support?

Developmental psychologist Paul Harris (2000) points to a “revolution in human culture” occurring during the Upper Paleolithic, beginning approximately 40,000 years ago. A new power of imagination was gradually emerging; organized symbolic acts such as ritual burials and cave paintings served as physical props conjuring up an imaginary world different from their physical reality (Harris, 2000). Harris supports an ontogenetic view of human imagination; this means, he believes the capacity to imagine emerges very early in childhood and lasts a lifetime. Harris (2000) identifies pretend play as one of the earliest and most obvious signs of young children’s imagination, and this emergent capacity to

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5 Personal communication- recently overheard while observing in an established, reputable Montessori classroom.
6 Lillard, (2002) summarizes: earliest instances of pretending occur during the second year; there is often a dramatic increase in symbolic acts between 15-18 months; by 24 months pretending is in full swing; and socio-dramatic play appears around age 4, or earlier if the child has older peers or siblings.
7 Paul Harris, author of *The Work of Imagination*, is considered by his peers to be a leader in the field of study of the imagination.
Imagine alternative possibilities transforms children's developing conception of reality itself. Examining the biological processes occurring through pretend play and its connection to the developing imagination will shed light on the mystery of pretend play and its important place in human development.

Just what do we mean by “pretend?” The word “pretend” is commonly associated with “imagination.” Dictionary definitions of “imagine” (v. to form in the mind) and “pretend” (v. to use the imagination; or adj. existing in the imagination; make-believe) show this association, as do the nouns “pretense,” which refers to “make-believe, or things imagined,” and “imaginary play.” The association of pretend and imagination also extends to the professional research community. Developmental psychologists (Paul Harris) identify pretend play, or imaginary play, as one of the earliest and most obvious signs of the young child’s imagination (2000), making pretend play an indicator of imagination. Consequently, the conventional assumption is that if Montessori education does not include imaginary play, then it must not support the imagination.

So where does Montessori education stand? Does Montessori education really focus on intellectual development to the exclusion of the imagination? Is Montessori at odds with current “best practices” in early childhood education? What is imagination, how did the misconceptions about Montessori, pretend play and the imagination begin, and does Montessori education support imagination during the early childhood years?

**What is Imagination?**

The imagination is a human capacity that allows us to transform what is, into what might be. The word “imagine” comes from the Latin *imaginari*, “to form a mental picture to oneself.” The etymology highlights several interesting points. First, imagination is a mental capacity; it is a power of the mind, an ability to move beyond what is sensorially present to an image, or combination of images, held solely in the mind. Second, to imagine involves a *picture, a vision*, from the Proto Indo European base *wied,* “to know, to see.” “To know” was the earliest meaning of the word “vision,” the meaning “sense of sight” came centuries later. And finally, *to oneself*, emphasizing that imagination exists privately within each of us.

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8 The word “fantasy,” which also appears in discussion and research literature regarding imagination, will not be used in this paper, as it implies a leave from reality. “The poet is in command of his fantasy, while it is exactly the mark of the neurotic that he is possessed by his fantasy” (Lionel Trilling, American literary critic).
In psychological terms, imagination has two functions, “reproductive” and “creative.” The reproductive imagination is the ability to picture things just as they are, making a true to reality representation or image of something. The reproductive imagination is sometimes referred to as “imagery” and is connected to memory. The creative imagination does not stop at merely a faithful representation of what already exists; the creative imagination recombines these images in the formation of new images or ideas. Both functions of the imagination, reproductive and creative, are based in reality because the images in the mind are based on the perceptions gathered by the senses from the real world.

Jacob Bronowski, author of *The Origins of Knowledge and Imagination*, was fascinated by the relationship between the senses, particularly vision, and imagination. From the technical standpoint, vision is a mechanical means by which perceptions of the world reach us, but metaphorically, vision is the means by which we come to understand. He writes,

“We cannot separate the special importance of the visual apparatus of man from his unique ability to imagine, to make plans, and to do all the other things which are generally included in the catchall phrase, ‘free will.’ What we really mean by free will, of course, is the visualizing of alternatives and making a choice between them. In my view, which not everyone shares, the central problem of human consciousness depends on this ability to imagine.” (Bronowski, 1978, p.18).

Imagination can be discussed from a neuroscience perspective as well as from the psychological and philosophical angles. The images the mind uses in imagination begin with sensory perception, but how we perceive things is not simply the product of sensory input. The brain receives signals from the senses and interprets or explains the signals based on past experiences. In this way, the neural pathways of the brain develop based upon sensory experiences in the environment. Imagination and perception use the same neural circuits in the brain; but it is as if the imagination uses the circuits in reverse; taking what is already there and moving outward, reconstructing the pieces for a new creation (Berns, 2008). This is another

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9 From *The Elements of Psychology*, by David Jayne Hill (1888) “Imagination is the soul’s power to recombine representative ideas… But in addition to the revival and remembrance of past experiences, we have the power to take the individual elements thus reinstated in consciousness and combine them into new forms. This, and not the mere imaging of ideas, is the proper sphere of Imagination” (p.114). From Dictionary.com- “in psychology, the power of reproducing images stored in the memory under the suggestion of associated images (reproductive imagination) or of recombining former experiences in the creation of new images directed at a specific goal or aiding in the solution of problems (creative imagination).”

10 Jacob Bronowski was a mathematician and scientist. He wrote *The Origins of Knowledge and Imagination* in 1978, interweaving themes of philosophy, linguistics, ethnology and physics. He was particularly interested in the ideas of Immanuel Kant, who believed that ‘knowledge is based on the human senses.’

11 Gregory Berns is a professor of Psychiatry and Behavior Sciences at Emory University and the Chair of Neuroeconomics. He is interested in how brain-imaging technologies can be used to study the neurobiology of human motivation and decision-making. His most recent book is *Iconoclast: A Neuroscientist Reveals How to Think Differently*. 
way to look at how the “true to reality” images from the reproductive imagination are the foundation for the creative imagination.

Neuroscientists have observed that while many neurons fire during a novel experience, with repetition, only a smaller subset of neurons process the stimulus. This makes the brain more efficient, using the brain's capacity for categorization – “Oh! This is like the other thing,” but it also makes it very difficult to imagine a truly novel idea. In order to provoke the imagination, we need new experiences that will force the brain's perceptual systems out of the standard patterns or categorizations (Berns, 2008). The brain’s response to novel stimulus suggests that there is a strong connection between exploration and imagination. Exploration stimulates the imagination, and since children's minds develop through experimental exploration of their environment, exploring new possibilities is an essential element to how young children learn through imaginative play.

