THE
WHOLE CHILD
DEVELOPMENT
GUIDE

Edition I

Dec. 2004
LEGO®
Part 4.:

Early School Years
Ages 4 - 8 Years
Overview of Early School Years

Ages 4-8 Years

Me – Being Me

ME - USING MY BODY

Whereas the child’s physical-motor development during early childhood is marked by large growth spurts, during the early school years it is rather gradual and constant. This being said, between the ages of four and eight, a child’s improvement in coordination and skill is still amazing. So is the child’s perceptuo-motor integration, or ability to synchronize her body movements to the movements she sees, or hears, others performing, (so-called eye-hand coordination is a part of perceptuo-motor integration, and begins when children eyes can be guided to follow movements of their hands).

The period between ages 4 and 8 is a time of expanded vigour and energy. It is also a time when the child learns to master her otherwise wild exuberance, and put it at the service of things he likes to do.

As they enter their fifth’s year, most children have enough mastery over their gross motor skills to be able to balance, hop, skip, run, and jump. And they have perfected the use of fine motor skills well enough to be able to reach, grasp, and manipulate objects. A four-year-old can eat and dress by herself. She combs her hair, washes her hands and brushes her teeth. She opens closets and drawers, and manipulates remote controls. She scribbles, cuts, and glues. In sum, four-year-olds have a fairly good dynamic balance when running and climbing, as well as a static balance, which allows them to stand on one foot. They have learned to project themselves accurately when jumping and hopping, or throwing and catching.

During the early school years, between the ages of 4 and 8, the child perfects both his agility and dexterity to gain a solid grip and better control over his body movements in space and time, and above all, in relation to others. By the time they reach their eighth birthday, most children readily engage in activities such as sawing, sewing, painting, or knitting. Seven-year-olds can use adult tools, such as hammers, saws, rakes, and shovels. They now...
manoeuvre a two-wheeled bike, and they are ready to skate, ski, or swim.
They engage in many group activities, from soccer to gymnastics, from
hockey to ballet, and they have become competent team players.

In the later section, we shall look at how children, between the ages of 4 and
8, progressively refine their physical-motor abilities, which, in turn, opens
the way to many new activities, fosters a growing sense of freedom and
control, and new forms of relating to the world, self, and others.

ACKNOWLEDGEMENTS
The main sources for Me in this Part are:
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ME – KNOWING MYSELF
The roots of a child’s a self-concept lies in infancy, and evolves through the
many interactions the child has with her social environment. By their fourth
birthday, most children have acquired a fairly good sense of themselves
as distinct from others. They also have a budding sense of identity or self-
invariance: the idea that some core aspects of self remain unchanged over
time.

One of the big breakthroughs, as children enter their preschool years, is the
passage from a merely physical- and action-centric self-concept to a more
psychological one. In other words, children develop a sense of self-worth,
or self-esteem: the emotional, affective, moral, and intellectual facets of a
child’s early self-concept. This, in turn, requires an understanding that the self
is unique (distinct from other), stable (identity over time), and worth one’s
own, and other people’s, consideration, and love. Self-esteem or self-worth
emerges as the child learns to distinguish between an inner-me, or “agent,”
that drives her actions, and an outer-me: a person’s physical attributes and
/or actions.

By developing a positive and accurate body image/self-concept, children
build a reliable frame of reference—theemselves—to help them act and move
in space, as well as among other people. Body image, like self-awareness,
provides an internal compass to help children orient and situate themselves
in relation to others.
Awareness of self-defining bodily functions includes sexual and gender awareness, as well as a sense of what’s inside the body, and what it means to be sick or in good health, sad or happy. Awareness of self, as a worthwhile, competent, and good person, includes both moral judgements and meta-cognitive skills, i.e. an increasing ability to gauge one’s own mental abilities, both cognitively and affectively.

In this Part, we shall look at how 4–8-year-old children’s sexual and gender awareness, sense of self-worth, and views of their own competences, or meta-cognitive skills, evolve during early school years.

Again, each child grows at his own pace, so that development stages and ages are no more than indicative of general trends. What’s more, self-development is not a neutral area! Children live with people who hold their own views on what a good person, or a true self, should be. This makes for great variability in ideals, which in turn informs how adults support and constrain their children.

Us – Growing Together

Us - Relating to Others

Early school years mark huge progress in a child’s abilities to understand, communicate, and reflect upon matters that govern and motivate social relations. Children gain greater control over their emotions, an increased self-awareness, and they learn to put their feelings, intentions, desires, and beliefs at work to consolidate their social ties, while preserving their identity.

Between the ages of 4-8, a child’s ways of relating expand and become more flexible. They change according to whom the child deals with, when the interaction takes place, and under which circumstances. So, for example, a 5-year-old may want to boss around a younger sibling, whine with Grandma, and argue with her teacher. Yet, as she becomes aware that moods can change over time, and that ambiences come with their particular sets of constraints and permissions, she may choose to give a hug to her little brother, cajole Grandma, and tease the teacher. By the end of this period, around age 8, most children have become competent and reliable partners, and collaborators. They have learned to master some of the trade-offs that growing in connection involve. More important, they have learned that even failed attempts at relating can be repaired, or compensated for: one could call this “conservation of relations.”
A person’s emotions play a key role in how he relates to others. Emotions are like internal signals that prepare a person to cope with situations that, to him, are associated with fear, joy, or sadness. The problem with emotions, however, is that they take over, at least initially, forcing us to act in certain ways. Progressively however, the child learns to recognize and describe his own (and other people’s) emotions and starts to understand the behavioural consequences of certain emotional states. That’s when his initial urge to act out whatever he feels turns into a more mediated and flexible palette of possible responses that the child then taps into as a means to relate better with others. In other words, as the child becomes aware of his feelings and intentions (and those of others), he increases his ability to negotiate and cooperate. He monitors and communicates what he feels, intends, desires, and believes, to regulate his exchanges and dealings with others.

According to Erikson, a first developmental breakthrough occurs during the “play age”: from about 3 1/2 to age 5. During it, the growing child learns: (1) to imagine and to broaden her skills through active play of all sorts, including fantasy (2) to co-operate with others (3) to lead as well as to follow. That’s when the child enters a new phase of psycho-social development called initiative. Initiative adds to autonomy a quality of following through on tasks for the sake of “getting to know more.” While bringing about obvious benefits, initiative also comes with its share of new challenges. Following through on things can be risky and solitary. It is thus not by chance that initiative coincides with the emergence of the “play age.” Pretend and role play, both of which peak at this stage, offer safe ground to explore some of the consequences that taking initiative entail. In other words, when the child is ready, developmentally speaking, to take the risks of initiative, she first wants to explore those risks through joint make-believe activities.

Later during the school years, 6- to 8-year-old children become ready to embark on yet another of Erikson’s stages of psycho-social development: They become industrious, which has a decisive effect on school life and on the later entrance into the world of work. Without industry, according to Erikson, children may suffer from a sentiment of inferiority. Children at this age become excited by projects such as building forts, sewing, and cooking, and... the harder the better!

Let’s now look at how children, between the ages of 3 1/2 and 5, deal with the trade-offs that building initiative entail e.g., how do they face the risks of taking initiative while maintaining the benefits of being connected through consensual agreement? And as they become more involved in various endeavours and interests, let’s see how 6- to 8-year-olds become
industrious, how they keep their creative spark and playful spontaneity while following through on their self-set tasks in order to succeed.

The Feeling Peeling Game. To help children become aware of their feelings and, by the same token, understand how others feel, Smith’s “feeling peeling” game (five years up) remain a good inspiration. Again, the game can be played in dyads, or in groups (Smith 1982). As in the previous stage, the idea is to ask questions that encourage children to think about the causes and consequences of various emotions. Emotions to be “peeled” at this age include: happy, angry, affection, afraid, and sad, and also embarrassed, ashamed, guilty. Questions that can be asked include:

- What would you do when you are X? [e.g. afraid].
- What would you like to do when you are X.....
- What would you like other people to do for you when you are X....
- What are some of the things that give you an afraid feeling?
- How do you feel when someone is afraid of you?
- What feeling is difficult to tell other people about?

Note. This list is only a beginning of a large series of questions that may encourage children to explore their emotions and understand those of others. Imagine role-play scenarios in which can enact and play out some of the questions, taking on different roles. Put the same child in the role of the agent and the recipient.

In role playing games, always respect a child’s desire not to disclose how she or he feels, and make sure the children understand that there is nothing wrong with having “negative” feelings, or even wanting to act them out. Help them understand, beyond first impressions or reactions, some of the benefits of using one’s mind and heart to control initial drives.

US - UNDERSTANDING OTHERS

Early on, children tune into other people’s intentions, attitudes, and emotions, and as they grow older, they become increasingly aware of how they and others feel, act and think. They learn to understand and empathise with others, and to look at the world, including themselves, through their eyes. They learn to express, and reflect on different people’s inner feelings and mental states. In other words, children build their own theories of other people’s, and creatures’, minds: from what they feel and think to what they are capable of and driven by. (Astington, J., Harris, P., and Olson, D., 1988).
A child’s journey toward getting to know others, to understand what they want, feel, believe, and intend, is a lengthy one, which involves a two-fold ability: 1. to “de-centre,” or move away from oneself, and 2. to “re-centre,” or take on another’s view. The focus here is on how children, between the ages of 4 to 8, operate this shift away from themselves to build a sense of other (Schantz, 1975). It is worth noting that the apparently contradictory movements of getting to know oneself and moving away from self, toward other, are intricately related. Without self-control and self-awareness there can be no respect and understanding of others. Both competencies emerge and evolve together.

Early school years are marked by a growing ability to understand not just that other people may think and feel differently, but what it is they may feel and think! During these years, children become able to empathize and adopt different perspectives. They learn to negotiate, and make sense of, other people’s expectations and intentions. The seventh year also marks the beginnings of Piaget’s stage of concrete operations. The child is now able to think about events that were previously performed through physical actions, and mentally reverse the direction of action and thought. She also understands that thoughts are different from actions, and appearances different from reality. A child’s ability to put herself in other people’s shoes or to feel what they feel, has deep repercussions in how she relates to, and understands, others.

World – Making Sense of it All

World – Exploring and Investigating

Early school years are marked by a child’s expanding curiosity and mindful investigation. During this period, the child’s physical energy and intellectual vigour are at a peak and his natural exuberance is being channelled in the pursuit of many exciting, long lasting, and challenging projects. From a wonderer, one may say, the child becomes an explorer and experimenter. This, in turn, allows for many new wonders to pop-up, and be further explored. In this process, the child learns a great deal about himself and about the world in which she lives and grows.

Children between the ages of 4 and 8 face a multitude of new experiences outside the confines of their homes. Provided the passage happens felicitously, the child’s curiosity and eagerness to learn develops even further. Not surprisingly, this is also a time when children like to take charge. They become true experts at figuring things for themselves, and they excel at learning-by-doing.
Needless to say, there are differences between the manners of inquiry and worldviews of a four and an eight-year-old. Typically, four-year-olds base their judgements on direct action and perception. They proceed by intelligent trial and error, often focusing on one variable at a time when trying to get a handle on a complex situation. A four-year-old’s worldview remains essentially “egocentric,” and their thinking is magical and animistic. Eight-year-olds, in contrast, engage in directed and systematic experimentation, and are able to compose with multiple variables when making decisions. Eight-year-olds’ thinking is reversible (i.e., they can mentally reverse the direction of thought, and action), which, in turn, impacts the ways they conceive of such categories as time, space, and causation. Their take on things has become more “objective,” less egocentric.

The seventh year marks the big breakthrough with the beginnings of Piaget’s stage of concrete operations. The child now anticipates events that were previously acted out, and draws conclusions in her head. Besides reversibility, a benchmark of concrete operations is conservation: the understanding that objects or quantities remain the same—or invariant—despite a change in their physical appearance.

In the later section, we shall look at how children between the ages of 4 and 8 examine, understand, and reflect upon their actions, thus becoming increasingly good investigators and experimenters. Let us also look at how their worldviews evolve as they relentlessly try to figure out how things work through their hands-on exploration. More specifically, we shall look at children’s notion of time, causation, and space, as well as their abilities to conserve substance and quantities.

**World - Seeking Logic**

At first, a child’s logic is a logic-in-action, and the first categories that children establish are based on how objects, including people, resist or yield to their explorations. This section addresses how a child’s logical thinking, or “logico-mathematical” capabilities, evolves during his early school years. In other words, how does a 4- to 8-year-old child use what he has learned “in action” to bring some order and coherence into a world too bewildering and complex to be grasped? What forms of reasoning does he privilege at different ages?

As in the previous section, there are striking differences between the forms of reasoning, or logic, of most four-year-olds and those of most eight-year-olds. Typically, a four-year-old’s thinking is pre-operational (Piaget 1960a,
1960b, 1964), whereas eight-year-olds have acquired the ability to reason “logically.” They have reached the stage of what Piaget refers to as concrete operations (Piaget 1960a, 1960b, 1964). One of the characteristics of concrete operations, most relevant in this section, is reversibility: the ability to mentally reverse the direction of thought and action. So, for example, a 6-year-old will find it obvious (a “logical necessity,” in Piaget’s words) that if a number can be added to another it can also be subtracted, or that if an object moves from point A to B to C, then it should be able to return from C to B to A.

As the child begins to reason in ways that are reversible a whole structure of interrelated logico-mathematical capabilities, or operations, appears: The child now understands such relations as transitivity, inclusion, and identity, and she uses her newly acquired logico-mathematical power to infer many otherwise invisible patterns and rules, and to make logical deductions.

The transition from pre-operational thinking to concrete operational thinking occurs between the ages of six and seven, and is usually completed by the time the child is eight years old.

In the later section, we shall look into the lengthy journey that brings a child from pre-logical to logical thinking. We shall focus on how 4–8-year-olds come to understand basic mathematical ideas, such as quantification, elementary number theory, and their handling of logical operations, such as classifications and seriatims.

To explain the development of logic in the early school years, we refer mainly to Piaget, whose ideas about children’s thinking during early school years have revolutionized the field of psychology and education. To this day, Piaget’s contribution to how children think is unique and unsurpassed (Piaget 1960a, 1960b, 1964, Piaget and Inhelder, 1969).

Creations – Realising Visions

CREATIONS – IMAGINING
More than logic itself, imagination is one of the highest mental achievements of homo sapiens. It allows the emergence of new ideas and fosters innovation. To imagine something new requires that one grab a hold of what could be instead of merely representing what is. It requires that one picture what’s not.
Not surprisingly, then, it takes the emergence of what psychologists call “the symbolic function,” around the age of 2 for children to be able to imagine alternatives in their heads. Only then, coinciding with the emergence of speech and thinking, will children start to evoke and revisit past experiences or events and, more to the point, add a new twist or change the ending in some way. Imagination proper sets in when, beyond merely creating variations in the absence of a model, the child starts to produce fictional scenes and invents scenarios that don’t exist.

Early manifestations of human imagination can be seen in a child’s fantasy or pretend play, as well as in her willingness to invent and converse with imaginary companions. They appear in her budding sense of humour and abilities to tease and joke. Humour can be thought of as a subset of make-believe and play (McGhee, 1984): an intellectual play with ideas or words, based upon appreciation of logical displacements and incongruities. What characterizes all of the above activities is suspension of disbelief rather than a quest for truth.

At the beginning of early school years (between the ages of 4 and 6), a child’s imagination tends to run wild, while, at the same time, becoming ever more sophisticated as she perfects her abilities to incorporate other people in his pretend play, sharpens his sense of humour, and cultivates his ways of teasing. Towards the end of the period (between the ages of 6 and 8), the child’s imagination adapts itself to fit the purpose of specific endeavours. Many factors contribute to this “domestication” of early childhood imagination, not the least of which is children’s own desire, as they grow older, to put their wildest thoughts at the service of realisable undertakings. School too often contributes to the trimming of imagination if children’s creative impulse is downplayed to the benefit of her rational mind.

As they reach their eighth birthday, most children now use fiction, pretence, and jokes to acquaint themselves with otherwise hidden thoughts, and to release emotional tensions without hurting the feelings of others. The child’s imagination is now more directed and ruled: Her abilities to fantasize and pretend become more “civilized,” her mental exuberance contained, and her abilities to play with words and incongruities less idiosyncratic. This being said, her capacity to imagine will prevail throughout adult life.

In the next section, we shall look into the development of a 4- to 8-year-old child’s creative thinking through the lens of her pretend play as well as her ability to produce and appreciate jokes, word puns, and other poetic “incongruities.”
ACKNOWLEDGEMENTS
The main sources for Creations in this Part are:

CREATIONS – ENACTING AND CREATING
Children not only make up things in their heads, or fantasize; they also make things, or give form, or expression, to their inner most feelings and ideas. In other words, children bring to life their fantasies to make their dreams come true! Children speak their minds in many ways, and they use a variety of media: children speak in gestures and in voice, in pictures and in words, picking whichever medium conveys their ideas the best. Children also combine several media within a single production.

Through their personal and collective creations, children, like artists, bring imagination into being…and they do so by design! Unlike scientists, a child’s creative expression is less about building models and representations of existing realities, so-called objective truths, than it is about exploring possibilities, often possibilities within i.e., re-digesting or reverberating deeply felt human experience. While both the artist and the scientist seek to capture deep hidden truths, the first uses language to inspire and evoke, and the second to analyze and validate. In other words, creative expression is the visible face of imagination at work!

This section speaks to the importance of creative expression as a source of a child’s personal and intellectual growth. Of particular interest here is the exciting and lengthy path that brings early school-age children to becoming literate in the sense of becoming acquainted with, and fluent in, the usage of available cultural tools as means of self-expression. We purposely define literacy in the broadest possible sense to mean the ability to make and derive meaning in any symbolic, expressive, or artistic medium.