But imagination is not simply child’s play. Imagination is a creative ability at the heart of music, language, science, mathematics, and art. Imagination is the foresight of consequences, and the resourcefulness to face and resolve difficulties. Imagination is central to all human progress and invention. To imagine, is an individual's own capacity to know and understand, to visualize something not present to the senses in physical reality. Imagination is the human capacity to change, to evolve, to adapt, and even to think.

But how does the amazing and versatile capacity to imagine develop? Remember that Montessori education considers imagination a Human Tendency – a potential we are born with, a human capacity that is developed, a capacity present during every stage in human life, but manifesting differently at different ages.

If we consider other human capacities, such as the development of language and the development of movement, we can predict that imagination, like every other emergent skill (e.g. first words, walking), may involve a great deal of internal development before external signs, such as pretending, are apparent. This internal development is actually the foundational knowledge that infants begin to build in the first year of life.

**How Does the Imagination Develop?**

Imagination is based on children's foundational knowledge about the world, but how this foundational knowledge is formed is the subject of fascinating research and debate regarding “object representation.” Object representation refers to how humans acquire knowledge- as “representations” held in the mind.

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12 The study of object representation is beyond the scope of this paper; for more detailed reading, see *The Origins of Object Knowledge*, edited by Hood and Santos, Oxford University Press, 2009.
In very general terms, the infant’s developing mind has the capacity to organize and process the characteristics and properties of objects and situations in order to build up an understanding of the real world. For example, when infants observe an event, the “object-representation system” in their developing brain takes in information about the properties of the objects for purposes of recognition and categorization. Other developing systems, such as the “physical-reasoning system,” can use that information to interpret and predict outcomes. This helps the infant learn how objects behave and react (Baillargeon, et.al., 2009).

The infant’s representational knowledge provides a causal framework for understanding new information and placing it in context with existing information. Over time, infant’s initial representations gradually become richer and more detailed as they identify new variables in a predictable pattern, and encounter events that do not conform to their expectations. Infant learning comes when the feedback of the world does not match his representation of it (Baillargeon, et.al., 2009). When children pretend, they draw on the causal understanding of the physical and the mental world that they have built up during infancy (Harris, 2000). But how do we know if very young children have the capacity to pretend?

A long tradition of conventional thinking, propelled by the theories of Freud and Piaget, claims that babies and young children are limited to the present reality in their thinking and experiences (Gopnik, 2009). These theories stated that even while pretending, babies and young children cannot tell the difference between imagination and reality. Piaget, echoing Freud, considered imaginative play to be a retreat from reality.

Piaget considered pretend play to be a primitive, maladaptive behavior that would be outgrown as the older child replaced this early cognitive process with a more objective, mature approach (Harris, 2000). However, because pretending appears to be a universal characteristic of early childhood, reflecting on the biological function of pretending would be more beneficial than merely considering pretending as a “maladaptive tendency” (Harris, 2000, p.6).

The recent surge of interest and scientific inquiry into early childhood cognitive development strongly suggests the conventional Piagetian thinking about imagination is wrong. Although there are many questions yet unanswered, two things are clear; the capacity to imagine begins much earlier than previously thought, and pretend play is not a maladaptive expression of imagination. In fact, it is the...
absence of early imagination that is maladaptive, as indicated by studies linking autism spectrum disorders with the absence or deficit of imaginative play (Baron-Cohen, 2007; Harris, 2000).  

Simon Baron-Cohen (2007), at the University of Cambridge, writes, “It has long been recognized that human infants from age 9-14 months old, begin to pretend. For example, they may pretend that an object has characteristics that it does not have, for example, pretending a toy tea cup is hot.” General consensus indicates that children display the ability to engage in and recognize pretend play in others between 18-24 months (Gopnik, 2009; Leslie, 1987; Leslie, 2007; Lillard, 2002). “The normal infant is not confused by pretend play. They do not for a moment believe the pretend teacup really is hot” (Baron-Cohen, 2007). Even a very young child can pretend to wash dolly’s hands with a wooden block, but when his own hands are dirty he knows just where the real soap is and is not confused; he does not get the block of wood to wash his own dirty hands.

Infants begin by forming mental representations of the real world based on their experiences in the environment. These mental representations form the infant’s foundational knowledge about how the world works. With only a limited but functional repertoire of these representations in place, even very young children use their understanding of causal relationships to explore possibilities through pretend play.

Causal Relationships
What are causal relationships? Understanding causal relationships is understanding that one thing can cause another thing, or if one thing is true, then another things must also be true. Paul Harris described working with 2 year-olds who demonstrated they understood the implied consequences, or causal relationship, of a pretend action. For example, when Teddy Bear was put in a box for a pretend bath, the 2 year-olds understood that the box could be “filled with water,” Teddy would be “wet,” and could be

15 “Children with autism are very interesting for several reasons. First of all, they notoriously have difficulty making connections with other people, making sense of their lives and their own lives. Secondly, they are usually very impoverished in their ability to engage in pretend play… The classic authors in developmental psychology, people like Piaget or Freud, portray early fantasy and early pretend as something that is immature and will be outgrown. Piaget describes this narcissistic self-absorption of unrealistic fantasies and he talks about pretend play as a form of associative thinking that will eventually disappear as the child becomes more objective. But if you look at children with autism and se how restricted their imagination is, you are forced to the conclusion that imagination is probably something that we can’t do without, and not something that we need to overcome.” (Harris, in a 2002 interview for the Harvard Graduate School of Education newsletter International Education.)

16 From his 2007 article, The biology of imagination. Simon Baron-Cohen, a developmental psychopathologist from University of Cambridge, has made contributions in the understanding of children’s theory of mind, and the relationship between theory of mind and autism.

17 Gopnik attributes young children’s occasional fear during pretend (e.g. an adult is pretending to be a bear, and the child appears really scared) to their extreme emotional engagement in the pretend, not to belief that daddy has turned into a bear. She points out that while adults can be scared silly during a movie about dinosaurs coming to life and attacking us, we don’t for a moment believe it is true.
“dried” with a pretend towel (Harris, 2000). In order to make sense of the pretend actions, a child would need to set aside his understanding of what is physically real (Teddy wasn’t really dirty; if Teddy really needed a bath, why put him in an empty cardboard box) and make pretend causal actions to go along with a pretend situation. Harris argues that the pretend stipulation (Teddy is having a bath), the causal chain (Teddy gets “wet,” “soaped” and “dried”), and the suspension of physical truth (Teddy isn’t really wet) are all understood by 2-year olds (Harris, 2000, p.26).

Alison Gopnik (2009) describes in her book, *The Philosophical Baby*, how through everyday conversations, developmental psychologists show that children understand what is possible or impossible, informed by their causal knowledge of the physical, biological, and psychological worlds. For example, children clearly understand that although Johnny can decide to hold his arm up in the air, he can’t just decide to jump in the air and stay there, or decide to grow taller, or decide to walk through a table. Gopnik tells the charming story of a little boy they tested who demonstrated his causal understanding by acting out alternate possibilities. He made his prediction and then said, “Watch! Table, I will walk through you!” Then he dramatically walked into the table and bumped against it. “Ow, see, you can’t do it.” (Gopnik, 2009, p.38).

This shows understanding of causal relationships between the mental (deciding) and the physical (table). With these causal maps of how the world operates, not only do children understand how to navigate the real world, they can also explore alternate possibilities. Children stimulate their imagination through exploration, comparing and contrasting objects and relationships, and experimenting with different outcomes. Imagining different outcomes, or alternatives to reality, is known as “counterfactual thinking” or thinking about the facts “counter” to reality. Exploring alternate possibilities of reality is a profound and pervasive human activity, and it appears very early in childhood. Counterfactual thinking also plays a large role in how adults use their imagination.

**Imagination and Counterfactuals**

Adults use counterfactual thinking every day, throughout the day. Counterfactual thinking influences our decisions and emotions, and influences the course of history on a personal level, regarding the most rudimentary plans for the day, to a global level, involving political and environmental issues with far reaching consequences. Every decision we make, every time we consider hypothetical possibilities and imagined outcomes, we are using counterfactual thinking. Emotions ranging from anxiety and regret, to satisfaction and accomplishment, come from considering what might happen, what might have been, and the risk of making a decision and acting on it. Counterfactual thinking involves temporarily suspending reality, understanding causal relationships, and considering other points of view and the effects of our actions. In short, counterfactual thinking is the human imagination at work.
The mature skill of considering and managing alternatives might seem to be a very adult activity, but children as young as 18 months show an ability to consider simple outcomes and act accordingly. In an experiment using a common ring-stacking toy, researchers taped over the hole in one of the rings. The 15 month-old toddlers would try different means to get the taped ring on the stack with the others and eventually give up, but the 18 month-olds would stack all of the regular rings, then hold up the taped ring and not even try it. Other responses included throwing the taped ring across the room, or picking it up and saying “No!” or “Uh-oh.” The 18 month-old toddlers were able to look at the ring, and based on their experiences with typical rings and stacking, act according to what they imagined would happen if they attempted to put the taped ring on the post (Gopnik, 2009).

Gopnik also found that in a similar study with 15 and 18 month-olds, the older babies were able to imagine a new use for an object, in this case, a toy rake. The 18 month-olds discovered that if they placed the rake just so, they were able to get a desired toy that was out of reach. However, the 15 month-olds either ignored the rake, or couldn’t figure out how to use it as a tool. Other studies indicated that even the younger babies could solve problems insightfully if they had enough the background information (Gopnik, 2009).

In another study with older preschoolers, 3, 4, and 5 year-olds were told a story about walking across the floor in muddy boots, and then asked, “What could you have done so that the floor would not have gotten dirty?” The 3-year-olds were able to generate an appropriate possibility, but the 4 and 5-year olds came up with significantly more possibilities (Guajardo and Turley-Ames, 2004; in Beck, Robinson, Carroll and Apperly, 2006). This indicates there is a developmental progression in the application of counterfactual thinking. (This also is in line with the study about divergent thinking that Ken Robinson talked about in the RSA video.)

These are just a few examples of the research on the development of counterfactual thinking. While there is some disagreement about the age at which children begin to think counterfactually, research indicates that imagining simple outcomes appears in the second year of life (Gopnik, 2009). Two and three year-olds can understand how an observed outcome might have turned out differently (Harris, 2000). Three year-olds demonstrate the ability to speculate on a real and potential outcome of a simple situation (Guajardo and Turley-Ames, 2004), developing into thinking counterfactually around age 4 (Beck, Robinson, Carroll and Apperly, 2006). Around 5 or 6, children are able to acknowledge multiple possibilities for outcomes, and gradually their counterfactual thinking assumes a more mature quality (Beck, Robinson, Carroll and Apperly, 2006).

18 “We suggest that there are real limitations on 3- and 4-year-olds’ thinking about counterfactuals and future hypotheticals. They can pass standard questions in these domains by putting aside what they know about reality and speculating about single events. However, in keeping with the undecidability and ambiguity literature, acknowledging
As Alison Gopnik (2009) summarizes, “Understanding the causal structure of the world and generating counterfactuals go hand in hand. In fact, knowledge is actually what gives imagination its power, what makes creativity possible.” Montessori identified this same relationship between knowledge and imagination. She wrote in 1915 that, “truth is the basis of every great artistic (and scientific) production of the imagination.”

Montessori and the “Education of the Imagination”
Montessori wrote a great deal about the imagination during the course of her lifetime. A chronological survey of the scope of Montessori’s writings shows considerable development in her thinking about the imagination from her early work in the 19-teens through the late 1940’s. It is important to remember that Montessori continued observing and learning from the children during her entire career; her method was born and evolved entirely from what the children showed her. While many of her insights regarding imagination remain consistent throughout her lifetime, a random sampling of her writings seems to reveal disparate views. Taken out of context, these viewpoints contribute to the confusion and misinterpretation by contemporary psychologists and Montessori practitioners alike. A comprehensive study of Montessori and imagination must take into account the difference between Montessori’s understanding of imagination at various points in time, and her strong views about “educating” the imagination primarily through fairy tales and pretend play.