Children are born into a world of signs, symbols and human-made artefacts. Before long they appropriate these tools and they start making their own original contributions. From speech to writing, from drawing to playing the flute, from taking a picture to building a sand castle, children learn to say it, to freeze it, and to refine and edit their expressions. They do so across media and within the constraints proper to each medium. Most important, children
know how to use the progress they make in one language as a lever to enrich their expressiveness in other languages or media.

As they reach their fourth birthday, children usually speak, gesture, and they learn to draw and write. At this age, children also start to “read,” i.e. make sense of other people’s traces and scribbles. Again, as soon as they talk, they become interested in writing and reading. As they sing and listen to music, they like to record rhythms and sounds, and to “draw” the noises and rhythms they hear on a sheet of paper. Later in their lives, our creative youngsters will continue express themselves creatively through drama, poetry, painting, literature, design, and music, to name just a few possibilities.

Let us look at how early school-age children learn to express themselves creatively, using “a hundred languages” (Malaguzzi, 1987), and how they become literate in the broad sense defined above. The ages below are indicative of general developmental trends. Especially when it comes to literacy, the ages at which children are expected to master the conventions of written language vary a great deal, not only among individuals but among different countries or cultures as well.
Part 4.:

Early School Years by Age Year

4-5 Years

Me – Being Me

Me - Using My Body

Kick the Ball & Keep the Beat! Four- to five-year-olds are vigorous and energetic: They love to play and, when given a chance, they become exuberant and “go wild.” At the same time, children of this age also spend hours channelling their energy—i.e., perfecting their physical-motoric abilities—by getting a better handle on all kinds of objects, such as balls, bikes, swings, or seesaws. Like their younger counterparts, 4–5-year-olds still spend hours on the playground, using swings, slides, and climbing-structures. Yet, unlike younger children, they have become amazingly skilled and autonomous users.

Four- to five-year-olds like to keep in the flow (and in the beat) of things, through dance and rhythm, and they learn to synchronize their body movements and positions with that of others, using visual clues. They march at a drumbeat, and play musical chairs, or “statues” (a person takes a position, and other imitate). When playing ball, they work hard at refining their kicking and catching techniques, and they become truly expert tricycle riders.

As mentioned before, activities like kicking a ball or riding a bike are not just a matter of gross-motor skills. They also involve a great deal of dexterity, a strong, secure grip, a focused attention, and body awareness, as well as a good sense of rhythm and balance.

Competencies:

What does the 4-5 year-old naturally strive to learn?

The main areas of change, between the ages of 4 and 5 are an improved sense of balance (both static and dynamic), as well as an increased perceptual-motor integration i.e. being able to produce or imitate a gesture one sees someone else doing (sometimes referred to as eye-hand coordination), a greater body awareness (i.e. body concept, laterality or right-left discrimination, and
directionality), and temporal-perceptual awareness, or sense of time and rhythm.

All these areas come into play as the child exercises, and refine his skills. All contribute to optimize the performances. As an example, when playing ball, 4-5 years become quite adept at throwing and catching, and when throwing, they turn the non-dominant shoulder toward the target and steps with opposition as they throw. They catch the ball away from the body, in the hands with palms facing each other (Anselmo and Franz, 1995. p. 384). And when playing inside the house, 4–5-year-olds like to scribble, draw, cut, and glue. They still use broad movements with their fingers, arms, and hands. Yet, they produce recognizable shapes in their drawings, which they love to present as gifts to family members.

**Manifestation:**

*What actions will the child do to attain the competencies?*

Four- to five-year-olds can walk heel-to-toe for four or more steps along a line and stand on one foot for five seconds. On the playground, they can get themselves started on swings, walk on a beam, climb ladders and slide down slides, without assistance. And since moms and dads are less needed on the playground, they spend more time playing with other children.

At this age, children also become eager and skilled tricycle riders. Their hopping, jumping, and kicking skills improve. Walking downstairs is now mastered, without the help of an adult. Four- to five-year-olds eat much more neatly than 3-year-olds. They start using a fork, spoon, and, if allowed, a knife. They can carry a cup filled with water from the kitchen sink to the table, without spilling. As they approach their 5th birthday, most children are able to dress themselves. They put on their socks, and open and close buttons and zippers.

In kindergarten, 4–5-year-olds like to engage in all kinds of arts-and-crafts activities: They cut and fold paper; glue pieces together, hammer pegs into holes, draw and scribble, and assemble puzzles. They also like to bake, to make clay figures, and to build sand castles. All these activities greatly facilitate a child’s eye-hand coordination.

Four year-old children learn about the left and right sides of their bodies (laterality), and about the body’s position and heading (directionality and orientation). Yet, many children of this age still have difficulties with tasks that require left-right discriminations.
SUPPORT:
What can caregivers do to support this natural development?

Let your kid play, and play with her. Play ball: You can now use smaller light soccer-sized balls. Draw and paint: Finger paints are great at this age. Dance with her. She loves to march in a parade. Play music, she enjoys beats and rhythms. Go for walks, to the pool, to the playground. Indoors, let your child play with age-appropriate puzzles, and offer her a big box of blocks with which to build models and castles.

If you are an educator, don’t drill! Movement, balance, and rhythm can be explored through play. Invite children to discover for themselves the ways they want to move and stretch, and how far they want to “push” themselves. Remember: “our bodies move in space, in time, with force, and with flow (...) There is never a wrong move, but certain moves feel better” (Gilliom, 1970. p. 6).

Educators may imagine activities to broaden the palette of movements made available to the children (Gilliom, 1970. p. 6). Gilliom proposes four dimensions to be considered by parents and educators.

1. Where to move (space), which involves an understanding of self-space.
2. What to move (body awareness), which requires awareness of body parts and relations between body / objects to be manoeuvred / space.
3. How to move? (force, balance). Involves creating / absorbing force (gravity), transferring force (rocking, rolling, sliding) and transferring weight (step on beams).
4. How to move in a smoother way (time, flow). Involves changing rhythm, speed, pulse, and beat, and feel what it does.

For each dimension, many fun activities can be imagined (for inspiration, see movement chart in Gilliom, 1970. p.8., and Anselmo and Franz, 1995. p. 388). In all these activities, caregivers assume a role as play partners. If done in a joyful way, this will lay the foundation for a child’s positive self-concept and pleasant feelings toward such activities.

ME – KNOWING MYSELF
Introspective Fours: Building an Inner Sense of Self. The fifth year marks a new phase in a child’s growing sense of self. Three main areas of progress include: a budding sense of self-esteem, or self-worth; an early form of meta-cognitive awareness, or self-knowledge; and the ability to distinguish between mind and body, when speaking about self and others.
Four year-olds develop an early sense of self beyond mere physical attributes, observable acts, and concrete events. In other words, they overcome earlier forms of “trivial behaviourism” by disentangling some of the intricacies between what a person does, shows, or says in terms of her behaviour or appearance, and what she thinks, feels, or intends. This, not surprisingly, leads to new forms self-evaluation and self-knowledge, as well as new forms of moral “judgements”. While paying closer attention to the “hidden” aspects of self, 4-5 years old children still have problems with egocentrism, and they do not always recognize that a person’s inner states, thoughts, intentions or feelings, can or should be different from their outer expression (Selman, 1980).

Four- to five-year-old children’s body awareness and self-concept are partly expressed in, and informed by, their understanding of sexuality, gender, as well as by their views of what’s inside their body, and what makes a person ill or well, sad or happy, and bad or good.

As they reach their 5th birthday, most children have developed a fairly accurate sense of who they are and what they think they are able (or unable) to do. This type of self-knowledge includes what are commonly called meta-cognitive skills — an important component of more advanced reflection, learning, and introspection.

**COMPETENCIES:**

*What does the 4-5-year-old naturally strive to learn?*

Like the “curious threes”, 4-5-year-old children still wonder: ‘Who am I? Where do I come from? Where do I go?’ They also still puzzle over how babies are made, what’s in their bodies, why people die, and what will become of them after death. Yet, as they try to make sense of these questions, 4-5-year-olds develop their own views and attitudes about their origins, well-being or health, and their strengths and weaknesses as persons, and as learners.

Most significant at this age, a person’s self begins to be seen as a mix of action and intents, involving both body and mind. So, for example, 4-5-year-old children not only understand themselves as being a boy or a girl, tall or short, or blond or brown, but they begin to develop a sense who they are, as persons, beyond being gendered, sized, or coloured.

A 4-5-year-old’s grasp of what happens inside her body and what it means to be healthy or sick are still rather mechanical and animistic. So for example, children can tell you where their brain, heart or stomach are located, yet...
each organ still has a single function, and the inter-relations between them remain unclear. A nice example by Selman shows that, at this age, children “often report that their mouths tell their hand what to do or that their ideas come from their tongues” (Selman, 1980. p.176).

When sick, 4–5-year-olds tend to blame either outside events (external causes), or themselves, i.e. their bad behaviour (immanent justice). Their views of how they came to be remain animistic or mechanical: either babies are made, like dolls on an assembly line, or, if told that babies grow in mom’s belly, 4-5-year-olds will assign human-like qualities to the sperm/or egg (Bernstein and Cowan, 1981). They will imagine all those tiny little people inside mom’s belly, helping to make the baby and bring it out.

MANIFESTATION:
What actions will the child do to attain these competencies?

Four- to five-year old children’s awareness of self transcends physical appearances (pretty, small, girl, boy) to include “mindsets” (witty, nice, girly, boyish), and the child starts to distinguish between feelings and actions. He understands that while certain emotional reactions may be unwanted and hard to control, our actions in reaction to inner emotions can, and maybe should, be controlled. He doesn’t always understand why controlling impulses may be a good thing beyond “Mom won’t like it” or “it could make things worse”. But, that’s a start!

Four-year-olds’ conceptions of sickness, contagion, and causes of death are still “magico-phenomenist”, to use Piaget’s term. While many four-year-olds understand that sickness occurs through contagion, and contagion through proximity, proximity itself remains this magical thing...some mystical, bad influence.

Four- to five-year-olds begin to develop a sense of fair play and are aware of rules, although at this age, they may change them. They like board games where there are rules. They like to be challenged, but at this age, they do not always handle competition well.

SUPPORT:
What can caregivers do to support this natural development?

Help your child distinguish between feelings and actions, as well as between actions and consequences. If your child is angry, or wants to hit her little
brother, encourage her to tell what’s wrong. Help her work out unspeakable feelings through play. Soon enough, she will understand that getting upset and acting impulsively can be separated and that sometimes it is worth doing so.

Help your child accept his physical characteristics as well as his similarities to, and differences from, others. In this regard, games like “me and my shadow” and “body drawings” are still relevant at this age (projection of kids’ shadows against a wall, and asking kids to draw contours of their bodies on big sheets of paper). Yet, at this age, expand the game by telling stories about different people’s ways of being, or better, have the children tell their stories, as a way to focus on psychological diversity, and moral issues.

While acknowledging diversity in ways of being, and of relating, avoid gender or racial stereotyping. Help your child understand that people come in many shades and shapes, that diversity is rich, and that good and bad are colour blind.

A four-year-old’s sex education comes in response to questions about how babies are born, and where she was before she was born. While straightforward answers are welcome, there is no need to go into any more anatomical details than the child asks for.

Us – Growing Together

US - RELATING TO OTHERS
Play and Initiative - Learning to do... and let do! According to Erikson, as soon as basic trust is established, a child becomes ready and eager to discover the thrills and threats of autonomy. And as autonomy sets in, most 3–4-year-olds become very energetic, curious, and eager to participate in virtually any activity. This is when pre-schoolers start to ask a hundred questions. This is also when they embark on Erikson’s next socio-psychological stage, which he referred to as building initiative.

Erikson’s theory of psycho-social development states that, starting at age 3 1/2 and up to age 5, children are faced with a new challenge. In his words, they learn to take initiative, or they will suffer the effects of guilt! As mentioned before, initiative adds to autonomy a quality of taking on tasks for the mere pleasure of “following through on things” and “seeing where it takes us” that, in Erikson’s eyes, needs to be nurtured.
Children’s sense of initiative is validated when adults respect and encourage their interests, and when they genuinely respond to, and encourage, the child to pursue their frequent questions, and try things out for themselves. If initiative is not encouraged, children may ultimately lose their willingness and ability to do what it takes to realise their own dreams. They shy off from the healthy quest for achievement, or realisation, in future endeavours.

**COMPETENCIES:**

*What does the 4-year-old naturally strive to learn?*

Four-year-olds are vigorous, imaginative, and playful. They are eager to learn, play, and work with others. They listen to their teachers, and they participate in conversations. They are curious and easily engaged in the excitements of new undertakings. Their initiative extends to include social relations with adults outside the family and with other children.

Four-year-olds have become pretty good at controlling their emotions, and are increasingly aware of basic human feelings, such as sadness and anger. They can recognize and describe feelings associated with liking, surprise, disgust, boredom, loneliness, and curiosity. Children, at this age, also start to understand the connections between emotions and social behaviour, and inner thoughts, feelings or intents, their expression, and consequences on others.

Four-year-olds like to engage in pretend play with peers. They participate in group play, and they form privileged relations with individual friends. They become better at sharing, at losing in competitive situations, and at negotiating interactions with others. They show less frustration around play equipment and toys, and they are more patient when they have to wait their turn. This being said, the lengthy path that leads a child to gracefully manage her emotions and feelings in social transactions is only starts at this age.

**MANIFESTATION:**

*What actions will the child do to attain these competencies?*

Four-year-olds are usually very sociable, both in play situations and in everyday activities: They like to please and are friendly to adults and peers. They begin to show empathy, and talk about their feelings. Four-year-olds participate in conversations and care to be listened to. They like to be taken seriously. They become better at negotiating peer-conflicts and can follow simple rules.
Four-year-olds have a wide range of “ways of being” at their disposal, which they use according to circumstances: They cajole and cuddle, but they also tease and persuade. In their play, they negotiate ever more complicated plots, and they cooperate and help each other. This being said, they may still boss around younger siblings, or try to get their way through whining and screaming.

Many children of this age begin to enjoy “follow the leader” games. They play catch with each other, and some start collecting items and sharing those items, or swapping them. They begin to play board games, in which they learn to take turns and cooperate.

**SUPPORT:**

*What can caregivers do to support this natural development?*

Four-year-olds are full of life. Yet, unbridled energy and exuberance can sometime result in negative feelings, destructive acts, and manipulation. That’s when adults can come in handy to help them channel their surplus of energy in positive ways. And the best ways to help is to do so non-intrusively. So if your 4-year-old withdraws, fears something that can’t possibly harm him, or goes overboard and starts harming others, make sure you guide him in ways that do not squash his initiative but rather channel it in more positive ways. Don’t just say “No.” Say, “If you wish to do that, here is a way you can do it safely or non-destructively.”

For example, if your child climbs on the dinner table, which genuinely annoys you, don’t hesitate to tell her, “This place is for eating, not for climbing.” Offer her alternatives: “You can either sit here and draw or have a snack, or you go climb outside in the yard.” You can also give your child time for a graceful closure: “You may climb down from the table yourself. Take your time. But no climbing up again, after that!”

Four-year-olds like to be taken seriously. Create scenarios around cooking, or fixing things, where the child can play with these objects and pretend to be the competent person who saves the day! Children love to be helpful, and if they can’t always participate and help out in real activities, fantasy activities may be almost as thrilling and fulfilling.

Object-mediated turn-taking games, such as playing ball, as well as symbolic (or fantasy) turn taking, such as role-play, “follow the leader” games (in which the roles get switched) are much appreciated at this age. Through
playing ball, children learn the benefits of sharing, and taking turns. Through role and pretend play, children explore how it feels to be another character, and learn how to negotiate rules to play “fair” in many intriguing social scenarios.

**Us - Understanding Others**

Putting on Different Hats. In their fifth year, children begin to understand that other people may feel and think differently than they do, and they become able, at least in concrete situations, such as joint pretend and role play, to shift position, in their mind, between their own and other people’s views, or perspectives. “The ability to imagine being another person with intentions and feelings that are different from one’s own is surely important evidence for children’s growing understanding of others—evidence that parallels the signs of children’s abilities to deceive” (Dunn, 1991, p. 105).

At this age, children “do not (just) understand an emotional state, such as sadness or shame, simply by focussing on the way that the emotion is expressed, nor by noting the diverse situations that provoke an emotions. Rather, they identify the mental perspective that someone adopts with respect to those various situations (Harris, 1989. p 81). The child interprets another person’s ways of being as a coherent set of feelings, intentions, desires, beliefs, and thoughts that transcend specific contexts.

**Competencies:**

*What does the 4-year-old naturally strive to learn?*

As they reach their fourth birthday, most children pretty much know what other people expect from them, and they can communicate what they want. Starting in the middle of the fourth year, however, a whole new range of abilities emerges. Children learn to influence others using persuasion, deception, or humour. They can take on multiple roles or voices, at least in their play, and they learn that a person’s interests, beliefs, and intentions can change over time and according to circumstances, while, at the same time, maintaining a consistency or integrity over time.

“From three years onwards, the child can attribute to others thoughts and feelings that are different to her own. This is an important intellectual and conceptual leap.” (Karmiloff-Smith 1994, p. 224). And starting at age 4, there is yet another leap, which Astington qualifies as a true watershed leading to a whole new range of abilities (Astoning, 1991, p. 159). So, for example, when speaking of themselves, and others, 4-5 year-old spontaneously refer
to a whole array of inner feelings, such as sadness, happiness, pride, guilt and shame, and they evoke mental states and capabilities, such as believing, knowing, remembering, and forgetting.

In Astington’s view, there are many experimental tasks that 3-year-olds cannot do and that 4 and 5-year-olds can do (Astington, 1991, p. 159). The tasks Astington refers to involve the understanding of another person’s false beliefs, and the ability to distinguish between appearance and reality.