Froebel’s Approach
In the California Lectures of 1915, Montessori describes the common belief at the time that “the little child is characterized by a vivid imagination and because of this a particular education should be brought to bear upon him in order to cultivate such a special gift of nature.” The “particular education” she spoke of was likely the fairy tales and teacher-directed fantasy play of Froebel’s kindergarten, a popular early childhood approach at the time. Although Montessori and Froebel shared many common beliefs, Montessori did not support Froebel’s approach to cultivating children’s imagination.

multiple possibilities poses serious problems for them. By around 5 or 6 years children can acknowledge multiple possibilities, as shown by our behavioral undetermined trials, and performance on our open counterfactual questions has improved. Only by this age can children’s thinking about future and counterfactual possibilities have the mature quality of speculation about genuinely alternative worlds.” (Beck, Robinson, Carroll and Apperly, 2006)

imagination. Montessori believed Froebel’s adult-directed block play could potentially confuse the young child’s developing mental order, because it was not the child who initiated and directed the symbolic play, it was the adult. We really don’t know what the child understands or imagines when an adult determines what the block represents - this time a horse, next time a church steeple. It is the adult who is doing the imagining, not the child. Montessori did not believe that Froebel’s method supported the child’s spontaneous development of imagination. She questioned what exactly was being nurtured through an education whose aim was to help the child’s mind develop through adult-directed imaginary experiences. It was her criticism of this popular method of adult-directed education that likely sparked the misconception that Montessori education did not support the imagination.

“Education of the Imagination”
Montessori was not immune to the pleasure that young children expressed during their own spontaneous play. She did not denounce imaginary play; she denounced the education that denied the child anything more than pretend. In 1918, in *The Advanced Montessori Method I*, Montessori used an analogy of a hungry man pretending his bread was a delicious meal to describe the child who had only imaginary experiences. Although there is no reason to prevent the man from pretending his bread is more, it is not necessary to take away the meat of the more fortunate so that they may have the experience of pretending. There is no harm in pretending; the harm would be to deprive the child of real experiences in life in order to learn to use her imagination. Montessori illustrated this point by telling the story of a parent whose child constantly pretended to play the piano on the table; the parent was concerned that she would diminish her child’s imagination if she gave her a real piano to learn music, thus depriving her child of an opportunity to pretend. Montessori believed that young children required more than only imaginary play to satisfy their developing mind and growing imagination.

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24 Ibid.
25 Montessori, (1918), *The Advanced Montessori Method, Vol. I*, “Imagination,” p. 198. “But this (pretend play) is not proof of imagination, it is proof of an unsatisfied desire; it is not an activity bound up with gifts of nature; it is a manifestation of conscious, sensitive poverty.” This statement refers to poverty of sensory experience, or sensorial education.
Montessori recognized pretend play as an expression of an early stage in the development of imagination, but she did not see pretending as the ultimate purpose of the imagination. In 1918, she wrote, "And if some people remain permanently in a state of imagination in which unrealities predominate, our child, on the contrary, belongs to a people for whom the delights of the mind are to be found in great works of art and the civilizing constructions of science, and in those products of the higher imagination which represent the environment in which the intelligence of our child is destined to form itself." The imagination represented a higher power of the human mind, destined for greatness; this was the power the child would grow into. Montessori's respect for the imagination was vastly different from the amusing "illusionary imagination" based on children's credulity. Children's credulity, their natural inclination to believe everything they are told, is often a source of amusement even to well-meaning adults, who view credulity as an expression of childhood innocence.

**Children's Credulity**

Montessori rallied against the pervasive societal attitudes of the time that relegated children to the realm of pretend and took advantage of their credulity. Many adults believed that encouraging children to believe in fantasies and accept them as real would nurture their imagination. Children believe in Santa or the Tooth Fairy because adults tell them these characters exist. While it is natural for young children to believe what adults tell them, belief is not imagination. Montessori questions, "But how can the imagination of children be developed by what is on the contrary, the fruit of our imagination? It is we who imagine, not they; they believe, they do not imagine." Montessori understood credulity to be neither the foundation nor the fruit of imagination. She believed that encouraging children's credulity would not develop their imagination; it would only give them one more obstacle to overcome.

Neither should adults prolong or encourage children's credulity merely because it is an amusing stage in childhood development. Comparing the development of imagination to the stages in the development of movement or language casts a different light on the seemingly innocuous tendency to prolong an immature stage in development. For example, even though adults may find a baby's crawling adorable, we don't encourage the baby to keep crawling instead of walking upright, simply because we may find crawling a more endearing way of moving around. The baby's first words are of profound delight, but

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28 Montessori, (1918), *The Advanced Montessori Method, Vol. 1*, “Imagination,” p. 198: “A form of imagination supposed to be “proper” to childhood and almost universally recognized as creative imagination, is that spontaneous work of the infant mind by which children attribute desirable characteristics to objects which do not possess them.”


30 “While children as young as 3 understand the concept of what is real and what isn’t, until they are about 7, they can be easily misled by adults’ persuasive words, or by “evidence” (such as “seeing” Santa at the shopping mall) Wang, (2009).

Development of the Imagination

Montessori acknowledged the controversy surrounding her views on supporting the imagination in 1919, when she spoke to the Child Study Society on the topic: Children's Imagination by Means of Fairy Tales. Montessori joked with the crowd that this topic was dictated to her; she would not have dared to choose it herself and face the audience. To her criticism of fairy tales, she answered, “When I have been so bold as to express my opinion of the value of the fairy tale, people have jumped to the conclusion that I was fiercely opposed to it. I do not really feel any such intense antagonism.” Her point regarding fairy tales was simply, “Imagination really does not enter into the problem, because in telling fairy tales it is we (the adult) who do the imagining. The child only listens.” During that speech Montessori told the listeners, “(The child) cannot distinguish well between the real and the imaginary, between things that are possible and things that are merely ‘made up’.” During this speech in 1919, Montessori was attempting once again to clarify her position regarding education based on cultivating credulity, instead of on reality.

Knowledge of the Real World

When Montessori reiterated to that audience, “It is not necessary to withhold the unreal from him,” she made it clear that if we give children fairy tales, we must also give him the means by which to develop his critical faculties so that he could learn to discriminate for himself what is real and what was not. “The true basis of the imagination is reality, and its perception is related to exactness of observation. It is necessary to prepare children to perceive the things in their environment exactly, in order to secure for them the material required by the imagination. Intelligence,

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34 From the Times Educational Supplement, 1919, reprinted in AMI Communications, No. 2, 1975.
37 Contemporary research on the development of imagination bears this out. The process of discerning what is real from what is imaginary, and from what is possible, and what is improbable is a lengthy one. While children as young as 18 months can begin to pretend, indicating through their actions a separation between real and pretend, the knowledge of what is real and what is imaginary doesn’t develop until around age three. The distinction between what is actually real from what is not possible or probable is a more sophisticated understanding and appears from around age 5 and older (Wang, 2009).
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reasoning, and distinguishing one thing from another prepares a cement for imaginative constructions. Montessori understood that children need knowledge of the world of reality in order to go beyond reality through the power of the imagination. She published in 1918, (and even earlier in Spontaneous Activity in Education) “Imaginative creation is a construction firmly allied to reality; and the more it holds fast to the forms of the external created world, the loftier will the value of its internal creations be. Even in imagining an unreal and superhuman world, the imagination must be contained within the limits of reality.

Taken out of context, Montessori’s early remarks about pretend play and fairy tales could indicate that she believed they were inappropriate or even harmful for young children, or that she spoke out against the education of the imagination. Indeed, that is what many people believe, even today. However, Montessori did not object to pretend play or to fairy tales, she objected to pretend play and fairy tales as the exclusive method of educating children. Over a decade had passed since the “Miracle in San Lorenzo,” and Montessori had seen how hungry young children were for substantive means to develop their minds; given the choice, they preferred real, meaningful activities to toys. She did not condemn toys; she simply observed that given the choice, the children preferred other activities. Ironically, Montessori wrote in The Secret of Childhood, that although many visitors observed the children refusing sweets and toys, “no one could have had such an extraordinary and fantastic idea as to assert: ‘Children should not play or eat sweets.” And yet, today, this misconception about Montessori would have people believing that because children choose and enjoy real-life activities, that we think “Children should not play or pretend.”

It is quite possible that teachers and parents have, over time, distorted the relationship Montessori saw between the intellect and the imagination, focusing on the intellectual results of her method and overlooking the imagination. But Montessori herself only grew in her conviction that the imagination was a critical construction in the first plane. Although her earlier work mentions little about the imagination directly, her later work conveys a great deal about the development of the imagination, and its significant place in the first plane is clear.

40 Some words in this passage were omitted for clarity. Montessori (1918). The Advanced Montessori Method vol. 1, “Imagination,” p. 191.
Imagination is a human capacity that manifests differently at different ages; imagination is not just a characteristic of the child in the second plane. While it is true Montessori considers the imagination an essential power for the child in the second plane of development, the imagination must be developed in the first plane, just as language and the ability to reason must be developed in the first plane in order to be used in the second plane. As Mario Montessori Jr. said, “Nothing comes out of the blue in a developmental process.” Imagination must be constructed and developed in the first plane if it is to be used as a tool for exploration and learning in the second plane. Montessori’s later writings confirm and elaborate on this essential development of imagination during the first plane.

The “Period of the Imagination”
In a lecture on the imagination and intelligence in the 1946 training course in London, Montessori described the years “between 3 and 6, especially towards 5,” as “the special period for the construction of the imagination. This is the period during which great power for man is built. That is why this period is not only called generally ‘the period of play’ but also the period of the imagination.” Montessori considered the years from 3-6 to be of special significance for the construction of the imagination; in fact, her description sounds strikingly similar to the “sensitive periods” identified for other significant constructions of the first plane.

Montessori saw that the young child’s imagination worked continuously during the first plane. From birth to three, the child unconsciously absorbs sensorial impressions from the world around him and from 3-6 constructs the ability to imagine – to “disconnect” from those sensorial experiences and physical events in the real world. “Imagination is the essence of the human mind which builds and constructs. Imagination does not develop from what the child hears, but from his own efforts in the natural world.” Montessori observed that the child constructs his imagination through his own efforts and experience, as a uniquely human aspect of his mind. “Just as in the period of the absorbent mind the child studied the world sensorially and received impressions, so now he studies the world in another way and tries to reconstruct through experience he has already had, things which he has never seen. Through this imaginative reconstruction the child makes his way for the first time in the world of real intelligence.”

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43 Mario Montessori Jr. (1976) Education for Human Development, p. 64. See also the chapter “The Montessori Materials” for Mr. Montessori Jr.’s remarks about fantasy, imagination, and the materials for development.
45 Montessori’s concept of “creation” followed by “crystallization” can be compared to Leslie’s (1984, 2007) work explaining how very young children first create “primary representations” in their mind of how the world works, and then develop the ability to “decouple” the primary representations from the workings of their imagination.
Montessori discusses identifiable stages in the development of imagination. She describes one of the ways children ages 3 ½ and 4 show the power of their imagination is through their enjoyment of “tales of phantasy.” She reasoned that the fact these young children enjoy these stories so much shows that they have the inner mental ability to reconstruct tales that are outside the limits of their own personal experiences. The reason children this age love to hear stories over and over again is because this is their way of practicing the mental ability to imagine. Montessori likens this to their love of repeating a physical activity over and over for the joy of mastering a movement or series of movements.48

Montessori considered this the “sensorial stage of the imagination.”49 During this stage, the children practice their ability to construct a mental picture; this is an “interior construction.” These interior constructions are built upon the knowledge the child has gathered from the real world. When we tell the story of the Three Bears, Montessori says, the children already have knowledge of bears, chairs, beds, bowls, and woods, and recombine these elements to create a story in their minds. This is what Montessori meant when she said that if we give stories to children, we must also make sure we give them the means to discern real from imaginary. Children can imagine the story in their minds because they already have real understanding of these elements from the physical world. These imaginary reconstructions are based on experiences the child has already had. Montessori called these “simple reconstructions.”50

But simple reconstruction is not the only work of the imagination. Young children also have the ability to imagine things that are not conjured up by words in a story, or direct experiences. Montessori observed that children under age 6 could use their imaginations and their growing reasoning abilities to solve problems. She saw how a child as young as 3 ½ was able to use the globe as an aid to his imagination in order to understand the problem of how one could travel around the world, or take many days to travel over the sea from Europe to America. When children used their imaginations to make their own discoveries and connections, she observed a “mental calmness” in them.51 It would seem that Montessori observed that meaningful work of the imagination offered the same satisfaction and peace that followed concentration on a physical activity. The same mental calmness that we often see following a physical activity such as table scrubbing also occurs when the children exercise their imagination.