While many researchers in the theories of mind tradition claim a major breakthrough takes place at the age of 4, many 4-year-olds still have difficulties in attributing false beliefs to others, and/or to distinguish between appearance and reality. In the light of this, the so-called “false belief” experiments are discussed in the next section (5-6 years).

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

In their pretend play, 4-year-olds engage in elaborate talk about who’s being/doing what, and how each player should act, and what they should say and do, in order to respect the personal traits of the character, or part. Children also invent many complex scenarios. Multiple characters are used. More feelings are expressed in their play.

Four-year-olds begin to recognize the nuances of complex social emotions, like sadness, joy, loneliness, embarrassment, shame, or guilt. So, for example, a 4-year-old may describe sadness as “there are tears in your heart”. In their narratives, children begin to address the social or personal causes and behavioural consequences of a person’s inner feelings (Dunn, Brown, Beardsall, 1990). More impressive, as they reach their fifth birthday, many children begin to grasp that people may have mixed feeling about things (Harris, 1989). They now show genuine remorse when they hurt or offend others, entailing again that they can feel what others are feeling.

In general, at this age, children become better at sharing, cooperating, and helping each other. They play follow-the-leader types of games. They begin to play board games where they need to take turns and cooperate. All this requires an accurate understanding of other people’s mindsets.

**SUPPORT:**

*What can caregivers do to support this natural development?*
Show empathy for your child, and he will learn to empathise with you and others. You may encourage a 4-year-old to help care for pets, or even take care of a younger sibling, with supervision, of course. Four-year-olds love being trusted to care for others after they have shown they know how to be gentle.

Let your child to play with other children. And, every now and then, be a part in your child’s pretend and role-playing activity (if invited to do so!). This will help her feel how different people, of different ages and walks of life, negotiate play. Help her express her feelings through play, and imagine scenarios in which the child is encouraged to take on multiple roles and voices, i.e. switch role, say from mama to baby, from big bad bully to poor little puppy. This is important to help a child “feel for” what others may feel. Pretend play offers a safe terrain for such explorations.

Four-year-olds love to listen to stories and they start to pretend-read and write. Show them, tell them and let them show-and-tell. Play verbal variants of peek-a-boo, ‘Ride-a-Cock-Horse’, ‘This-is-the-Way-the-Ladies-Ride’. If your child shows interest, try board games, where he learns to take turns and cooperate. Help him be a good loser and respect players who may do better than him. In short, encourage any activities that help your child de-centre (i.e. see his partner’s point of view) while not giving up his stance. Both are needed to understand other.

World – Making Sense of it All

**World – Exploring and Investigating**
From Wonders to Inquiries. Four-year-olds are curious about how things work and about how people act and behave. They wonder about the passage of time and about how things change over time. They puzzle about how the trajectories of moving objects are coordinated in time and space. Four year-olds hold their own views of how things come about and impact one another, and of why things look/act the way they do. They develop their own intuitions about how people differ from things, and how people and things originate, grow, age or erode, and dissipate.

Children at this age like to discover things for themselves and to figure things out through hands-on experimentation. Some children will spend hours taking objects apart and putting them back together. Others may hesitate to break things apart but will vary their ways of interacting with things as a
way to discover how they react. Others like to re-configure a same object, or collection of objects, so that it serves many purposes. In all cases, initial forms of trial and error (messing about) lead the way to more directed forms of exploration (finding out).

In this process, the child learns a great deal about the world. Four-year-olds have their own views of what causes things to happen, in which order, and why. They develop their own intuitions about how things, or people, evolve over time (also called “diachronic thinking”) and how they move about in and configure space (referred to in the literature as topological and geometric relations). These views, we shall see, remain essentially “egocentric.”

**Competencies:**

*What does a 4-year-old naturally strive to learn?*

Four-year-olds like to take on tough tasks, and they now pursue their interests, even when interrupted, over fairly long periods of time. They like to be taken seriously in their attempts. This striving for initiative is synonymous with going at things hands on and heads in, which serves them well in many respects. Four-year-olds excel in the art of intelligent “messing about,” which is none other than their own privileged means to figuring out how things work.

A child’s understanding of causality increases a great deal during this period, as she now predicts outcomes of actions before they occur. At the same time, her conceptions of how things come about and impact one another are still animistic. The child endows many things, especially things that move funnily, with people-like qualities, and her outlook is more “magical” than “logical.” So, for example, four-year-olds may explain the origin of lakes as being caused by a giant who made big holes with his footsteps, which were then filled by the rain.

**Manifestation:**

*What actions will the child do to attain these competencies?*

Four-year-old children are curious and eager to learn: They ask a hundred questions that leave many adults perplexed: “Where does the sun go at night? Where does the moon go during the day? What makes the rain? How do airplanes fly?” More than 3-year-olds, children of this age like to find their own answers to why things work the way they do. Their favoured technique to achieve this is directed exploration.
Four-year-olds are pretty aware of the present time and they can tell you about the past. The future is still hard to comprehend. Most 4-year-olds have trouble gauging how long an incident lasts. They tend either to over- or underestimate time.

While most 4-year-olds have a fairly good sense of size relationships, many still think that the tallest person in a group ought to be the oldest or, more impressive, the taller the older.

Probably because they still ‘animate’ things in their minds, many 4-year-olds still have ‘irrational’ fears, such as fear of the dark, of monsters, and of masks, even if they know the monsters don’t exist and the masks hide mom’s face. Such fears lessen as children enter the elementary school years (Bauer, 1976).

SUPPORT:
What can caregivers do to support this natural development?

It is important, at this age, to take your child’s hundred questions seriously, no matter how difficult the answers! Even more important is to encourage his initiative. Enjoy your child’s eagerness to experiment and try out things, and appreciate his ability to come up with many clever explanations to the most obscure philosophical queries.

Three rules of thumb at this age are: 1) Respond to your child’s questions, yet don’t impose your adult take on things, 2) Don’t get caught up in drilling your child to become ready for school. At this age, the best way to prepare a child for school, and life, is to support her initiative. 3) ‘Teach her that it’s worth taking the time, and making the detours, needed to pursue her interests. So, for example, if the child gets discouraged or repeatedly avoids obstacles, renew her interest by suggesting an exciting next step, or surprise her by taking an unusual stance on things that intrigue her.

WORLD - SEEKING LOGIC
“One, Two, Three ... A Lot”. Four-year-olds draw many lessons from their experience. Some are about the world, others are about the “logic” that drives the world, and still others about people’s actions on the world. Children detect regularities and they make inferences. They generalize and they schematize. They infer laws and they establish rules. While acting in the world, in other words, children soon transcend both action and object
to focus on their underlying relations. What matters are the “invisible” relations, patterns and gestalts, and the forms, both static and dynamic, that keep singular elements in a certain relation.

Four-year-old children build their own mental model, or knowledge structure that brings order and coherence to their understanding of things. This being said, the pre-operational categories that 4-year-old children establish are still empirical rather than logical, i.e. based on how objects, including people, resist or yield to their solicitations.

**Competencies:**

*What does the 4-5 year-old naturally strive to learn?*

Four-year-olds are curious and explorative. Most children take on a very “hands-on” approach, yet, they also gauge the consequences of their actions in the light of what they expected, or hoped for. In other words, they put their “heads in” as they mess about with their hands.

While they think things through, in action, children also learn to think logically—even if, at this age, the child is still in the re-operational stage. So, for example, a 4-year-old may group and nest things according to similarities and differences (“These two belong together; this one is a part/member of that”), or they may order things (“I’ll put them from small to big”). The child also infers many unseen relationships, she predicts outcomes, and she generalizes from single cases. Logic proper (or logical necessity) sets in as soon as the child can say: “It has to be that way.” In general, the idea that things ought to occur in a certain way by necessity is at the heart of a person’s logical thinking—even if that person’s “logic” is still pre-logical!

**Manifestation:**

*What actions will the child do to attain the competencies?*

Four-year-olds understand relative amounts such as “more, less, bigger, smaller, shorter, taller, fatter, thinner, older, younger.” They also use adjectives such as big/little, few/many. They start to count, and they classify and order objects accordingly. Consistent with these descriptions, a 4-year-old will cluster small elements, middle ones, and big ones when asked to build a staircase out of sticks of different sizes (when the differences are not immediately perceptible and require measurement or one-to-one correspondence).
Children at this age may “count” from 1 to 10 in a rote fashion but do not yet understand what numbers stand for. They mostly use numerals to name things instead of counting proper.

Children at this age like games of order and disorder. They can find missing objects in a picture and they can categorize or group things by matching elements by size, shape, colour, or quantity. They tend to concentrate on details and miss the whole.

**SUPPORT:**

*What can caregivers do to support this natural development?*

Adults often mistake their young children’s “counting’ [“1,2,3,4,…10”] for knowledge about numbers when in reality the children recite a number sequence in much the same way as they sing a little song. Conversely, adults may think that their 4-year-olds are just playing when they persist in building-and-undoing towers, in placing elements in and out of containers, or in putting together things that, in the child’s view, “belong together.”

One important rule of thumb, in trying to introduce young children to math, or logic, is this: Allow for playful explorations of “math beyond counting” and of “logic beyond formulas.” One way of doing this is to let children play with materials that embody deep mathematical or logical ideas. For example, in their play with construction materials, such as LEGO bricks, children perform many informal investigations involving mathematical ideas. They stack unit bricks to a particular height, extend them for a certain length, and determine just the right size brick to use in a particular place. They learn that some bricks are half the size of others, and more.

**Creations – Realising Visions**

**CREATIONS – IMAGINING**

Serious Play. Make-believe activities and humour are two privileged windows into a child’s creative mind. This and the next year mark the high seasons of pretend and fantasy play, as well as of Stage 3 humour, as defined by McGhee.

In their pretend play, children of this age incorporate many situations and relationships that they have observed, changing habitual outcomes, and playing out “ideal variations,” often to their benefit. To do so, 4-year-olds
stage and enact elaborate plots, change voices according to character, and assume different roles. This being said, a 4-year-old’s pretend scenarios are often pretty close to everyday activities: 4-year-olds love to play grocery store, or restaurant, or pretend they are going to the doctor or dentist.

Four-year-olds’ sense of humour becomes more verbal, though physical and visual humour are still funny. While Stage 3 humour sets in, 4-year-olds still enjoy earlier forms of humour. According to McGhee, four-year-old children begin to appreciate what he calls “conceptual incongruities,” a form of humour where language is used to alter the defining features of a concept (McGhee, 1984). The use of incorrect words, like calling a mouth an eye or a car an airplane, or inverting sex roles, (e.g. boys dress as girls), remains funny even to a 4-year-old. Understandably, a four-year-old has only recently sorted out gender identity, and thus this sort of play may be a way to play with this new understanding, to turn it over and fool around with it.

**COMPETENCIES:**

**What does the 4-year-old naturally strive to learn?**

Children of this age generally engage in make-believe as a means to become acquainted with, and take possession of, everyday situations, which may or may not be scary or threatening, or just confusing. Their play reveals how closely they have been observing adult behaviour and they may add a new twist as well!

Beyond using pretence to explore and work out many puzzling aspects of everyday life, some children, at this age, also start inventing fantasy worlds and creatures, and playing monsters and princesses in wonderland, although this trend will more fully evolve in the sixth year.

According to McGhee, a four-year-old cannot understand most puns or the double meanings in riddles (due to their linguistic complexity), but they can appreciate the humorous resolutions in simple cartoons. Incongruous drawings or pictures (an elephant in a tree, a bicycle with square wheels) are also considered humorous at this stage (McGhee 1979, pp. 74–75).

**MANIFESTATION:**

**What actions will the child do to attain the competencies?**

Because of their flourishing fantasy life, children of this age make up all kinds of marvels in their head. Yet, they are often prone to nightmares. Likewise, children may play monsters and know that monsters don’t “really” exist, but
they may still be afraid if a friend wears a scary mask. These fears tend to diminish as the child reaches his sixth birthday.

In children’s pretend play, dolls and stuffed animals now engage in lengthy dialogues, and the children themselves use language, in addition to gestures, as a central component of their play. This not only advances and extends their language skills but also allows them to play with language itself through the use of rhyme and/or nonsense words.

Children at this age find it hilarious when people change roles, and especially when they take on roles that don’t “fit” them. They giggle as the “actor” plays out her awkward personae. In addition to silly acts, they also love silly drawings, and silly word games.

**SUPPORT:**

*What can care-givers do to support this natural development?*

Don’t underestimate the importance of make-believe activities in young children’s learning. They are a child’s way of handling puzzling situations, both affective and cognitive. Thinking creatively, or “out of the box,” helps transcend habitual ways of doing things.

A word of precaution: while some form of displacement is always present in pretence, teasing, and joking, incongruity alone won’t suffice to create enjoyment. Incongruity may just as well generate interest, fear, amusement or confusion, depending upon context. This is why a safe and relaxed atmosphere, as well as clear “play signals,” is essential to communicate to a child: ‘It’s OK, we are in play mode’. Only in a safe atmosphere will a child be happy to explore, play out, and work through risky or puzzling situations through pretend play.

A rule of thumb: let the children play, and play with them if invited. Play genuinely, and not didactically. Use words and gestures to negotiate who is who in the pretend world, to which children will happily respond, if ready or willing. Provide engaging “starters”, like “Let’s pretend I’m the baby and you are the mama. And now...let’s pretend “I am a baby cat...meow, meow...and you a big lion... and now the lion gets really hungry....”

**CREATIONS – ENACTING AND CREATING**

From Scribbles to Meaning: What did I write? Five-year-olds speak their mind in a hundred languages. They do so in words, gestures, and through
enactments: They perform, sing, and dance. They dress up and act out. They pretend and role-play. At the same time, as their verbal and acting skills improve, five-year-olds also like to capture, or freeze, otherwise fleeting events, such as music, movement or rhythm, through drawing and early forms of writing (often pretend writing) and they become obsessed with making sense of the signs and scribbles produced by others. In sum, children start to read before they know how to decipher, and they scribble before they write and draw. The same goes for music and musical notation.

As mentioned before, children are born into a world of signs, symbols and human-made artefacts. Before they reach their 5th birthday, most early school-age children have become eager and ready, developmentally speaking, to appropriate these tools and start making their own original contributions.

COMPETENCIES:
What does the 4-year-old naturally strive to learn?

Four-year-old children are decent narrators and eager notators - both of these competencies evolve side by side. Besides playing (pretend-play is still thriving at this age), five-year-olds like to engage in conversations, and they spend much more time drawing, reading, and writing. Moreover, they are deeply interested in what their drawings mean!

In their written productions, four-year-olds enter a new stage, called “the naming of scribbling stage” (Brittain, 1979), during which the child may not initiate a drawing (or scribbling) with a particular intent in mind, yet his work takes on meaning as he moves along.

As the child gets closer to her fifth birthday, she progresses toward what’s referred to as the “early representational stage” of drawing (Brittain, 1979). “Objects and people appear in her drawings in what seem to be shorthand representations, that is as symbols rather than as portrayals of the way she actually sees them” (Anselmo and Franz, 1995. p. 391).

The writings of a five-year-old mostly consist of curly, curvy lines that mock writing. A “simulacrum” of adult writing, these early forms of pretend writings are no more than loosely connected strings of scribbles. However, studies by Ferreiro and Teberosky show that these “writings before the letter” are, in fact, rather principled, at least to the experts who know how to interpret them, integrating many features that, in the child’s view, characterise the
world of letters, words, sentences, and paragraphs (Ferreiro and Teberosky, 1982).

**Manifestation:**

*What actions will the child do to attain the competencies?*

Children at this age like to play-act and to dress up in costumes. They enjoy singing and dancing as a way of expressing their feelings, and their play-acts become more choreographed as time goes on. The children talk both within and about their play, and their plots get more sophisticated.

Besides play-acting, or performing, the 4-year-old also indulges in drawing, playful scribbles, and pretend-writing. Four-year-olds love to write shopping lists or send letters to friends. Noting that a child’s “writing,” at this age, becomes clearly differentiated from drawing and other forms of notations (e.g., writing numbers, or musical notations), or inscriptions (e.g., copying geometric forms or patterns). This does not mean, however, that the child won’t combine all those forms on a same sheet of paper. Quite to the contrary: many children love to do exactly that!

As he paints, the child now holds his paintbrush with his thumb and fingers instead of his fist, and he holds the paper in place with the hand opposite from the one in which he is holding the paintbrush. He is able to copy a cross, a square, and a simple word such as ‘cat’ (Anselmo and Frantz, 1995. p. 391).

In sum, 4-year-olds express themselves through dancing, drawing, crafting, making puppet shows, singing songs, repeating nursery rhymes, and acting out stories. They also add to their repertoire; early forms of drawing and pretend writing.

**Support:**

*What can care-givers do to support this natural development?*

Storytelling, using books as a support, constitutes a very precious moment to acquaint young children with literacy in playful ways. Young children love to listen to stories, and they love it even more when they know that their favourite stories are concealed in books they can ask to be read and re-read, often the exact same ways, again and again. Children at this age love to be guided into imaginary worlds through a combination of voice, strings of world on a page, and image which they can look at and fantasize about. Indeed, the lap of a parent or care-giver provides a comforting context in
which many 3- and 4-year-olds start to improvise, or "pretend-read" aloud as they follow with their finger the marks on the page or point to the pictures or illustrations.

Obviously, there is more to becoming literate than listening to stories, pointing to images, and pretending to read. The growing child will eventually have to learn to crack the code, or decipher written signs and symbols. This being said, forcing a 4-year-old into deciphering and producing letters, outside of dialogic play contexts, can be counterproductive! As Stevenson so eloquently puts it: "to pass from hearing literature to reading it, is to take a great and dangerous step [...] Those who once read aloud to us sang to their own tune the books of childhood. Whereas once we can read for ourselves, we have to approach the silent inexpressive type alone" (Donaldson, 1984).