In The Absorbent Mind, published in 1949, Montessori also wrote about the power of imagination in the first plane. “The child’s mind between three and six can not only see by intelligence the relations

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between things, but is has the higher power still of mentally imagining those things that are not directly visible." Montessori considered the power of abstract thought and imagination to go hand in hand; each played a mutual part in constructing the mind. Abstraction came from cultivating the ability to extract the essential, limited qualities of an object, and then the imagination could reassemble and rearrange those abstractions in an unlimited fashion. Order and exactness in mental images were the necessary structure that held abstraction and imagination together. She wrote about the significant structure of order and exactness in *The Secret of Childhood*, “It is important that the child would be able to preserve the images he is absorbing with a maximum of clarity; for it is through the clarity and brilliance of impression distinguishing one from the other, that the ego can build the mind.”

Balance of Reality and Imagination
Cultivating the imagination alone, without the structure of reality, order, and exactness of perceptions, would knock the balance of imagination and intellect out of sync. This is what Montessori described as the “abnormal side of imagination and play.” Psychoanalysts in Montessori’s time referred to this type of abnormal development as “psychological fugues,” evidenced by the child whose imagination, curiosity, and intelligence are directed towards the imaginary with no connection to reality. This is the bright and vivacious child who cannot yet enjoy the trinomial cube on its own merits, but instead serves up the pieces as “snack” to her friends. Montessori found that such children were able to elevate their imagination when given the opportunity to attach their imagination to reality through activities in the Casa. This recalls Montessori’s earlier convictions about education of the imagination; children need more than to play with (Froebel’s) bricks and fairy tales. She writes, “We often forget that the imagination is a force for the discovery of truth.”

Montessori wanted children to have something real in their hands to stimulate their imagination; this type of scaffolding would provide a temporary support linking the mind and imagination to the physical world. This was the idea behind her concept of the “materialized abstraction.” The materialized abstractions work in two directions, inward and outward. The child uses the material to focus on certain qualities, interrelationships, and to distinguish finer and finer distinctions, thus developing his inner mental life; then these new perspectives aid in his imaginative exploration of the outer world. Using

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55 See Montessori’s description of the child with an undisciplined imagination in *Creative Development I*, pp. 172-173.
materials and activities true to reality would lend greater strength to the child’s imagination, allowing for conscious elaboration, because children take their understanding of reality with them when they imagine. Paul Harris, a developmental psychologist from Oxford, England (currently at the Harvard Graduate School of Education) writes, “When pretend play does emerge, children draw to a remarkable extent on the causal understanding of the physical and mental world that they have already built up during infancy” (Harris, 2000, p.6).

Montessori agreed that “play, imagination, and questions are features of this age” but noted that parents and teachers often misunderstand how to support the child’s imagination. She asks, “When all are agreed that the child loves to imagine, why do we give him only fairy tales and toys on which to practise this gift?” Our task, she said, was to “prepare an environment which will allow the child to exercise his efforts and aid the development of his imaginative intelligence.” This environment should offer the whole of life, not just fairy tales and manipulative toys, but a rich environment where the child can choose for himself what he needs for his full development; meaningful, effortful activities with which he can align his mental and physical energies. The same prepared environment that supports the child’s intellectual, social, and emotional development will also support the child’s developing imagination, as long as the adult does not become an obstacle by suppressing that imagination.

The Prepared Environment for Developing Imagination

When we look at the Montessori prepared environment through the lens of the developing imagination, we see opportunities for all of the significant elements identified by cognitive developmental psychologists in developing the imagination.

Nearly a century ago, Montessori knew that “Education must prepare the modern child for the renewed civilization of our day, this civilization which is based upon positive research of truth; that is, the child whose hand, whose eye, and whose ear are eager to grasp the truth with precision, and who becomes capable of metal concentration. Like the body which seeks the elements which satisfy its hunger, ... so the child nourishes himself with truth, organizing within himself the constructions of the imagination which create the beautiful and the good.”

58 Mario Montessori Jr. Education for Human Development. See the chapter “The Montessori Materials.”
62 See Andrews (2010) for a summary of the cognitive processes involved in the developing imagination.
The imaginary worlds of pretend play are just as important for young children as the real world. It is not that young children can’t tell the difference between real and imaginary, they simply enjoy both. The advantages of childhood protect children from adult responsibilities and demands, giving children the time and space to exercise their developing imagination and freely explore alternatives to reality, without fear of choosing the wrong path.

The responsibility for educators lies in understanding the processes inherent in the development of imagination, the relationship between imagination and pretend, and the significance of supporting this developmental process. Imagination relies on a solid foundation of real-life experiences, accompanied by ample opportunity for exploration and experimentation; this includes exploration and experimentation through pretending or imagining alternative outcomes.

An education supporting the developing imagination will recognize that this self-construction requires child-directed experiences. Research confirms that imagination is a biological process as innate as walking or talking. Imagination is not something that can be taught through adult-directed activities, any more than adults can “teach” babies to walk or talk. However, adults can support imagination by granting children the liberty to express the workings of their imagination. The ideal learning environment for young children supports the development of imagination by providing exploration of real-life experiences enhanced by constructive, spontaneous imaginative thinking, including pretend.  

Where does the child build an understanding of causal relationships and explore different possibilities? Where does the child find the knowledge and truth that so nourishes his imaginative mind? Simply put, the Montessori prepared environment is the arena where Montessori’s theory of the developing imagination meets those of contemporary psychologists.

The Child
The prepared environment consists of three interdependent parts: the child, the materials and activities, and the adult. Looking at each of these elements with the development of imagination in mind, we first see the child. The child is who the child is. The child comes to us seeking the means to further develop his imagination. He has already begun this task, developing mental representations of the world and how it functions, and building intelligence and imagination together through his own experiences in his environment. It is commonly understood that babies the world over typically begin to pretend when they are 18-24 months old. Most are experienced pretenders by the time they enter the Casa.