The best introduction to literacy, at this age, simply consists of supporting a child’s natural interest in what her drawings mean. Let her draw. Ask her what she drew. Write down on her drawing (or, better yet, on removable sticky notes) what she told you. Read it aloud to her the next day. Improvise other possibilities. Turn her commented drawings into little booklets. The idea here is to play with the notion that print, or handwriting, like drawing or storytellings, all convey meaning.

Digital tools may, in some case, be used to allow young children, age 4 up, to create and organize story elements playfully, by using tangible or physical building blocks, such as digital tiles, images, cards. Two examples of tangible Tale-Telling-Toys include, Tell-Tale (Annany, 2001), and PETS – Personal Electronic Teller of Stories (Druin and Hendler, 2000. p. 73-107). Of course, one should also be aware that there is much junk on the shelves, sold under the noble motto “educational toy that will make your child smarter (or more creative) earlier.” Caveat emptor!
5 - 6 Years

Me – Being Me

**Me - Using My Body**

Swing With Others, Swing With Things. The main areas of a 5-year-old’s physico-motor development remain, as was the case for 4-year-old: a growing sense of balance (static and dynamic), an increased perceptual-motor integration (i.e. being able to produce, or imitate, a gesture one sees someone else doing), greater body awareness (i.e., body concept, laterality or right-left discrimination, and directionality), and temporal-perceptual awareness, or sense of rhythm.

One noticeable change is that 5–6-year-olds now love to get in the flow of things, and in sync with people.

Like their younger counterparts, 5–6-year-old children use their bodies, and extensions like pens, forks and knives, or hammers, to control other objects or actions: from surfaces, to food, to pegs and nails. However, more than younger children, 5–6-year-olds seem to relentlessly try to coordinate, say, their marches or dances, with music from a favourite record, or to synchronize their movements with that of other people, and things, using both visual and auditory clues. In other words, five-year-olds become obsessed with choreography! They show improved and more concerted, or planned, abilities at controlling their movements in time and space, and in relation with others. They use both the sound they hear and movements they see to help them monitor their own movements, and get in synchrony with others.

**Competencies:**

*What does a 5–6-year-old naturally strive to learn?*

Five- to six-year-olds’ improved balance allows them to stand on tip-toe, or on one foot, for a few seconds, and to swing each leg separately for 5 swings. They can walk backwards heel-to-toe for four steps or more, and their jumping has progressed to two-foot takeoff and two-foot landing, with a preliminary crouch and swing of the arm from back to front. In ball play, they can walk up and kick a stationary ball with a full swing of the leg and compensate use of the arms to aid in balance (Anselmo and Franz, 1995. p. 384).
Most 5–6-year-olds can now imitate positions of other people, in games like “statues,” and they start to imitate another person’s movements, provided they are simple enough. Imitating movements from left to right or right to left, and/or diagonals, is still difficult at this age.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

By their sixth birthday, most children can dress and undress without assistance, and they now proudly tie knots that hold! Many have learned, and love, to tie their own shoelaces. They spread food with a table knife, use scissors to cut out squares and other simple shapes, and they bathe themselves, with great joy, only with supervision.

In kindergarten, 5–6-year-old children learn to copy triangles, rectangles with diagonals, to print the alphabet, and to write numbers. They draw recognizable pictures, often adding ground and sky and attending to size relations.

**SUPPORT:**

*What can caregivers do to support this natural development?*

Play with your child and make sure you propose activities that involve other children. Many activities can be imagined to help 5–6-year-olds become physically fit and increase their body awareness, sense of balance, and perceptuo-motor integration.

Many 5–6-year-olds like to play “statues,” in which a person’s position is imitated by children. As soon as your child masters static “statues” type-games, you can move to more dynamic “moving statues” type games. The child, at this age, learns to invent games with other children and to embark in choreographed “dance and movement.”

Continue to use B.C. Gilliom’s basic movement education for 5–6-year-olds children (as mentioned in the previous stage). Yet, make sure you alternate between imitation-games (mutual attuning) and improvisation (creating your own). Imitation is fun because it creates synchrony: This is what we like when we dance with others. Creating one’s own is fun because it allows for improvisation and self-expression. This is what we like when we dance for ourselves.

To facilitate eye-hand coordination and fine motor skills, let your child build models, using smaller pieces. Let him draw, write, cut and glue. Give him
finger paints, and chalk. Even video or computer games can be beneficial for eye-hand coordination.

**ME – KNOWING MYSELF**

Knowing Who I Am and Controlling My Act. The sixth year marks a significant breakthrough in a child’s self-knowledge: the understanding that, indeed, a person’s inner states can be different from her outer expression. And not surprisingly, that’s also when children learn to control their own impulses, desires, and needs, and to explain why they do what they do! That’s also when they learn that their inner feelings can be held to themselves; in other words, the child doesn’t not to have to be transparent all the time. This can lead to increased sensitivity to the effects of their actions or utterances on others, but it can also lead to duplicity of sorts.

Children of this age begin to genuinely understand that there may be some advantages in refraining, say, from hitting or screaming. And their grasp of why brute force may not be a winning strategy goes beyond mere social acknowledgement or generally accepted practice. For example, a 5–6-year-old may feel hurt by what another child says or does and, at the same time, start to understand that this person may not have meant to harm, or was too little to understand.

Learning to control her impulses enables the child to act more responsibly in her interactions with others. More important, it allows her to learn to negotiate her needs and wants. While self-control is important, too much of it can be stifling. Ego resilience refers to a person’s ability to modify the level of self-control to meet the demands of changing situations. In other words, that the person is adaptable and can exercise judgement over how much self-control is warranted in a given situation.

**COMPETENCIES:**

What does the 5–6-year-old naturally strive to learn?

A 5–6-years-old’s view of how he, and other babies, come to be is still very concrete. If told that “Daddy plants a seed in Mommy’s belly” children of this age may naturally think of gardening, and develop the wildest ideas about what’s going on in Mom’s belly. “Such simple statements by adults may be the cause of colourful ideas we attribute to preschool children (e.g. finding babies in cabbage patch). The idea that ‘Daddy plants a seed in the mother’ may give rise to unusual ideas about plants growing” (Anselmo & Franz, 1995. p.412).
At this age, sickness is still mostly explained by external causes, such as contagion. Yet, the concept of contagion itself is less “magical” at this age. It is more like a causal mechanical kind of influence. This being said, many children, at this age still use immanent justice—that is a tendency to blame themselves i.e. their own behaviour, for their own illness and pain. In this realm, age differences tend to blur.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

A 5–6-year-old’s ways of categorizing people and/or creatures (emotionally or cognitively), including themselves, goes beyond physical clues to include character traits or mindsets (see section on Us in Part 2 on children’s evolving theories of mind).

Five- to six-year-olds start to be attracted by, and identify with, other people outside the family like teachers, or the cool kids on the block or in the classroom. In their pretend play, they become princesses, heroes, or wild dragons, all with their special powers. Heroes in books and TV become important to help them shape their identities. So are best friends, although at this age, they may change often.

A five- to six-year-old’s views on how they came to be, and what makes for a healthy, happy person, or a sick, sad one, are still rather animistic/mechanical, although, as they get closer to their sixth birthday, many children enter into the stage of concrete operations, and as this happens, they develop more “objective” views of themselves, including their origins and inner workings.

**SUPPORT:**

*What can care-givers do to support this natural development?*

Help your child keep a balance between two extremes: being an under-controller or being an over-controller. Easier said than done! Under-controllers are often described as expressive, extroverted, spontaneous, distractible, unable to delay gratification, and having many but short lived enthusiasms and interests. Over-controllers are often described as constrained, inhibited, introverted, showing minimal expression of emotions, non-distractible, organized, sticking to their interests.

One way of helping children find a balance between over- and under-controlling is through role-play. Especially at this age, role-play is an
excellent way of getting youngsters to “put themselves in other people’s shoes” and “feel what they feel” if acted upon in certain ways. Imagine scenarios where kids are encouraged to switch roles, say between hitters and receivers, haves and have-nots, wolves and princesses. Act out the scenes, discuss how a story could be told or felt, from different viewpoints. Draw some ethical conclusions when relevant, or better yet, let the child draw them.

Us – Growing Together

US - RELATING TO OTHERS
Serious Play — Becoming Industrious. Provided their relations with primary care-givers are stable and trusting, and basic autonomy is established, preschoolers have entered the phase of their psycho-social development called initiative. Now, as initiative itself becomes established, yet another Eriksonian stage sets in: Five-year-olds learn to become industrious. What industry adds to initiative is the satisfaction of doing “the right thing”, or doing what it takes to “get things done” and “done well.”

According to Erikson, between the ages of five and eight, children become industrious, i.e. they become increasingly eager to direct their energies into producing things. They start following through on projects such as building forts, or cooking a meal. Elkind (1970) has called this the “Robinson Crusoe age” because “the enthusiasm and detail with which Crusoe described his activities also characterizes children’s own unfolding sense of industry” (Anselmo and Franz, 1995. p. 428-429).

Children’s sense of industry is enhanced when their efforts are encouraged and their completed projects are noticed and rewarded. In many countries, children who enter Erikson’s stage of industry also start schooling and receive some systematic instruction. This is why it is sometimes hard to tell whether children become industrious because they face the expectations of school, or whether school provides a new context to shape, for good or bad, their inherent unfolding sense of industry. Whatever the case may be, there seems to be a developmental fit between a child’s growing sense of industry, as defined by Erikson, and her socialization beyond family life.

COMPETENCIES:
What does a 5-year-old naturally strive to learn?
The industrious child likes to follow through on a task he sets himself and to complete things he began. He also learns to carry out his part in a cooperative effort. When a child’s efforts are not properly recognized, or the fruit of their work is seen as inadequate, children may, according to Erikson, feel unable to live up to external and internal expectations of social interactions, physical feats, or mental discipline.

Obviously, 5-year-olds are only starting to become industrious. Their willingness and abilities to undertake and pursue tasks is still tentative and brittle. Their following up on things, caring for outcomes, and negotiating parts in cooperative undertakings will become more obvious as the child reaches her 6th or 7th birthday and peaks around the age of 8 (see years 6–8).

Pretend and role-play are at their height at this age, allowing the child to reenact many puzzling social relations, control their aggression, and practice empathy. Many feelings and emotions are expressed and negotiated through play. While play provides a privileged test-bed to check out some of the risks that taking initiative and becoming industrious involve, the child, at this age, also likes to transcend play itself, and engage in what Papert has termed “hard fun” (Papert 1993). In other words, play is OK but it has to be serious, challenging, and “hard.”

MANIFESTATION:
What actions will the child do to attain these competencies?

While still dependent upon their parents, children at this age become increasingly attracted by other children and by adults outside the family. They start to make friends at school or at the playground, and their friendships are more stable. This is also an age at which children start going to group activities, like sports or scouts, and take music, gymnastics, or dance classes.

Five-year-olds can contribute to a conversation among adults by bringing something relevant to the topic being discussed, and they are better able to gauge when it is appropriate, or not, to say certain things. In other words, they can monitor the complexity, tone, and style of speech, depending on whom they talk to and based on their assumptions of how other people feel and think. Beyond content, they understand context.

This and the previous year mark the highpoint of pretend and role play. Children continue to enjoy follow-the-leader games. As they reach their
6th birthday, children increasingly enjoy board games, and Pokemon-type of item collecting and swapping games, where they learn to take turns and cooperate. Children of this age are not especially good at losing in competitive games, nor do they like to be criticized or stick out of a group as being different.

**SUPPORT:**

*What can care-givers do to support this natural development?*

To develop a sense of industry, children need sensitive parents, teachers, and recreation leaders, who can individualize expectations, and help the child channel her exuberance into a long-term project she enjoys. It can be important for children at this age, to engage in at least one field of endeavour that they like—be it academic, athletic, or musical.

A first rule, when it comes to foster initiative and industry, is to let the child play with other children. Peer relations are a key to practicing social skills. Especially at this age, a child’s first real lasting friendships help her immensely in learning to bond with others while preserving his right to take initiative.

Invite other children to your home. Children at this age love to play games in groups. Help your child to lose gracefully in a competitive game, and besides competition, engage them in open-ended, cooperative and turn-taking games. Also important at this age: Encourage your child to share what she does at school, discuss with her what she sees on TV or reads in a book. If she asks for it, give her ideas on how she may bring some of what she likes a step further…

Educators have invented many games through which children learn to shape and sharpen their relations to others (see next section on 6-7 years). Most important, however, when it comes to teaching social skills, is to be a good role model. At school, this may imply a caring ambience, in which each child is appreciated for what she can offer, and where the group builds on individual contributions to move ahead, as a group (Reggio-Émiglia Schools, 1998).

**US - UNDERSTANDING OTHERS**

Awareness of Others’ Beliefs. In the sixth year, children become better at customizing their ways of relating based on their assumptions of how others feel, act, or think at a given moment, and under given circumstances. In other words, they clearly recognize that moods, intents, and behaviours can change over time, and across context.
Beyond understanding that other people think differently, 5-year-olds begin to grasp which feelings or beliefs a person may hold. A good example of such understanding is provided by “theory of mind” research on false beliefs and the appearance/reality distinction.

Research on false beliefs (Perner and Wimmer, 1985) indicates that, by the time they reach their fifth birthday, most children start to understand that a person may believe something (that the child knows to be) false. They can identify and describe another person’s (false) belief, and anticipate that the (false) believer will act on the basis of her (false) belief. So, for example, if a child knows her friend was not in the kitchen while mom moved the cookies from the drawer to the top of the closet, she will correctly guess: Her friend, the non-knower, will look for the cookies in the wrong place, namely the drawer. At the same age, children also first understand the distinction between what something is (reality) and what someone might believe it is (appearance) (Flavell, Flavell, & Green, 1983).

This being said, many pre-school children still have difficulties in conceptualizing what exactly the inner, psychological states of other people may be. It is not until the concrete operational stage, around the age of six, that a full appreciation of inner psychological states becomes possible. This is true whether the child is judging the feelings, thinking, or understanding of other people.

**COMPETENCIES:**

*What does the 5-year-old naturally strive to learn?*

During the sixth year, a child’s abilities to reflect upon and converse about inner states grows by leaps and bounds, and is readily used to monitor and optimize social relations. The child now shares her reflections about emotions, intentions, desires, and thoughts. He can do so even outside of playful contexts, such as formal interviews (Astington, 1991).

Based on his assumptions on how others feel and think, the child becomes better at adjusting his speech [both complexity and tone] to fit his interlocutor’s engagement, age, and mood. So, for example, a 5-year-old starts to monitor, or check out regularly, if a younger child understands what he says (“You see what I mean?”). He will also naturally use shorter sentences and articulate his thoughts more simply than when He speaks to older kids or to adults.
MANIFESTATION:
What actions will the child do to attain the competencies?

Five to six years marks the highpoint for make-believe play. Children develop increasingly flexible and sophisticated plots, they change voices according to character, and they assume different roles. They also use language more extensively to communicate in their play, and much of what they say is meta-linguistic, or meta-cognitive, i.e. they talk about how to talk and act. Through their role-play, the children vicariously feel-and-live through different characters, and they take on and act out other people’s wishes, beliefs, intentions.

At this age, children also want to be taken seriously as a partner, beyond play. They enjoy taking care of others, and they will ask their parents to give them pets to play with.

SUPPORT:
What can caregivers do to support this natural development?

Help your child express and communicate her feelings. Create a safe context to discuss the consequences of certain emotional reactions to/from other people. Imagine scenarios that can be played out on safe ground. Focus on role-play. Put the child in the role of the giver and taker, of the aggressor and the aggressed, of the potent and the weak. Discuss the consequences of being “dissed” (disrespected) or accepted by others.

One of the best ways to prepare children to understand “reversibility” in social transactions is to present him with hypothetical scenarios in the fantasy realm. Again, do not pressure any child to disclose his feelings if he doesn’t want to. Damon (1977, 1980) developed hypothetical stories and presented them to children from the ages 4 to 12 to study their social reasoning. Similar stories, involving moral paradoxes, can be imagined and used for educational purposes.

World – Making Sense of it All

World – Exploring and Investigating
From Inquiry to Experimentation. Five-year-old children are quite proficient in mentally working through solutions to problems, thus moving away from intelligent trial and error and “messing about” and engaging more readily in
directed inquiry. Like young private investigators, they love to make guesses before they try out something! They have become experimentalists.

In their explanations, children of this age still tend to ascribe people-like qualities to inanimate objects, especially objects that move strangely, as if self-propelled, and their thinking remains essentially magical. These forms of thinking remain prevalent among most pre-operational fives, although as they reach their 6th birthday, many children start to think more “logically.” They are soon ready to enter the so-called concrete operational stage.

COMPETENCIES:
What does the 5-year-old naturally strive to learn?

Five-year-olds continue to produce a steady stream of questions, such as, “Does the moon follow us?” “Why is the grass green?” etc...yet, more than 4-year-olds, their questions are relentless and orchestrated. Indeed, many children, at this age, start to leverage their sense of initiative by becoming industrious. According to Erikson, they want to bring their projects to completion, succeed in school, and accomplish many long-term tasks—in and out of school. Their explanations, while sophisticated, remain essentially “egocentric”: Animism and magical thinking lessen as the child reaches her sixth birthday.

MANIFESTATION:
What actions will the child do to attain the competencies?

Children of this age are generally fascinated with everyday physics. They love to explore such things as the way water flows, the impact of gravity, and other aspects of everyday physics. They do so at length, and very thoughtfully. This marks a transition: while the child still sees water, clouds, fire, or trees as human-like, he also explores more “objective” qualities through playful experimentation.

Five-year-olds can order photographs to tell a tale that has a beginning, middle, and an end (Montangero, 1996. p. 6).

In thinking about time, 5-year-old children start to isolate time from its spatial, narrative, and causal underpinnings, although they cannot yet conserve time as an invariant. Nor can they build an external clock, or metrics, to evaluate durations and make sense of changes over time.
As they approach their sixth birthday, some children start to conserve substance in certain contexts, such as pouring liquids in glasses of different sizes, or moulding play-dough into different shapes. In such situations, the children are no longer “fooled” by the appearances of things. They will understand that it’s the same amount of play-dough if they roll it into a sausage or divide it into many smaller pieces, or they reason, “I won’t have more milk just because I pour it in a glass than is high and thin”. While obvious to most adults, these kinds of understandings are built by children over the first six years of their lives.

**SUPPORT:**

*What can care-givers do to support this natural development?*

Researchers generally agree that children need occasions to ask many questions and to explore many answers for themselves, with the encouragement and support of adults and peers. Pierce, in particular, has shown that both the number and types of questions asked by a child are good predictors of how well students will understand subject matter later, when taught in school (Pierce, 1990).

The lessons to draw from this are pretty obvious: Instead of focussing on teaching or providing “right” answers, be an enabler or a facilitator! Let your child explore, tickle her curiosity, and support her initiative. There will be plenty of time, as she enters school, to be confronted with “unasked for” explanations to questions posed by others.

**WORLD - SEEKING LOGIC**

“Give Me a Ten”. In the sixth year, many children learn to count-and-point, which represents great progress as compared with enumerating numerals like a string of words. Yet, 5-year-olds still do not yet have a concept of number to speak of, i.e. the logico-mathematical skills needed to grasp what numbers actually stand set for as the child reaches his sixth birthday.

Typically at this age, when asked to count how many objects there are in a basket, a child will say “one” and point to an object, then say “two” and to another object, etc... While this looks like “real” counting, the catch is: to the child herself counting sequences by touching objects does not mean that each more advanced number excludes the previous ones.

Many children also still confuse the ordinal and cardinal aspects of numbers. So, in a series of, say, 7 eggs, they will count-and-point some eggs more than
once and forget others altogether. There is no systematic “logical” strategy to achieve one-to-one correspondence. Many children also still hand you the block “called ten” when you ask them to give you “ten” blocks: the numeral “‘ten” designates the tenth one to be pointed to/named i.e. the cardinal “ten” is indistinct from ordinal “tenth.”

**COMPETENCIES:**
*What does the 5-year-old naturally strive to learn?*

Five-year-olds are intrigued by numerals as a system, and will ask many questions like: “What happens after you count to 999?” Or “What is the biggest number? …And if I add one to the biggest?” They want to know how many floors a building has, and they keep track of whose building has most.

This being said, when asked to count, most children, at this age, will count aloud correctly, placing a finger on a separate block as they say each number. Yet, two main difficulties remain: 1) they possess no one–to-one correspondence i.e. they point-and-count a same block more than once, and 2) they “give you a “‘ten” instead of ten.…

**MANIFESTATION:**
*What actions will the child do to attain the competencies?*

Children of this age perform many informal investigations involving quantifications. These include both counting and measuring without numbers: stacking unit blocks to a particular height, extending them for a particular length, and determining just the right size block to use in a particular place.

Five-year-olds like to experiment with shapes and space. As they approach their sixth birthday, they may start to “measure things” using their footsteps, and “count” using their fingers.. They may enjoy playing with pattern blocks, Cuisenaire rods, Dienes blocks, and other manipulatives meant to embody aspects of the number series, like regular increment (i.e. plus one).

Five-year-olds do not yet understand the ordinal, cardinal, and inclusive aspects of numbers. Nor can they use a ruler or any other measuring units smaller than the total continuous quantities to be compared.

**SUPPORT:**
*What can care-givers do to support this natural development?*
Say “math” and most people see pages of numerals to be matched to groups of hats, a number line, or addition problems. In fact, the real world of math is both broader and deeper and better tailored to children’s own interests and curiosities than commonly thought.

Leave aside counting series and the calculations involved in adding, subtracting, multiplying, or dividing, introduce your 5-year-old to mathematical and logical thinking through activities such as:

- Classifying: Sorting or forming groups by similar attributes. Putting together things that belong together. Example: Sorting beads from blocks, or red beads from blue ones, sorting shapes.

- Comparing: Establishing a relation between objects. Looking at differences as well as similarities. Example: build a bigger or smaller tower. Playing “who gets more” in distribution games.

- Ordering: Arranging elements in a sequence. Example: Building a chain or a train of things. Ordering or seriating objects of incremental sizes (e.g. biggest to smallest).

- Patterning: Ordering with repetitions, or iteration, of elements to form more complex arrays. Patterns can be temporal (musical or rhythmic pattern) or spatial (Tiled floor, Persian carpets). We speak of patterns when the arrangements of elements exhibit some identifiable regularity, or structure. Example: tiling games, recognize that a stripe of a shirt is a part of a pattern. Many rich activities can be imagined involving:
  - identifying patterns (see where the regularity lies, where the unit repeats)
  - describing patterns (telling what the pattern looks like)
  - extending patterns (changing red green pattern to red blue pattern)
  - completing patterns (finish a pattern already started)
  - creating patterns (inventing new patterns)

Creations – Realising Visions

Creations – Imagining

Fantasy as a Gateway into Reality. The fifth year continues to be a high season for make-believe activities, and it marks a transition between Stage 3 and Stage 4 humour, as defined by McGhee. One significant breakthrough at this
age is the child’s ability to move from realistic to more fictitious pretence. Many five-year-olds imagine and dwell in fantasy lands. Their approach is less about creating variations around, and spoofing, everyday situations than it is about producing fiction!

In their pretend play, five-year-olds imagine many elaborate plots, involving a multitude of actors who live in fantasy worlds. The children themselves inhabit and act out their personae, changing voices according to character, and assuming different roles. Also noticeable at this age, characters have to be believable and their actions relevant within a chosen world.

Many adults misinterpret the meaning of children’s fantasy life at this stage of development, mistakenly thinking that children are trying to “escape from reality.” Yet, a closer look at the actual scenarios that children create reveals that their fantasy play, though it may involve stuffed animals or other more fantastical creatures, is never very far removed from reality. As the author John Holt put it in his classic book, How Children Learn, “Children use fantasy not to get out of, but to get into, the real world” (Holt 1983, p. 238). It is their way of understanding it and coming to grips with their experience, turning it over and possessing it.

A 5-year-old’s sense of humour still often relies on “pure incongruity.” In other words, nonsensical incongruities are amusing enough, provided they occur in a fantasy world. “In a series of studies, McGhee (1984) found that incongruities need to occur in a fantasy context in order to produce humour. The same incongruities in a reality context interfere with humour. For example, if a clown had an exaggerated nose, children (of this age) would perhaps laugh. If however, a person on the street had a realistic ear in the usual position of her nose, humour would likely be replaced by discomfort” (Anselmo and Franz, 1995. p. 508).

**Competencies:**

*What does the 5-year-old naturally strive to learn?*

In their pretend play, and more generally in their play, children of this age make better use of “adapted speech” as they discuss possible scenarios, negotiate who is doing what, suggest ideas to each other, and question and seek answers from each other. Much of their play takes place at the “meta level,” that is, talking about their play, organising it, etc.

Children talk within their pretend play constitutes a privileged context in which to crack jokes and to incorporate “silliness” into their plays. The type
of humour at this age is riddled with incongruities and “bathroom” humour. Another interesting feature, at this age, is that children often laugh at jokes that they don’t understand. They recite riddles simply to make others laugh! In other words, to a 5- or 6-year-old, non-sensical incongruity can be funny enough, especially if it produces laughter in others!

Around 5-6 years of age, some children start to transition toward Stage 4 humour, finding amusement in multiple meanings, although this form humour will more fully develop as the children reach their sixth birthday (see next age year).

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

In their pretend play, 5-year-olds can deal with more abstract ideas about objects or characters that are not necessarily present. So, for example, a child may tell another: “I know a princess doesn’t wear a hat, but her sister does!”, or “I want that monster to be meaner, greener, and scarier, and not just dress like a kid”. While pretending, children like to indulge in silly jokes together, and they often, though not always, love to have others (often adult spectators) witness their play.

In general, at this age, children make a greater use of language to communicate in their play. Most children now verbalize their thoughts, in addition to enacting their parts. We witness dramatic changes of voice, and longer and complex sentences. Children also express themselves through dancing, drawing, using puppets or change of voice, singing songs, repeating nursery rhythms, and acting out stories.

Children of this age find it funny to see a clown with a large fake nose and oversized shoes act clumsily at things that even children can do. They giggle at the idea of milking a dog, or having a dog moo. Distortion of familiar sights and sounds, including rhyming and nonsense words, is still a source of humour at this age.

When watching cartoons, most 5-year-olds won’t find ‘pure incongruity” funny. Instead, they appreciate cartoons in which some resolution of an incongruous situation is at play. An example of a funny resolution to an incongruous situation may be when ‘Dumbo’ the elephant finds himself up a tree (elephants don’t climb trees) and resolves the situation by flying away (elephants don’t fly!).
Some children start to engage in so-called “joke façade” which, according to Freud, serves to disguise aggressive and otherwise taboo ideas, or behaviours.

**Support:**

*What can care-givers do to support this natural development?*

A child’s imagination is often seen as a passing phase of childhood that has little to do with the real work of learning. Many parents and educators, fearing their children may lag behind in school for lack of seriousness; try to educate the imagination out of their children. This is not a good idea!

Imagination is a vital source of learning and understanding. Without the ability to imagine, even the most rational of minds will spin endlessly and become stuck in the muddy routines of the familiar. Fortunately, we don’t need to do much to get children to use their imagination; they do it all the time. We just need to avoid doing things that stifle this impulse or make them self-conscious about it: “Act your age! Stop being so silly! Will you ever grow up?” It is perhaps wise to remember that our most creative scientists, artists, and inventors have not lost their childlike ability to imagine “silly” things.

Though children may be attracted to the pre-packaged fantasies delivered to them via television or cinema, it may be a good idea to limit their TV show time, especially at a young age. There will be plenty of time later on to become a consumer of other people’s fantasies.

**Creations – Enacting and Creating**

I Show It, I Tell It, I Write It. In addition to speaking, play-acting, and dancing, five-year-olds become increasingly interested in capturing, recording, and editing fleeting events, such as music, human voice and movements, through any medium that permits them to do so. So, for example, as they sing and listen to music, they frequently enjoy recording the rhythms and melodies using a tape recorder, and some children even enjoy “drawing” the sounds and rhythms they hear on a sheet of paper. As they speak and listen to stories, they want to make sure their favourite stories are concealed in books to be retrieved, at any moment, for further usage: a good incentive for learning to read!

At this age, early forms of pretend play go underground or, better, they take on new forms, paving the way to the staging and play-acting of many elaborate shows, from puppet shows to dance and theatre! In kindergarten, children of this age engage in arts-and-craft activities, producing many
artefacts, such as drawings, sculpture or glazed pottery, and other forms of artwork—common gifts to parents!

In sum, beyond performance, five-year-old children greatly improve their drawing skills, and they start to write their first letters and numbers, which often appear as elements in their drawings. This is not to say that five-year-olds ignore the difference between, say an icon (as in a drawing), a letter or word (as in writing), and a numeral (as in counting). Instead, children enjoy moving seamlessly between languages, in this case written ones, bringing them all together on a sheet of paper.

**COMPETENCIES:**
*What does the 5-year-old naturally strive to learn?*

Five-year-olds are at the brink of becoming literate in the narrow sense of learning to read and write. This being said, the child of this age is not yet ready to let go of the immediacy and livelihood of live performance and playful scribbles to the benefit of deciphering those inert traces on a printed sheet of paper. Even producing letters, words, and numerals, out of context, can be a chore to a child of this age.

Most children of this age are still into “pretend” reading and writing. They like to recite (as if they could read) printed words or passages in a book that they can’t yet decipher! They use images and words as cues and placeholders for the text. In their written messages, five-year-olds mix scribble-writing and linear mock writing, to which they start to add their own “signature”: often a letter, or a series of letters, that stands for their name.

In her drawings “the child enters the ‘pre-schematic’ stage (Brittain, 1979). She now draws recognizable figures, often adding ground and sky and attending to size relations. Objects do not usually float around in space as before, and her people may have as many as six or seven body parts” (Anselmo and Franz, 1995. p. 391).

In kindergarten, the children will further refine their reading and writing skills, and they will learn to model, draw, notate rhythm and music, and copy geometric shapes and letters. Provided children are not forced into literacy too early, and too rigidly, all the above skills will evolve without “killing” their creative expression!

**MANIFESTATION:**
*What actions will the child do to obtain these competences?*
In their kindergarten year, most 5-year-olds can write their first name and copy shapes, such as triangles and rectangles with diagonals. When asked to “write down” a favourite song or rhythm, they produce a row of strokes of varying lengths to indicate fast and slow passages. The strokes are often produced at the pace of the music.

Children of this age learn to print the alphabet using both uppercase and lowercase letters. They write numerals from 1 to 9, and they create “pre-schematic” drawings or paintings at an easel (Brittain, 1979)

At this age, children still draw chimneys rising at a 90° angle from the roof, instead of vertically or perpendicular to the ground (Piaget & Inhelder, 1956; Werner 1957).

In their play-acts, five-year-olds express themselves verbally, and they do so very well; they talk in and about the play. We hear dramatic changes of voice, more correct grammar, and longer and more complex sentences.

More generally, 5-year-olds enjoy and acquire the ability to sequence story elements in a linear, coherent manner. This, in turn, calls for transitional spaces (playgrounds) in which children can mess around with story elements, combining and recombining them until they form meaningful configurations (or sequences). Children are good at creating such spaces in their free-form fantasy play.

SUPPORT:
What can care-givers do to support this natural development?

The passage from speech to writing, while bringing about gains that most children appreciate, also entails losses, often ignored by educators, researchers, or parents (Ackermann, 1991). The written word separates author from audience, audience from the site of the plot, and word from voice. Speech, by contrast, is an integral part of human performance, and punctuates a narrator’s action as it unfolds. Speech bridges what is said to who says it, and who says it to how it is voiced (Ong, 1982).

This is why forcing a 5-year-old into reading and writing, rigidly and divorced from any dialogic context, can be counterproductive. At this age, reading and writing should be combined with other forms of creative expressions familiar to the child, such as play-acts and dialogues. In this spirit, encourage your child to share what he does at school, sees on TV, or reads in a book.
Read books about what they see on TV. Act out what he reads. Play video games with them, and then play-act some of the scenes in another medium. In other words, let the children speak in their hundred languages. Bedtime storytelling rituals, using books as a medium, remain, even at this age, a favourite to introduce children to literacy in a pleasant, comforting way.

Digital technologies, in particular digital styluses (e.g., the Leapfrog stylus) can, in some cases, be useful to help a child “unlock” the meaning of words she herself points at with her digital stylus: In effect, as she strokes the top of a word or sentence with her “magical” stylus, the system reads the chosen passage aloud to her. Good enough but much less fun than hearing Dad or Mom do the same translation!
The Whole Child Development Guide is grounded in recent research findings and has been developed by the LEGO Learning Institute in partnership with experts in the field.

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6-7 Years

Me – Being Me

Me - Using My Body

Play for Good! In the seventh year, many children become eager, besides playing, to achieve things for real! More than before, they like to help with household routines: From mowing grass, to trimming trees, to working in the kitchen or in the workshop. And since they take it seriously, they like to be taken seriously in return. They feel good when they succeed and when their efforts and achievements are recognized. The enjoyment related to accomplishing challenging tasks is sometimes called “hard fun” by children this age.

Six- to seven-year-olds will spend much time trying to manoeuvre their two-wheel bikes (the real thing) and are thrilled when they can get rid of those baby training wheels. They will want to jump over yardsticks like “real athletes,” and they like to run while being timed. In playing ball, they enjoy playing with others. Although it will take one more year, or so, before they become convinced and accomplished team players.

Obviously, 6–7-year-olds still love to fool around with peers, and be silly. And the joy of playing alone won’t go away either! Six to seven year-olds may not go to the playground as much. Instead, they enjoy playing in the backyard with other children (if yard there is), to the ball field or the park.

Competencies:
What does a 6–7-year-old naturally strive to learn?

Six- to seven-year-old children are strong, mobile, and agile, and they like to share many activities with others. Their body-awareness and perceptuo-motor integration continue to increase, and so does their sense of balance, both static and dynamic.

Six- to seven-year-olds readily engage with grown-ups in everyday activities, or sports, and they are eager to play “hard fun” and be taken seriously. At this age; the harder the better! A 6–7-year-old will want to carry heavy packs, help drag logs or push a heavy table into a corner for a party. She will also
want to help prepare food: measures things, peeling and chopping vegetables etc., in which case the harder don’t require strength but dexterity.

When playing ball, 6–7-year-old children can throw a tennis ball with one hand, bounce it with one hand, and catch it with both hands. Activities that combine movements, such as catching while running are greatly appreciated, and open the way to many rhythmic dance/music games and specialized sport skills.

MANIFESTATION:
What actions will the child do to attain the competencies?

Most 6-year-olds can ride two-wheel bikes, jump ropes three or more times in a row, chin themselves on the bar at school, and stand on each foot alternately, with eyes closed. They can carry a 5 kg sack of groceries the 20 feet from the car to the kitchen. They can also jump a metre or so from a standing position, over a stick held 20 cm from the floor.

At school, usually first-grade, children of this age can copy diamond shapes, print their name, and write numerals. They draw, paint, glue, and cut, and they do so better and better...