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As Montessori reminded us, their imaginations are working constantly, and this is the time to develop what has already been constructed. Our task is to put the child in connection with the materials and activities that will enable him to further develop his powers of imagination.

The Materials
The materials and activities form the second element of the prepared environment. These are the means by which the child develops himself and integrates his physical and mental energies. These are the materials children all over the world chose over toys, and to the exclusion of other activities. These materials provide a stimulus, or prop, to the imagination, linking the child’s mind to physical reality. Freely choosing these activities, the child will develop and refine his imagination, intellect, and integrate his physical body with his mind. Through the use of the materials and activities, children explore causal relationships between things and people, and experiment with different outcomes.

In practical life, as we see the child washing a table, pouring water, or measuring cornmeal, it is only natural that the child would be thinking of the waitress at the café who washed the table, or of pouring tea with Grandma, or making cookies with Daddy. The child’s mental representations direct his actions; this is known as “embodied cognition.” The materials in his hands stimulate the child’s imagination in the same way whether he is playing pretend or “working” with Montessori materials. The child using the measuring cups may pretend to be baking cookies; but this does not negate the coordination and concentration necessary to measure accurately. When children act out a grace and courtesy lesson, they are imagining an alternative possibility for a particular event. The children are practicing their counterfactual thinking. When we use a point of interest to challenge a child to scrub a table without any water dripping down the legs of the table, we are inviting the child to imagine himself performing this activity in a different way than he did in real life. What do you suppose is going on in the child’s mind during the silence game? Perhaps he is imagining how quietly he will rise when he hears his name. Perhaps his mind is wandering, drifting to an activity planned for after school. Perhaps he is thinking about his lunch. The child’s imagination works constantly, and practical life is filled with opportunities to exercise his imagination and connect it with reality.

In sensorial, the materials offer a different opportunity for the imagination. While the activities of practical life may provide opportunities to exercise the imagination, the sensorial materials are keys to release the child’s imagination. The very fact of their limited nature encourages the child’s imagination to go beyond the materials. The isolated qualities of the materials are “like an alphabet for their exploration,” and through this exploration, “the mind not only has the power to imagine, but it can

also assemble and rearrange its mental content. The sensorial materials help the child to further refine his perceptions, and to create more precise abstractions, giving the child the finest tools possible for constructing his imagination and intelligence.

Even the pattern of activity within the sensorial materials supports the imagination. In the initial presentation, we introduce the child to how to handle and manipulate the material, and we demonstrate its particular purpose. Then we invite the child to explore. Controls of error help the child experiment with and evaluate different outcomes. Through matching, the child challenges his perceptions by comparing each item with the others and finding the one that is exactly the same. Through grading, the child explores the relationship between the items, refining his perceptions until they are fixed in his imagination. Through variations, the child explores other combinations and relationships, using the materials as a visual expression of his imagination. The many sensorial games offer unlimited opportunities to connect the refined sensory perceptions held in his imagination to the outside world. Attaching language to the various experiences along the way gives the child the symbolic means to express an abstraction and affix a name to the workings of his imagination.

The child is never expected to merely copy and repeat the teacher’s initial presentation. The importance Montessori placed on exploration with the materials is crystal clear in a story recounted in Kramer’s biography of Montessori. According to the story, Dr Montessori was visiting classrooms in California in 1915. In one of the classrooms, she saw a child grading the red rods. When Montessori returned to the school a week later, she was dismayed to see that the child was still working with the rods in the same way—there was repetition, but no progress in the repetition. It was not the child’s fault—Montessori criticized the teacher for limiting the child’s creative potential.

The sensorial materials are designed to draw the child’s imagination inward through more detailed perceptions, and then launch the child’s imagination outward as he is able to recognize and see more and more in the real world. We want the child to discover that a rocket has the same shape as a cone upon a cylinder. We want the child to notice that the relative size of baby and mama is similar to the relative size of the smallest and largest knobbed cylinders. When the child walks his fingers up the brown stair, he is making the connection between the physical objects in front of him, and the stairs in his imagination. Observing children demonstrating these behaviors is an indicator of the imagination at work. The sensorial materials do not just stimulate the imagination, but the mind itself seizes upon them, drawing therefrom its own syntheses.

70 Montessori, (1946). The Absorbent Mind, “Through Culture and Imagination,” p. 188
The language and mathematics areas are based upon the imagination, for they involve manipulation of abstract symbols and meanings not presenting the physical world. The materials are a link between the imagination and the hand; they provide the physical expression of ideas held in the mind.

The ultimate aims of the language area are effective spoken communication, creative writing, and total reading, all of which are directly linked to the child's imagination. A child can communicate effectively when he has the words to express the thoughts and emotions in his mind. Creative writing gives the child the power to express the fruits of his imagination through written symbols. Total reading demonstrates that the child can imagine not only the events of a story, but also imagine the emotional content conveyed by the words and the particular style of the author. Closer examination of specific activities within the language area shows ample opportunity for role-play, drama, pretending, and imaginative play as the children interpret and act out written and spoken words, phrases, and sentences, listen to and interpret stories, songs, and poetry, and give voice to their own stories and songs. Every time the children listen to a story, write a phrase, or act out a sentence, they accept the invitation to take the perspective of another; they imagine the thoughts, feelings, and desires of someone else.

The work of imagination begun in the sensorial area is continued with the activities in the math area. Here, the child works first with very concrete materialized abstractions, as he explores the relationships between and among quantities and symbols, then gradually develops the ability to use both his reproductive and his creative imagination moving towards more symbolic materials. Eventually the child explores solely in his imagination, manipulating qualities and symbols by applying them to situations outside his direct experience. The activities in mathematics also provide opportunities for role-play and pretending. For example, the operations with golden beads are a direct invitation to take on a character or role and for a small group of children to work out the challenges of socio-dramatic pretend play.

The Trained Adult

It is clear that the child has the natural drive to develop his imagination, and the materials in the prepared environment have the potential to support this developing imagination. But neither the materials nor the child alone can fulfill the promise of the prepared environment. There must be an insightful, observant adult to help connect the child to the materials and activities. This is where Montessori environments can fail to meet the child's needs in terms of his developing imagination. Looking to the child's activities with an eye for the developing imagination enables the Montessori adult to see signs of important mental processes instead of deviations or misbehavior. As we develop our abilities as teachers and observers, we are able to see more and more value and opportunity in the same materials. Montessori tells us, “The mind, as it develops, sees more and more in the same object.”71 This is as

true for adults as it is for the children. We do not need a new curriculum or special materials for developing the imagination, we only need to expand our thinking about the materials we have and how they are used.