SUPPORT:
What can care-givers do to support this natural development?

Cultivate your child’s growing body awareness and perceptuo-motor skills by playing dynamic “imitation” games, such as “mirrors”, and ‘places’. Devised by Sullivan (Sullivan, 1982a) both these games are popular among 6- to 8-year-olds.

In mirrors: A ‘leader”, usually an adult but not necessarily, is facing a group. The leader will perform a series of movements, and the group is asked to do the same. In places, usually more popular among older children, the children are invited to move around, spot places, and freeze, at the sound of a drumbeat. The specific directions are “pick out a place in the room with your eyes. Now walk to that place. Look around. Pick another place. Go there, and then revisit each place in reverse order.

Invent your own games. Again, alternate between imitation and improvisation games. Offer a wide repertoire of possible activities: from dance and music to specialized sports skills. Don’t get caught up in only one mode.
Some children may like to start playing an instrument, or to paint. Besides all the other pleasure this can provide, the dexterity these skills demand can greatly increase a child’s eye-hand coordination.

**Me – Knowing Myself**

What I Feel / Think is Not Always How I Act. The seventh year marks the beginning of concrete operations. The child is now able to reflect upon actions that were previously performed, and can draw conclusions – in his head. One of the primary characteristics of concrete operations is reversibility: the ability to mentally reverse the direction of thought. Another characteristic is the understanding that thoughts are different from actions, and appearances are different from reality.

The child is now able to put himself in place of other persons, which has direct repercussions in how they perceive themselves. This ability to take differing perspectives or points of view marks the onset of a new and more sophisticated maturity that has ramifications across all the developmental categories.

**Competencies:**

*What does the 6-7 year-old naturally strive to learn?*

At the age of 6, children become increasingly aware that there are two facets to a person’s psychological self: the inner, subjective self (what they think and feel) and the outer, objective self (what they do). At this level, many children still think that these two parts of a person are (or ought to be) consistent. The young child does not know how to hold back. She frequently blurts out whatever she thinks or feels, regardless of the consequences. But a 6–7-year-old begins to be more discriminating and learns to hold back or conceal her true feelings to avoid being inappropriate or rude. Yet, according to Selman, it will take one more year before children “really” understand that it is possible to trick and fool other people, as well as oneself (Selman, 1981).

Starting at age 6, children’s views of their bodies and its inner workings change. The child may still have a limited understanding of the processes governing conception or aging. For example, he may not yet see why the participation of both parents is necessary to create a baby (Bernstein and Cowan, 1981). However, in general, 6-year-olds develop a more “objective” sense of what’s happening in their bodies, of what is likely to be “good for you”, i.e. make you healthy, or sick, and of the functions of different organs,
For example, a 6–7-year-old knows that food goes into her stomach, that she breathes with her lungs, and that she can feel her heart beating after she runs around a lot. Likewise, when she gets sick, the 6–7-year-old has a fairly good idea as to which part of her body is affected.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

Children, at this age, increasingly identify with others, outside the family. They are attracted to the cool kids in their class, form crushes on teachers, movie stars, and rock musicians. Heroes in books and TV remain important in their lives to help them form a sense of self.

Although 6–7-year-olds are increasingly aware of their own, and other people’s, worth, they are still rather sensitive to criticism, and they don’t like to stand out in the crowd as different and odd. Losing gracefully is also still a problem at this age.

**SUPPORT:**

*What can care-givers do to support this natural development?*

Although children, at this age, are learning to control their emotions, and tell their needs and wants instead of using brute force, especially when they feel vulnerable, they may still have childish outbursts of temper.

Help your child be comfortable with who they are, and motivated to take the time and work it needs to excel in areas that they like.

Children of this age are aware of their newfound ability to “figure things out.” They love “brain teasers” and puzzles of all sorts. They love to play “detective” and hunt for clues, or find hidden objects using a “treasure map.”

**Us – Growing Together**

**Us - Relating to Others**

Onset of Concrete Operations. The seventh year marks the highpoint of Erikson’s stage of industry and the beginnings of Piaget’s concrete operations. This culmination paves the ways for a cascade of new developmental breakthroughs. Most significant, the industrious child is now able to think objectively, or logically,
about things that were previously performed through physical or concrete actions, and to draw conclusions in the head. The child can also mentally reverse the direction of an action, take on different perspectives, and distinguish appearance from reality. Needless to say, this newly acquired cognitive power greatly helps the industrious child to become ever more competent and successful in the pursuit of her personal and social undertakings.

**COMPETENCIES:**
*What does a 6-year-old naturally strive to learn?*

The child’s ability to put himself in other people’s shoes, take on different perspectives, and distinguish appearance from reality, has deep repercussions for how he relates to others. Six-year-old children have at their disposal an amazingly rich palette of ways of relating, plus a great many justifications, or arguments, for why they relate the ways they do.

A 6-year-old can empathise and cooperate and, conversely, she also competes and requests, criticizes and argues. She will tell you, beyond “because I say so,” why she thinks what she thinks (“I won’t play with you anymore because you cheat”) or why she wants what she wants (“I need to drink juice because it’s good for me”). In other words, she has ideas and opinions that can and will be exchanged, and she uses these ideas to monitor and optimize her bonds with others.

The child is learning how to argue, debate, and negotiate—all of which are part of what it takes to become a playmate, a work-partner, or a team-player. They develop a personal sense of what makes for appropriate social behaviour, and they try to “walk the talk.”

More generally, at this age, a child’s urge to become industrious truly sets in: once rules are set and agreed upon, the child becomes eager and able to follow them. Many 6-year-olds do so thoroughly, and appreciate it when they are taken seriously for their seriousness.

**MANIFESTATION:**
*What actions will the child do to attain the competencies?*

Six-year-olds can feel sad or happy when a friend is sad or happy. They can also distance themselves and hold onto their beliefs. So, for example, a child may choose to withdraw when bullied by another kid or drop an argument if someone just doesn’t seem to get it.
A 6-year-old understands and will tell you that “when you get mad, it doesn’t do any good to hit—they might hit you back,” or “I was so embarrassed, I just wanted to disappear” (Smith, 1982).

Children, at this age, become better at negotiating their wants and needs when cooperating with others, and they try to abide by the rules. By the same token, many 6-year-olds also develop a sudden urge to compete: They desire to be the best.

As they reach their seventh birthday, most children begin to internalise a sense of justice through co-operation and mutual respect, as well as a sense of pride for their own personal strengths. It will take still more “developmental time” for the child to further balance his apparently contradictory needs to cooperate and compete, to take initiative and follow others, and to follow and break rules.

**SUPPORT:**

**What can care-givers do to support this natural development?**

At this age, children exhibit fewer “incorrect” emotional responses. They become better at describing their own feelings and motives—and that of others—which, in turn, helps them manage their social bonds more efficiently. This process can be enhanced through adult intervention, provided the intervention remains non-intrusive.

The ‘feeling peeling’ game is also relevant here. (See overview of Us at the beginning of this Part.)

While a small dose of “fair” competition is a healthy counterpoint to cooperating among peers, at this age, 6-year-olds also need to learn to lose gracefully and, what is perhaps more important, to win gracefully! Help your child internalise the benefits of co-operation and mutual respect. At the same time, help her develop a critical mind. In other words, allow her to be constructive and critical, empathic and detached, caring for others yet proud of her unique ways and personal strengths. Again, easier said than done!

No child should ever have to hide, or stay alone, if he is insecure, or fear he is not good at something. Nor should a child be misguided into fearing criticism, avoiding comparisons with others, or refusing to do what it takes to get better at something he likes. Cheap appraisal can be worse than loving criticism. Most children will open up and accept to lose at
competition games, if the winners are willing to share, not gloat, and show respect. Adults are key in setting the stage for safe and kind cooperation/competition.

**US - UNDERSTANDING OTHERS**

Taking the Perspective of Others. The child is now ready to go at things, hands on and heads in, and to make her dreams come true. She is also able to think about events that were previously performed through physical actions, and to mentally reverse their direction in thought. She can take on different perspectives. Another characteristic is the understanding that thoughts are different from actions, and appearances are different from reality.

The child’s ability to put himself in other people’s shoes, and to take on different perspectives, has deep repercussions, not just in how he relates to others, but how he understands other people’s minds, intentions, and actions.

**COMPETENCIES:**

*What does the 6-year-old naturally strive to learn?*

Between the ages of six and eight, children build an ever deeper understanding not just that other people may think differently, but that they often do so in very particular ways. They become able to identify these differences, to express them, and gauge them for what they are. What’s more, children at this age become able to switch between different people’s perspectives, or viewpoints, and identify in what ways these perspectives differ from each other.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

Children at this age understand and empathise with others: they can feel sad or happy when a friend is sad or happy. They can also stick to what they believe, even if others don’t agree, and they may argue with others about mutual wants and needs. They start to negotiate wants and needs, and build an inner sense of balance, or justice, through mutual respect and co-operation.

**SUPPORT:**

*What can care-givers do to support or enhance this natural development?*
The ‘feeling peeling’ game is also relevant here. (See overview of Us at the beginning of this Part.)

In role playing games, always respect a child’s desire not to disclose how she or he feels, and make sure the children understand that there is nothing wrong with having “negative” feelings, or even wanting to act them out. Help them understand, beyond first impressions or reactions, some of the benefits of using one’s mind and heart to control initial drives.

World – Making Sense of it All

World – Exploring and Investigating

Developing Objectivity. As previously mentioned, the seventh year marks the beginnings of Piaget’s stage of concrete operations. This is a big turning point. The child now reflects upon things that were previously acted out, and draws “logical” conclusions in the head. One manifestation of this newly acquired competence is that children of this age like to engage in guessing games, thus moving away from earlier forms of step-by-step explorations. They also like to trade, collect things, in addition to doing and undoing.

As the attribution of animistic qualities to inanimate objects decreases, and the thinking becomes less “egocentric” children develop a clearer understanding of cause and effects, and spatiotemporal events.

Most children, at this age, start to think “objectively” and come up a whole new set of answers to their habitual questions. Instead of the magical view of the world (e.g. “A giant made large holes with his footsteps, which were filled by rain and became lakes”), nature is understood through historical and logical causes (thawing after the Ice Age, movement and melting of glaciers, etc.).

Competencies:

What does the 6-year-old naturally strive to learn?

As they reach the stage of concrete operations, children make huge leaps in their understanding of what makes something else happen (cause and effect), what comes next in a series of events (temporal ordering), which things are spatially or topologically close (spatial configurations), and what changes or remains unchanged in a transformation (conservation of substance). All of a sudden, their understanding moves from magical to logical, from egocentric
to de-centred or “objective.” The children now have a sense of necessity that things “ought” to happen in certain ways, and these ways resemble more how physicists or natural scientists see the world.

Two main characteristics of concrete operations, according to Piaget, are reversibility and conservation. The 6-year-old’s conception of the world change drastically as these new forms of thinking set in. The child now understands that space is reversible (if you go from A to B, you should be able to come back), and begins to puzzle over why time is irreversible (you can’t get younger; it’s impossible).

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

Six-year-olds think logically (in Piaget’s sense) as long as the problem tackled remains in the realm of their direct experience. They succeed in Piagetian tasks involving conservation of number and of substance. In Anselmo and Franz’s words: “Conservation involves the understanding of the constancy of characteristics such as number, length, mass, or area, despite changes in appearance. [...] all interviews about conservation use the same sequence: 1) establishing equivalent objects, 2) showing some change in appearance of one of the equivalent objects; 3) asking for another judgement of equivalence; and 4) asking why the child thinks that way. If a child does not establish initial equivalence, the interviewer does not proceed (Anselmo and Franz, 1995. p. 483).

The first characteristics to be understood by most children at around six years of age are number and substance. In everyday life, a child’s ability to conserve quantities manifests itself in how she feels in tasks involving sharing, say, of cookies or juice: younger kids will scream if they get 3 cookies instead of 6 halves of cookies. Older kids won’t fight for this because they know the amounts are the same, even though 6 halves “looks like more.”

As they reach the age of 6, most children start to grapple with the irreversibility of time in their thinking about aging or death. They come to understand that, while people (including themselves) grow bigger and older, they rarely get younger, or shrink! This, again, may be obvious to adults, yet it is not automatically apparent to young children.

A child’s navigation in space and spatial reasoning evolve a great deal. Most 6-year-olds have a good grasp of topological relations, such as inside/outside, below, on top, neighbouring, and they start to think of space as a container.
Six-year-olds like to play with pattern blocks and other construction materials that enable them to explore spatial relations.

**SUPPORT:**

*What can care-givers do to support this natural development?*

At this age, it is useful to imagine fun games in which children can actively explore aspects of cause-and-effect, temporal order or orientation, and spatial configurations.

Shape and space: Explore topological and geometric relations such as boundaries, vicinities. Look at spatial arrangements and positions.

Imagine games that involve 1) placing objects or people in different positions (over, under, above, below, between); or distance (near, far); tell others to do so; 2) exploring topological space (inside/outside) and 3) playing with Euclidean shape (squares, triangles, and other rigid shapes.). Example: build /superpose / compare and play with pattern blocks.

**Ordering:**

Arranging elements in a sequence. Building a chain or train of elements...

Imagine games that involve the following activities: Playing with temporal or spatial order (before after, behind in-front). Example: Build necklaces with beads, trains and chains of elements, say from small to big, from light to dark, etc...

**WORLD - SEEKING LOGIC**

Part of a Larger Logic. The seventh year is a breakthrough in a child’s logical thinking, which has deep consequences in how children think about numbers. This being said, the development of logic is not limited to numerical thinking. One of the characteristics of concrete operations is reversibility: the ability to mentally reverse the direction of thought and action. So, for example, the child learns that something that can be added can also be subtracted. Another characteristic is transitivity: the idea that if A is bigger than B, and B is bigger than C, then A must be bigger than C.

Six-year-olds develop the logical knowledge needed to solve number problems and to be able to measure continuous quantities, i.e. measure things, using a go-between. This go-between, what’s more, can be a small unit to be re-positioned along a line and, at each step, keeping...
track of where the previous end was located and starting anew from there.

COMPETENCIES:
What does the 6-year-old naturally strive to learn?

Concrete operational thinkers are able to reason logically as long as the problems tackled are within the realm of their direct experience. That is why this type of reasoning is called concrete.

Six-year-olds begin to understand what numbers stand for, and they use numbers as a means to compare amounts of discrete as well as continuous quantities. An example of a continuous quantity is the length of a table. An example of a discrete quantity is the amount of eggs in a basket. Evaluating continuous quantities requires measuring. Evaluating discrete quantities requires counting.

At this age, children begin to understand the ordinal and the cardinal aspects of number. In their measuring strategies, they can use units that are smaller than the total length to be measured (though this is still hard), provided that they have more than one unit at their disposal. The child will align units along the length to be measured, and then count the total.

MANIFESTATION:
What actions will the child do to attain the competencies?

Like 5-year-olds, 6-year-olds like to experiment with shapes and space. They enjoy “measuring things” by comparing them one-to-one or using their footsteps, and they start to count things using their fingers. Six year-olds like to play with pattern blocks, and they become intrigued by the “logic” inherent to Russian dolls, Cuisenaire rods, or Dienes blocks—all meant to embody aspects of the number series.

Again, math is more than counting, and logic is more than tables of truths, logical formulas, or propositions. To Papert, exploring mathematical ideas, at an early age, cannot be about applying a set of rules to a set of numbers to get a set of answers [Papert, 1993).

SUPPORT:
What can care-givers do to support this natural development?
There are many ways in which children enjoy thinking logically. Continue to encourage activities “beyond counting” where children can playfully engage in comparing, classifying, ordering, and patterning things (see previous section). In addition, at this age, many children begin to enjoy activities that involve:

Measuring using footsteps, or width of extended palm and deciding how long or how much (length, weight, volume, or other continuous quantities). Measuring can be done through direct comparison or indirectly, using a third element as a measuring tool. The measuring unit can be bigger or smaller than the quantities to be compared. Example: Place objects side by side, use a stick or string to compare lengths. Use footsteps

Counting without numbers and playing with numbers to learn to count: Experience numbers as labels. Experience the cardinal property of number (how many). Experience the ordinal property of number (first, second, third). Counting as in reciting numerals in order. PLUS- Attaching a numeral name to a series of objects (Note: Numerals are symbols for numbers which should be introduced after / following an understanding of the cardinality of a set.).

In all cases, it is important to pay more attention to what children are thinking about, and not what is literally correct. The best way to allow children to think logically on their own, is not to ask them to mimic expert’s logicians. Instead, teachers and parents can play an important role in cultivating children’s own logical thinking by proposing many exciting activities that involve mathematically rich ideas (Kamii, 1982, Papert, 1980).

Creations – Realising Visions

From Pretence to Intellectually Challenging Play. From pretend play to clever joking and teasing, from senseless incongruity to appreciating word puns, this is a year of big transition due to the child’s entry in the “concrete operational stage,” as defined by (Piaget, 1950) (see section on World). At this age, children begin to pay closer attention to “hidden” relations beyond appearances, and they understand that words can have double meanings. A child’s ability to think more logically in turn helps her understand and appreciate the “logical displacements” that make both fantasy play and humour possible. Word games and riddles, in particular, thrive, at this age.

Competencies:
What does the 6-year-old naturally strive to learn?
To a six-year-old, symbolic play takes the form of acting in plays, casting puppet shows, reciting riddles, and learning to write poetry and prose. Unlike 5-year-olds, 6-year-olds begin to prefer games that involve mental exercise in the place of acting out stories through make-believe. This being said, a six-year-old’s capacity for imagination and play continues, it is not abandoned. Video or computer games often become appealing at this age. And so are games with rules, such as board games or card games.