Supporting the child's developing imagination requires focus on two important abilities: First, a deep understanding of the purposes and opportunities available within each material in the environment, and second, regular and active observation. Remember that pretend play is one of the most obvious and visible signs of the imagination. When a child is pretending, an important mental process is acting. The adult's work is to connect the child with the most effective material to express and develop that working imagination. The child who was serving up the pieces of the trinomial cube was not connected with the right material for what his imagination was expressing. He would be better served by slicing a banana or helping to prepare snack for the class. On the other hand, the child who was pretending to bake cookies while using the measuring activity was perfectly within the structure and purpose of the activity; how could he not imagine baking cookies while holding a full measuring cup in his hand? However, sometimes it is not as clear what the child is expressing through his pretend play. What of the child who is making a train out of the brown stair, or building a castle with the cubes of the pink tower?

In order to determine if a material meets the child’s needs, it is necessary to know more than merely the initial presentation of the material. The teacher must be able to extract the essential purpose of each material, understand the depth and breadth of what is possible within each material, and be humble enough to realize the child may discover something entirely new on his own. The adult should also observe the child’s demeanor; are there signs of concentration or is he listless and ready for a change? By making a train of the brown stair is the child exploring relationships of two-dimensional change, or would a better match be looking at the “types of trains” vocabulary cards, or listening to a story or singing a song about trains? The answers are only found through observation and an open mind. However, if the teacher stops the child at the first sign of pretend play, she is thwarting an opportunity for discovery and development just as if she slapped the child’s hand reaching out to touch a beautiful object. “Don't pretend!” is the mental equivalent to “don't touch!” The child will do what nature tells him he must; it is only the adult's response that makes the difference between construction and destruction.

Neither is it necessary to go to the other extreme; it is neither necessary nor helpful to “teach” the child what or how to imagine. Joyful learning comes when the child makes the discoveries himself. This principle underscores why we do not demonstrate every variation with the sensorial material, and it is why we do not dictate how the children are to use their imaginations. Our role is different; the Montessori adult is the ramp that launches and the scaffold that supports. She is sustained by the wisdom cultivated through knowledge and observation.
Free Choice and Playfulness

There is one additional element of the prepared environment that is significant to the developing imagination—**free choice**. In the Montessori prepared environment, children are free to choose what to do, where to do it, and they can do it as long as time and interest allows. Free choice is the element that connects the activities in a Montessori environment to research emphasizing the importance of play. In some cultural settings, play is the only time when children are permitted to choose what they do. Stuart Brown, in his book *Play: How it Shapes the Brain, Opens the Imagination, and Invigorates the Soul,* describes the voluntary nature of play as the essence of freedom. He explains when children voluntarily choose an activity they do so because of an inherent, personal interest. He observes that during play, children become fully engaged, are fully in the moment, and experience what the psychologist Mihaly Csikszentmihaly calls “flow.”

Brown describes a wheel-shaped framework of play devised by Scott Eberle, an “intellectual historian of play and vice president for interpretation at the Strong National Museum of Play.” Eberle’s framework involves **Anticipation**, wondering what will happen; **Surprise**, a discovery or change in perspective; **Pleasure**, a good feeling; **Understanding**, acquiring new knowledge or synthesis of ideas; **Strength**, mastery that comes from experience or practice; and **Poise**, grace, contentment, and a sense of balance. Both Brown and Eberle describe the elements of play in a strikingly similar way to the “normalizing” effects of a Montessori activity, freely chosen, done by the hands with real objects, accompanied by mental concentration.

Along with free choice, Angeline Lillard identifies several other similarities between play and Montessori activities. According to Lillard, Montessori environments feature **child-sized materials that facilitate embodied cognition** (how the body’s activities shape the mind); they support **self-directed activity**; the activities are of **individual interest** with **intrinsic rewards**, and they take place within a **social community** of peers. These are the features of play that are important to cognitive and social development, and these features are incorporated into any typical Montessori setting.

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72 Brown, (2009) p. 18
74 Brown, however, also describes the first quality of “play” is its apparent purposelessness. I don’t interpret this to mean he is saying only purposeless activities are considered “play,” but that he, like others, is baffled that play doesn’t appear to have any survival value. Montessori found, by contrast, that very similar results could be obtained through using activities that do have a specific value.
Conclusion
Returning to the questions posed at the beginning of this paper, we can now address where Montessori education stands in the development of imagination. Montessori understood that the intellect and the imagination develop in harmony, both drawing from the child’s experimental exploration of his environment. The accumulating body of research in cognitive neuroscience and developmental psychology supports this understanding.

Montessori’s early work focused on attempts to convince society that children need more than only pretend play and fairy tales to exercise and develop their imagination, but she was not against pretend play and fairy tales as such. Montessori’s later work emphasized the importance of developing the imagination in the first plane, when children are uniquely capable of such construction.

The prepared environment is the ideal arena for developing imagination alongside the intellect, provided that the adult recognizes and supports external signs of the child’s expanding imagination. While Montessori teachers do not specifically direct or teach pretend play, children will spontaneously express their imagination through use of the Montessori activities and materials. The adult must then determine if the material or activity is the best match for what the child is expressing, using observation and knowledge to redirect the child’s energies if needed.

Although Montessori environments are reality-based, the essential elements of play are incorporated into both the manner and spirit with which the children interact with each other and their environment. The universal child and the standard Montessori materials are consistent the world over; the variable is the adult who connects the two. The Montessori adult is the decisive element; it is she who either creates an environment supporting the child’s imagination, or one that suppresses and denies the child’s imagination. Montessori’s position is clear: “The power to imagine always exists, whether or not it has a solid basis on which to rest, and materials with which to build. But when it does not elaborate from reality and truth, instead of raising a divine structure, it compresses the intelligence and prevents the light from penetrating.”

“Thus, we will help his intellect, to go on, to experiment, to acquire knowledge until he can more easily and more perfectly accomplish the effort of intellectual growth. He is destined, therefore, not to represent our inferior humanity, but to surpass us.”


References


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