Six-year-olds’ sense of humour changes as they realize that words can have ambiguous meanings—a necessary condition for understanding the jokes of older children and adults. It is during this age that many children transition between stage 3 and stage 4 humour, as defined by McGhee (McGhee, 1984). That’s also when some children begin to enjoy simple riddles and knock-knock jokes, such as: “Knock knock / Who’s there? / Lettuce / Lettuce who? / Lettuce in. It’s cold out here!”

**MANIFESTATION:**
What actions will the child do to attain the competencies?

Pretend play as we know it goes somewhat underground at this age and play “with rules” takes centre stage. Children do not talk out or enact their make believe-games. Instead, they enjoy the challenge of games involving mental exercises, or discipline. “Hard fun” to use Seymour Papert’s term once again (Papert 1993) is the name of the game at this age.

As they gravitate toward their seventh birthday, many children begin to enjoy video games, computer games, and electronic toys, though this passion will further increase in the eighth and ninth years. These games and toys become the digital playgrounds for children in these age groups. While some children begin to like to move through the complexities and different levels of a video or board games, 6-year-olds may still try to bend the rules.

From enjoying “pure incongruity”, or nonsensical incongruity, six-year-olds move to appreciating “conceptual incongruities” for their consistent yet unexpected resolutions within an absurd context. This being said, when they make up their own riddles, the answer still often tends to be either realistic or nonsensical. Initially, that is, the child seems to view riddles as puzzling questions with arbitrary answers. The answers are not really arbitrary, of course, but seem to be to the child who cannot discriminate between the joking and the non-joking answer. For example,
to the question: “Why would you always wear a watch in the desert? The answer is: because it has springs in it” (McGhee, 1984, p. 132). The child interprets the absurdity of the answer to be the joke and does not understand that double meaning of the word “spring,” which is the essence of the joke.

Wolfenstein noted that, at about 6 years of age, many children begin to feel the need for a joke façade (Freud’s stage 3) to disguise aggressive, and otherwise taboo nature of their jokes. While four-year-olds take great delight in calling someone “pee pee” or “kaa kaa,” a six-year old probably will not. The child has at his disposal more sophisticated tricks to be a good jester and his teasing goes beyond mere name calling.

**SUPPORT:**
What can care-givers do to support this natural development?

At this age, adults usually find it easier to engage with the more “rationally playful” six-year-old. Play various board games or card games with your children. Share riddles, or get a book of riddles from the library (there are many) geared to this age level. The child will appreciate a good challenge, but she may be upset if she loses all the time. She may insist that all others abide by the rules, but may bend them a bit (or a lot) when it benefits her own standing in the game!

**CREATIONS — ENACTING AND CREATING**

*Draw What You See. Write Down the Spoken Word!* The seventh year marks a major breakthrough in a child’s creative expression, due to his access to concrete operational forms of thinking, as defined by Piaget (Piaget, 1951). Seven-year-olds find greater pleasure in language games, such as tongue twisters, secret codes, riddles, and rhymes. In their play acts and written productions, they now seek precision and logical consistency, and pay closer attention to audiences, fictional or real, to whom they address their creations. Earlier forms of pretend-and role-play find new expression through music, poetry, and drama.

Starting at age 6, children’s drawings become more detailed and representational. The child now likes to draw what she sees! In their writing, many children of this age move from writing single words, like their names, and copying letters and words, to jotting down what they hear in the form of “invented spelling.”

While “invented spelling”, an early form of speech written down, is often hard to decipher by an untrained adult, it constitutes a legitimate stage in
a child’s learning to write. It is also a good-enough convention, as long as understood by peer readers. Only when a child becomes genuinely interested in addressing his messages to wider audiences will he genuinely be interested and eager to spell correctly i.e. understand the usefulness of conventions.

COMPETENCIES:
What does the 6-year-old naturally strive to learn?

Six-year-olds like to engage in conversations, and are willing and able to exchange ideas and opinions. Both in their play acts and in ordinary conversations, children of this age are increasingly aware of their audiences, and they change their tone and inflection when feeling angry, sad, disgusted, or happy or, when play-acting, as if they felt angry, sad, disgusted or happy. Children of this age also regulate the content and level of complexity of their speech when talking to younger children.

What is true of spoken language and performance is also true of a child’s written productions. Six-year-olds like to improve their drawings to integrate “point of view”. The child, in other words, likes to draw what she sees and not just what she knows or imagines. Often interpreted by adults as a lack of genuine creativity, this new obsession with point of view just marks a new phase in the child’s growing creative expression.

MANIFESTATION:
What actions will the child do to attain the competencies?

As they enter the first grade, most six-year-olds can print their first and last name, and they now copy a diamond shape, and write the numerals from 1 to 19. The child also uses his newly acquired literacy skills to record his ideas in stories and to do arithmetic computations. His drawings become more detailed and representational (Anselmo and Franz, 1995. p.393), and their writings start to mean something, as they attempt to capture what’s being said.

Six-year-old children are fairly good at communicating their thoughts about a book they have read, or a TV show they have seen, especially if the book or show in question is familiar to all involved i.e. constitutes a common reference. Children of this age like to discuss character’s traits, motives, and plots.

Silent reading begins to play a more important role as the child learns to master the phonetics and encoding features of words, and the child’s written
messages move away from mock writing to the “real” writing down of spoken language, often resulting in invented spelling. Attempts at capturing point(s) of view and the third dimension of things in drawings leads to very interesting “errors”, or intelligent creative compromises, not unlike the ones we admire in many paintings by Italian Masters, like Giotto, in the early Renaissance!

Children in this age group, needless to say, still like to play-act and to dress up in costumes. Yet, their plots and plays become more sophisticated, consistent, and social; more dialogue than monologue.

SUPPORT:

*What can care-givers do to support this natural development?*

As the child approaches his seventh birthday, he may like to use a simple word processor in addition to handwriting. This tendency will likely grow during and after his seventh year. In effect, unlike the word cast on paper, a digital text is easily configurable, which has as a fortunate effect to break down the classical reader-writer distinction in dramatic ways. Readers/writers can add, delete, incorporate text and images as part of text, re-edit, and rearrange paragraphs. Digital texts, in a sense, are built like a patchwork or montage: You don’t need to start from scratch but you can assemble existing pieces and bits. As Lanham put it: “the interactive reader of the electronic world incarnates the responsive reader of whom we make so much” (Lanham, 1993). This quality may be appreciated by youngsters who like to think of creative expression as “found art,” or as the progressive adaptation or the “massaging” of other people’s ideas until they become one’s own!

Digital texts also allow for simultaneous processing of words and images, which can help children express themselves in their own hundred languages, thus allowing new genres of writing to emerge. Writing in the digital age becomes informal, multi-authored, multi-threaded.

By allowing the incorporation of multiple voices, cyber-writing can re-install the possibility for multi-logues. This being said, digital technology alone is no warranty for enhancing young children’s creative/critical reading, writing, thinking. It can only provide new occasions for exploring the bumpy road leading from spoken and written language, and bridging the gap between text and context, author and audience, words, images and sounds, in new ways.
7-8 Years

Me – Being Me

ME - USING MY BODY
Skate and Swim, Swing and Ski. Most 7-8 year old children are increasingly skilled at manoeuvring bikes and at using adult tools, such as hammers, saws, rakes, and shovels. Their ability to control movements in time and space, and in sync with others, reaches a new peak, which in turn, opens the ways to new passions: the child is now ready, and eager, to learn to swim and to skate, and she loves to participate in all kinds of group activities, such as sports, gymnastics, or dance. She does so with competency, understanding, and delight.

COMPETENCIES:
What does a 7–8-year-old naturally strive to learn?

In the eighth year, a child’s physical-motor skills reach new levels of refinement. So does his sense of balance, perceptuo-motors skills, eye-hand coordination, and body awareness. The child now more easily guides his body movements, using both perception (external visible or tangible clues) and proprio-ception (internal body image). Eye-hand coordination improves even further.

In sum, as they reach their eighth birthday, most children can master their body movements in time and space, and with others, including so called lateralization, or left-right coordination. To do so, they use visual, auditory, and tactile-kinaesthetic clues.

MANIFESTATION:
What actions will the child do to attain the competencies?

The child’s gross motor skills have improved constantly but significantly since her fourth birthday. Sport-specific skills are now a part of most of the games and activities in which she participates (Butterfield and Loovis, 1993). Children, at this age, like to meet friends for skating, roller-blading, swimming, dancing, and playing music. Some children begin to join organized leagues of team sports.
Simultaneously, the end of early school years also marks the consolidation and further rapid development of fine-motor skills. Sewing and knitting become possible. Arts and crafts are greatly enjoyed. Tying shoelaces is no longer a problem. At school, the child now begins to write in cursive script. His drawings become schematic, and attention to design, balance, and perspective increase.

**SUPPORT:**
*What can care-givers do to support this natural development?*

Again, imitation games as well as improvisational games are most effective here.

One useful way to help children understand the difference between improvisation and accompaniment, or “going solo” and following, is to let them switch roles as they play in a band, sing, beat drums, or dance. Let your child be the director, or choreographer, then be the solo player or dancer, and then disappear in the background and join in the chorus, or orchestra, to keep the beat for others.

**ME – KNOWING MYSELF**

Forming a Personal Identity. Researchers generally agree that a major shift in self-concept occurs as children approach their eighth birthday. That’s when their awareness of the psychological self becomes more fully developed. That’s also when children begin to show an interest in comparing themselves with others. They often do so spontaneously, as in “I ride my bike better than my little brother. Yet, my dad is better than me, and that’s OK”. Related, children at this age are now less sensitive to criticism and they won’t mind as much to stand out as different or odd. This state of grace usually lasts until the child reaches puberty, in the early teens.

Seven- to eight-year-olds’ self-control has greatly improved, although there still can be isolated outbursts of anger or withdrawal when upset—such behaviour is not unique to childhood!

The seven-year-old is less selfish than she was formerly, but far more self-absorbed. Children of this age tend to withdraw into themselves. It is as though they are building up a sense of self that will burst out a year later at age eight. The seven-year-old may appear sullen or quiet compared to the past few boisterous years.
According to Ames and Haber, the child’s experience of conflict undergoes a change at this age. “While conflict at six tends to be chiefly with Mother and over things he is supposed to do or not do, conflict now is more within himself, over accomplishments, ability, performance, living up to his own standards” (Ames and Haber, 1985).

**COMPETENCIES:**

*What does the 7–8-year-old naturally strive to learn?*

7-8 years olds start to develop sense of self, or personal identity, in the light of the areas that they dream of excelling in. So, for example, a child may see herself as an athlete, a bright student, an actor, a debater, or even a clown, and as she does so, she wants to be recognized and respected for this. Many children start to carve out a niche for themselves, in their idealized role, at school. Seven- to eight-year-olds can tell you more concretely what they are interested in, revealing a greater self-awareness of their likes, dislikes, and interests.

Like their younger counter-parts, 7-8 years olds still do not like to be too different from others in dress, hairstyle, or manner of talking. Yet, they are less sensitive, provided they “fit” into their own chosen category (say, as a cool or bright kid).

At this age, children also become increasingly able to evaluate their own performance in the light of what others think and do. They become better negotiators in cooperating with others, and better losers in competition. Fairness and cheating become important to 7-year-olds. They try to understand the rules and abide by them, and they become indignant when others do not.

At this age, the child’s moral sense is governed less by what is forbidden by her parents and more by what he holds to be right or wrong. The 7–8-year-old thus begins to develop a sense of conscience.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

A 7–8-year-old may express a desire for greater privacy and may ask for her own room or space apart from other siblings. Yet at the same time, she wants to know where she stands in relation to others. She wants to know what she’s good at, and what she’s not so good at, though she tries hard to
improve her skills. Indeed, seven- to eight-year-olds often show remarkable perseverance when it comes to perfecting their skills. A child of this age will spend hours throwing a ball against a wall, trying to aim it at a certain spot. She will play hours of hopscotch, basketball, jump-rope, Frisbee, or other activities that test her skill and accuracy. Her emerging sense of self needs to see that such skills are improvable, if not perfectible.

Her ability to appreciate different perspectives will manifest itself as a willingness to listen to someone else’s side of the story, for example, in a dispute. She can understand how someone else’s feelings might differ from her own.

SUPPORT:
What can caregivers do to support this natural development?

Give the child the space and privacy he needs and demands at this age, yet maintain connection with him.

Don’t let your child’s comparisons with others become invidious or debilitating. Stress the improvability of skills and differences among people, and that difference doesn’t imply inferiority.

Us – Growing Together

US - RELATING TO OTHERS
Balancing Me and Us. In the eighth year, children further develop and consolidate their co-operative skills while preserving their identity through a growing sense of “industry.” Achieving a balance between such apparently conflicting urges as “do what’s good for you” and “be good to others” remains a challenge, even at this age. So, for example, 7-year-olds still have to learn to “say what they think” or share their emotions to avoid the stress of “bottling up” in ways that do not jeopardize interpersonal relations.

Putting one’s understanding of human emotions at the service of pro-social behaviour is no easy task, even for adults. Yet, doing so successfully enables the child to carve a comfortable niche among others: one based on negotiation, mutual respect, and individual thriving. Seven-year-olds still have to deal with the fact that doing “what feels best” sometimes limits or hurts others. As they reach their eighth birthday, they become increasingly good at finding ways out of this dilemma.
COMPETENCIES:
What does a 7-year-old naturally strive to learn?

At this age, children understand and empathise with others, and they also argue with others and criticize them for doing or thinking things they don’t like. In other words, they bond and belong. Yet, they also stand behind their beliefs, at the cost of being “on their own.” Many 7-year-olds start to master the art of creating win-win situations. In other words, they have become competent social partners, and they carve their own role when cooperating with others.

This being said, children of this age, can also still be cruel at times, and point out children who are different as their “enemies.” Intuitively we know it: the smarter a person gets, of whatever age, the more sophisticatedly loving or cruel they can be. That’s where a child’s ability to build an inner sense of social justice, through cooperation and mutual respect, becomes key, and where the best thing adults can do is to serve as role models.

MANIFESTATION:
What actions will the child do to attain the competencies?

Seven-year-olds begin to have idols they identify with. They also find a best friend and they tend to stick with that friend for a longer period of time than they did in earlier age groups.

By the time they reach their eighth birthday, most children are eager, beyond negotiating mutual wants and needs, to sustain friendships over time and across context. They begin to enjoy talking over the phone with friends, and using cell-phones or computers to communicate (this tendency will increase at age 9). They also like to belong to a league or group like scouts. Many girls take pleasure in keeping a diary.

Some children still show occasional aggressive behaviours at this age, which is normal. However, if antisocial behavioural patterns persist, they should be taken seriously. The child may need help to outgrow them.

SUPPORT:
What can care-givers do to support or enhance this natural development?

During school years, a child’s relational / emotional maturity, pro-social behaviour, and inner sense of social justice can be enhanced by adult encouragement.
Help your child express and communicate her feelings, and create a safe context to discuss the consequences of certain emotional reactions to / from other people, and on self. Imagine scenarios, based on the work by Smith (see previous age year) that can be played out in the realm of make-believe. Again, do not pressure any child to disclose her feelings if she doesn’t want to. In addition to Smith’s “peeling feelings” types of games, Damon (1977, 1980) developed hypothetical stories and presented them to children from the ages 4 to 12 to study their social reasoning. Similar stories, involving moral paradoxes, can be imagined and used for educational purposes.

Most adults are concerned about the expression of aggression and other negative feelings in children. Yet, adults don’t always do what’s best to encourage youngsters’ expression of positive or pro-social behaviours, including co-operation and altruism. A first rule, when it comes to teaching positive feelings and pro-social behaviours is, again, be a role model. Care, understanding and consistency, more than moralistic talk, will be more likely to have an impact. Children are very sensitive to hypocrisy and are experts at imitating adults in what they do, and not what they say. Research on children’s altruism shows that the single most important factor in encouraging altruistic behaviour in children is the presence of a role model who is herself altruistic and who expresses genuine pleasure in doing so (Shaffer, 1988).

US - UNDERSTANDING OTHERS

Coming to Understand the Psychology of Others. In the eighth year, the child’s self-and-other knowledge includes an awareness of many psychological components, such as needs, beliefs, and values, as they change over time, across context while, at the same time, retaining some consistency within a person.

While this is huge progress, the child, at this age, still assumes that psychological and physical realities are, or should be, consistent. In other words, it is hard to understand, for a 7-year-old, that someone may not feel the same as they do, or not think what they say. Psychological “reality” is inferred from what’s being expressed by a person (i.e. her behaviours) and not what’s being intended, or thought, or repressed (i.e. his mental states).

As they reach their eighth birthday, children cease to be “naïve behaviourists” and come to appreciate the importance of inner states and subjective perceptions in defining external realities. In other words, we can only understand others, and the world, through the lens of our own understanding. Understanding this is no trivial pursuit!
COMPETENCIES:

What does the 7-year-old naturally strive to learn?

Most researchers agree that a big breakthrough in both self- and other-awareness occurs around the age of eight when a person’s psychological self is seen as being distinct from its physical and behavioural manifestations. This, in turn, requires an understanding that, when it comes to understanding others, what you see is NOT what you get.

Most 7-year-olds still believe that “reality”, psychological or otherwise, is an absolute thing associated with physical, concrete objects that can be known directly. Children think of their minds as a part of their physical body. They have little sense of the “reality” of human feelings, needs, personality i.e. no understanding that thoughts may be produced in a specific part of the brain, or body. They also have poor concept of what happens inside their or other people’s bodies.

As they reach their eighth birthday, children begin to understand the importance of perception in providing information about “reality”—psychological or otherwise. They strongly believe that what you know is whatever you can see, hear, touch, etc. To them, all people have a brain, and thoughts and images come from the brain or mind.

MANIFESTATION:

What actions will the child do to attain the competencies?

Children of this age are well aware of other people’s needs, and they will be able to apply their own awareness of such feelings to sympathise in the true sense of the term. For example: say a child knows her friend’s strong desire for a toy and disappointment at losing it. If the child then takes the toy away from her friend, she is able to address her friends’ feelings (i.e. she knows she has caused her friend’s sadness) and, in the light of this, will most likely give it back to her...against her own desire to keep it. In other words, the child is able to project her understanding of her own emotional / psychological states onto others.

Seven-year-olds become able to compare themselves with others, and to acknowledge that others may be better, or different, and how. They also respond to questions about others in relative terms: he is better than me at running, and that annoys me.
**SUPPORT:**

*What can care-givers do to support this natural development?*

Moral paradoxes, and puzzling scenarios for role playing games are very relevant at this age. The same goes for “feeling peeling” types of games (Smith), or anything that enables the child to understand others, and to take on their perspective and, beyond that, that helps the child to move in and out of a different perspective, and do so in varying contexts.

A more general rule of thumb, especially for families: 1. spend quality time together, 2. communicate your feelings, 3. show appreciation and support for each other 4. build a common sense of purpose and values, 5. show commitment, even at the worst of times (Stinnett, Sanders, and DeFrain, 1981). Obviously, there are as many different styles of parenting as there are parents. In all cases, the art of education consists of helping the child find a balance between self-assertiveness and conformity with group standards. To do so, parents should be neither too authoritative nor too permissive (Baumrind, 1977).

**World – Making Sense of it All**

*WORLD – EXPLORING AND INVESTIGATING*

Developing Flexibility & Perspective. Seven-year-old children mainly consolidate the large gains they have acquired in their previous year. Most 7-year-olds succeed in more complex classical Piagetian tasks, such as the classical “conservation” of areas and weight. The children’s thinking at this age is, generally speaking, more objective, and animism as well as magical thinking, while still used a great deal in play, are no longer dominant as the child explains how the world works. In other words, the child does not lose his imaginative-poetic ways to scientific rationality. Instead, he becomes better at knowing in which circumstances what forms of thinking are most effective.

**COMPETENCIES:**

*What does the 7-year-old naturally strive to learn?*

Seven-year-olds’ manners of inquiry, ways of thinking, and worldviews are increasingly flexible as they become better at taking on different perspectives. They are able to change variables in a situation with some rigour and logic, as they better understand the contexts in which certain solutions need to be found.
**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

Experiments by Jacques Montangero and by Francisco Pons, indicate that children up to 8 years old tend to describe changes as a quantitative increase of one variable, whereas at age 11-12 they can handle the growth / co-evolution of different variables.

Conservation: Many seven year-olds begin to conserve lengths, weights, and areas. As mentioned in the previous section, all interviews about conservation use the same sequence. Their ease with understanding conservation manifests itself increasingly in everyday life: they are rarely “fooled” by false appearances of “more.”

Children of this age like to play boards games, chess, video and computer games, and some children become great collectors: they like to trade cards.

**SUPPORT:**

*What can care-givers do to support this natural development?*

Sigel and Cocking’s “distancing” activities can be relevant at this age. The idea here is to help children observe things carefully and use language (and other means of description) to shape and sharpen their understanding of things (Sigel and Cocking, 1977). So, for example: a child may be encouraged to observe things carefully: (“watch what it’s doing”), to describe and interpret things in her own words: (“what’s this?” ; “how does it feel/work/appear”; what does it mean?). The child may also be encouraged to demonstrate what she means and explain what she thinks (show and tell).

At this age, children enjoy very much going to Children’s and Science museums. They like to vary observations by looking at things through magnifying glasses, from microscopes to telescopes. They become interested in the otherwise “invisible” qualities of objects, and they love to change their stance, perspective, or lens to unveil different layers of “otherwise invisible things.”

**WORLD - SEEKING LOGIC**

Consolidation of “Know-how” and “Know-when”. In the eighth year, concrete-operational children are consolidating the potential acquired during the previous year, which involves both grounding and increased
flexibility. In effect, while 7-year-olds’ thinking is generally more objective, logical, and abstract, it also becomes increasingly grounded, flexible, and more situated. Children, at this age, know when it is best to think logically, or poetically, or ethically when dealing with different situations. More to the point, they know under which circumstances a given logical reasoning applies or breaks down.

As an example, seven-year-olds generally understand the nature of transitive relations. (If A is smaller than B, and B is smaller than C, then A ought to be smaller than C.) They will tell you that “it has to be that way”, that “they know even if they haven’t seen A and C together.” At the same time, 7-year-olds also know when transitivity should NOT be used: They will NOT infer, like younger children do, that “if Ari knows Bonnie, and Bonnie knows Mike; Ari ought to know Mike”.

**COMPETENCIES:**
*What does the 7-year-old naturally strive to learn?*

Philosophical and ethical questions raised by children in the early school years have the potential of helping them think independently, logically, and critically. Philosophical thinking involves questioning fundamental assumptions. It helps children carry through an argument, or reasoning, and draw valid inferences. It also helps them build a rationale or reasons for their beliefs, and understand that not any rationale goes! Ethical questions raised by children help them understand under when logic alone won’t do! The logic used to deceive or confound may be different from the logic used to convince or critique!

Children at this age can measure the length of objects using measuring units that are smaller than the units to be compared: the children align the units and they understand that the length that has more units is longer. Children also begin to understand particular cases like: twice as big (if one element needs 2 units and another one), or three times as big (one against 3). Quantities like two thirds are still a problem,

Children at this age can add and subtract. Many start to understand simple multiplications. Fractions are still problematic.

**MANIFESTATION:**
*What actions will the child do to attain the competencies?*

With only a little encouragement from adults, 7-year-olds engage in hand and finger play involving counting, adding, and subtracting. A child’s two hands,
each with its five fingers, is a youngster’s first mobile calculator. Children of this age also like to exchange and distribute tokens, M&Ms, or toys and, in doing so, they develop their own sense of when they, or their dolls, get their fair share.

Equally intriguing to children is the idea of measuring by arm’s spread or footsteps. For example, children can be encouraged to use their own footsteps to mark out several equal areas for block building. Obviously, children do not measure precisely, they may take longer and shorter steps, but they will understand the concept of counting off distance using part of their body.

SUPPORT:
What can care-givers do to support or enhance this natural development?

At this age, continue to imagine activities that involve both measuring and counting. In addition, always remember that thinking logically goes beyond numbers and sets. Use philosophical thinking and moral paradoxes as a way to ground logic in contexts. Help the child become an “epistemologist” beyond a logician or mathematician. An epistemologist is someone who knows what kinds of thinking, logic, knowledge, and techniques for validating knowledge are better suited to which kinds of endeavours or situations than others.

• Measuring: Beyond direct comparison, or body-centred “footsteps” encourage measuring using a measuring “unit”. Measuring unit can be bigger or smaller than the quantities to be compared. Example: Place objects side by side, use a stick or string to compare lengths. Use footsteps.

• Counting: Beyond counting-and-pointing, allow children to explore the ordinal and cardinal properties of number. Note: Numerals are symbols for numbers which should be introduced after / following an understanding of the cardinality of a set.

Additionally, at this age, children may also enjoy activities that involve organizing, representing, and recording mathematical information.

- Building and controlling graphs.
- Drawing and building models.
- Creating one’s own invented representations to quantify things.
- Giving instructions to other children on how to achieve some goal.
- Simple programming activities. Example: Papert’s “Turtle geometry” is based on a body-centred notion of geometry that is conveyed to a robot or virtual “turtle” that draws on paper or on a computer screen. (Papert 1980, Abelson and di Sessa, 1984)
Last but not least, discussing philosophical issues helps children learn to
distinguish between the factuality of a statement, and different subjective
takes (Strichartz and Burton, 1990; Lipman, 1984). Matthew Lipman’s
contribution to children’s philosophical education during the early school
years is significant. The Institute for the Advancement of Philosophy for
Children (Montclair State College, Upper Montclair, NJ), under the direction
of Matthew Lipman, has developed educational activities for developing
philosophical thinking. Lipman’s books include: Rio and Gus, 1982; Pixie,

Creations – Realising Visions

CREATIONS – IMAGINING
Seven-year-olds spend much of their time refining and expanding what they
have learned during the previous year. Here again, hard fun is the name of
the game at this age, and word games and riddles continue to thrive.

Early forms of pretence, as played by younger children, now take on the forms
of acting in plays, setting up puppet shows, writing poetry, prose, or playing
video games and Pokemon with peers. Video or computer games become
appealing to 7-year-olds who, more than their younger counterparts, are willing
and able to move through the complexities and different levels, as a means of
self-improvement. Seven-year-olds also become more interested in, and good
at, commercial board games and checkers, and perhaps later, chess.

At this age, children’s humour changes in the sense that the child is no longer
satisfied with producing incongruity for the sake of incongruity. Instead,
the resolution of incongruity, in a joke-like fashion, becomes a key element
to foster amusement. This, in turn, contributes to a better understanding of
riddles in which a puzzling question calls for an answer made arbitrary by
the fact that a person was expecting to react to meaning A and was given
meaning B, but made systematic by the fact that meaning A and B share
another systematic relation (Sutton-Smith, 1975). Examples of riddles include:
“Why did the cookie cry? Because its mother was a wafer so long.”

COMPETENCIES:
What does the 7-year-old naturally strive to learn?

Symbolic Play: The most popular forms of play, at this age, require a great
deal mental exercise, or discipline (they are challenging) while at the same
time, occurring in a fantasy context (they comprise a fictional element). To a 7-year-old, video games and digital toys often become a favourite playground for “hard fun” because they allow for self-improvement within a virtual context of escalating levels of complexity, challenge, and difficulty. Like earlier forms of pretend play, they enable the child to play out some of his feelings and ideas on a make-believe ground. Like theatre, they constitute a virtual world or make-believe stage in which risks can be taken without consequences.

Humour: When first and second graders make up their own riddles, the answer still often tends to be either realistic or nonsensical. Initially, that is, the child seems to view riddles as puzzling questions with arbitrary answers. The answers are not really arbitrary, of course, but seem to be to the child who cannot discriminate between the joking and the non-joking answer, which calls for a greater degree of linguistic sophistication than the child can muster at this point.

**MANIFESTATION:**

*What actions will the child do to attain the competencies?*

Children of this age become more willing and able to adhere to the rules of a game, whether the rules are self-established, as in open-ended games, or dictated by a game, as in video games or checkers. Provided the child likes the game she is playing, she won’t bend rules anymore but she will stick to them faithfully. Again, hard fun is the name of the games, at this age!

This is the age par excellence of glory of word games and riddles. In McGhee’s words: “By the age of seven or eight, most children have become aware of the fact that many words are ambiguous in meaning and that this ambiguity creates a whole new world of possibilities for humour. This sets the stage for the elementary-school child’s favourite form of humour—the riddle […] One of the interesting features of the early enjoyment of riddles is that many children begin to memorize and recite them before they fully understand them” (McGhee, 1984, p.132.)

**SUPPORT:**

*What can care-givers do to support this natural development?*

Help the child express his most daring thoughts “in a hundred languages” (see next section). And help him convey what he means, or wants to tell, in a language and form that is creative yet understandable and acceptable by others.
Children this age like to be challenged. They love to figure things out. Word-oriented games like ‘Scrabble’, ‘Fictionary’, and simple crossword puzzles allow a child to exercise her newly developed mental/linguistic reasoning abilities. Many of these games can be played successfully without being competitive (e.g. without keeping score). The focus can then be placed on the joy of creating clever solutions.

CREATIONS – ENACTING AND CREATING

Becoming a designer! Significant changes mark a child’s creative expressions, both written and oral, during her early school years. A general trend, manifest in a 7-year-old’s drawings, writings, and musical notations, is a move away from early forms of fanciful figurations toward more cultivated, logically consistent, and more conventional expressive forms. The child now takes the time to work on and refine her spontaneous expressions. She becomes a designer!

While less imaginative in appearance, these more realistic-looking productions should not be seen as a drop in a child’s imagination! Instead, the child’s focus is shifting. He now fine tunes his productions to satisfy multiple points of view, and he seeks to integrate new dimensions. The child also crafts his expressions to fit her audiences, as well as their own point of view. He addresses his artwork.

In sum, beyond speaking her mind spontaneously in a hundred languages, most seven-year-old children seek consistency, often within a medium, and external transparency as criteria for success in the realization of their fantasies. They want their artwork to be well crafted and understood by those she cares about. They want it to be neat!

Once this industrious / laborious phase has passed (Erikson, Piaget), the child will be ready again to unleash his creative mind. But, this time around, his creative leaps will be even more expressive and mature. It is through cycles of inspiration and “transpiration” (i.e. hard fun) that a child’s imagination gives rise to creative artistic expression. Again, exact ages are not the point here.

COMPETENCIES:
What does the 7-year-old naturally strive to learn?

As they reach their eighth birthday, most young creators have learned to express themselves through enactments such as painting and drawing,
dance and music, to name just a few possibilities. They have become fairly
good “designers” and crafts-persons, and their repertoires-of-realization
for expressing and communicating thoughts and feelings, oral, written, and
artistic, are richer, more elegant, and more social.

Seven-year-olds like to express and communicate their thoughts, be it about
a book they have read or a TV show they have seen, and they spend much
time discussing character traits, motives, and plots.

Seven-year-olds also like to draw, write, and perform: they do all of the
above in very mindful and sophisticated ways:

Silent reading starts to play an important role as the child learns to master the
phonetics and encoding features of words. The child’s drawing and writings
further improve, and so do her abilities to capture music and movement,
using invented symbol systems to indicate the musical features of a song or
rhythm, or to give other people directions on how to move about in space
and reach destinations such as their house or the school.

When asked to write down a song they know “so that someone else can sing
it,” children of this age, even untrained in music, will invent amazingly rich and
articulate representations of the songs they know, featuring rhythm and pitch,
which they combine in a simple phrases using all kinds of signs and symbols.
Their musical notations reveal deep understanding of music (Bamberger,

**Manifestation:**
*What actions will the child do to attain the competencies?*

Musical pitch emerges as a primary component of children’s musical
development by the age of seven (Davidson and Scripp, 1988), and in their
spontaneous musical notations, seven-year-olds represent both rhythmic
groupings and the melodic contour of a song (using, say, strokes and dashes
to indicate rhythmic groupings and writing the words of a song in a downward
or upward slope (like a mountain) to mark the melodic contour.

Many children of this age begin to enjoy giving oral presentations, and demos,
of topics at school, or in debates. They use language, and other media of
expression, rather proficiently. Others, shyer of performing in front of many
people, feel more comfortable performing their show- and-tell before family
members, such as parents and siblings.
In their play, they love to play creatively with language using words games, riddles, and songs.

Other skills include the abilities to:

- Represent others and the world around them through words and through non-verbal forms of communication, such as dance, music, art, facial expressions.

- Use expressive language: ideas well presented, verbally and otherwise.

- Listen or use receptive language skills: understanding and following directions (from Dorothy Singer’s relevance grid 6-14)

**SUPPORT:**

*What can care-givers do to support this natural development?*

Play environments that allow for creative and critical literacy activities, in a broad sense, are important at this age. In addition to teaching children literacy in the narrow sense, take the time to cultivate their creative and critical mind through arts and through staging and/or discussing multi-media performances. Look at TV shows and theatrical performances with your children, and engage them in reading pieces to be discussed in groups. Play and discuss their favourite video games with them. Teach them to make things and speak out while, at the same time, cultivating their critical mind.

Challenge students to reason with images instead of words, to think sideways and upside-down. Visual-thinking instructor, David Haygood, from IDEO, developed principles of making the familiar strange. Used in many art schools, such techniques are useful, especially at this age, to help the child think “outside of the box” and think of well-crafted yet novel ways of expressing her imagination.

Digital technologies can be used help foster literacy beyond print or dialogic writing. Of particular relevance, at this age, are hybrids, such as text-based storytelling and role-playing environments, as well as environments that enable one translate text into speech (i.e. speech synthesizers) and to use text as commands. All provide new ways of integrating speech and writing and navigating between oral and textual literacy and their respective modes of thought (Ong, 1982). All do so by reconnecting authors to their audiences and interlocutors, and by bringing audiences back to the site of a plot.
E-mail and other on-line “messaging” services allow older children (7 and up) to join in virtual communities. Participants can send and receive messages using text editors, which allow them to compose/edit on the screen, move text around by cutting and pasting, reconfigure, and rearrange text. Kids can also send images, sounds, and build composites.

Networking is often used in schools as a way to help children who like to be “connected” to engage in writing. In social virtual environments, or MUDs, participants engage in anonymous role-play, enacting multiple characters, putting on different masks, exploring aspects of themselves otherwise concealed. MOOSE Crossing is a text-based MUD created by Amy Bruckman in which kids can converse, exchange gestures, and express emotions in real time. Kids describe places by using words. According to Bruckman, they use typographic conventions like “emoticons” to replace physical gestures and facial expression, and they use onomatopoeic expletives, and often ignore spelling errors. In MOOSE Crossing, words and programs are intimately connected. Words are used both to describe things and as commands to trigger interesting event. Words here are used as keys to trigger actions and events. Children’s experiences on MOOSE Crossing take place in a web of social relations. Their writing is both multi-authored, ephemeral, and with a string of verbal commands to transform the world. All happens in situ. (Bruckman, 1999).

NOTE:
While most adults deplore youngsters’ increasing indifference to spelling errors, children nowadays learn to spell in new ways. Like many of us, they set the spell checker of their word-processor on “signal” mode and fix underlined words as they write along. Sometimes they find the right spelling by themselves. Sometimes they look it up. More often than not, they learn quite a bit, and effortlessly, as a result of using a spell checker.
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