What children’s drawings tell us about their brain development

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Children’s drawings are their earliest attempts at writing and an important phase in their overall development. It is a phase when they represent what they have experienced with their senses when drawing in dry or wet sand, with water on a dry wall or on paper. It is not easy to use stubby and clumsy little fingers (2-4 years) to say what they mean, and that is why a scribble can be a fire engine, a bat or scramble eggs. Converting thoughts onto paper is a skill that takes years to develop and goes hand in hand with ‘reading’ their own pictures by looking at their works of art and reconstructing their own thoughts and feelings before saying it out aloud.

Children only draw what they are aware of

If a child is not aware of a windmill, he does not draw a windmill. If a child doesn’t know fish, he doesn’t draw fish. The world the child lives in and the experiences he has in that world all find their way onto paper in an attempt to make sense and give meaning to what has happened or is happening at the moment. This is why children’s drawings are not only an important step towards writing and reading a few years later, their drawings are also a way of telling a caring and observant parent and teacher what is going on in there (heart and head). Because children often lack the self-awareness to identify, name and say exactly what’s up, untaught drawings can guide a parent and teacher to give a hug or develop a skill that the drawing is pointing out.

Two strange concepts: drawings can ‘talk’ and ‘untaught’ drawings? Untaught drawings mean you do not teach a preschool child to draw anything. You rather make him or her aware of a body part, position in space, relative size, direction, etc. through an experience of that rather than teach-to-draw, so if it doesn’t appear in the drawing, you know it still needs some development. Drawings can ‘talk’? Yes they do. In the early years drawings, paintings, a collage or any other form of free creative activity, talks louder than words. Colour in pictures, worksheets and dot-to-dot and paint-by-number are great activities a few days of the week for 6 year olds to learn fine motor control, but till then the focus is on freedom of expression.

Children do not just draw things from their environment, they also draw the most important person in their whole wide world – themselves. It is their self-portraits that tell you something about their development - if children are not aware of their hands, they don’t draw.
hands. If they aren’t aware that they are standing on solid ground, they do not draw a grounding line underneath a figure. If they are not aware of their ears, they neither draw them nor use them to listen the first time. If they do not spontaneously draw a neck, it is a sure way of telling that the child is not ready to read or write yet.

A drawing is not a diagnostic instrument, but for most observant teachers and parents a child’s drawing can tell you which part of the brain still needs wiring and which parts are already wired well. When you take into consideration that their senses of touch, movement, smell, taste hearing and sight all feed into the feeling and thinking parts of the brain, it makes perfect sense that their drawings would also show what is going on in the grey matter between the ears.

*Drawings show what is going on in the grey matter between the ears*

**The sense of touch** feeds into the middle part of the brain and is the largest of all the sensory organs.

**The sense of movement** feeds into more than one part of the brain – **uncontrolled movement** feeds into the survival part of the brain, where movement-without-thinking lives. **Skilled movement** (jumping on one leg, skipping with a rope, cutting on a straight line, speaking clearly and tying a shoe lace) lives in the front part of the brain.

**The sense of smell** feeds into the side part of the brain which is also the area where a sense of direction, sequence and priority is processed so the brain can figure out where is the fire threatening his safety, or where the freshly baked bread can be found.

**The sense of taste** is processed close to the sense of touch and both of these senses are closely related with the emotional part of the brain.

As a matter of fact all the senses where there is only one: 1 skin, 1 sense of movement (later also balance), 1 nose and 1 mouth feed into the emotional part of the brain to create a sense of safety and security. These 4 senses tend to create a sense of comfort and that is the reason why touch, rocking and food (smell & taste) is often to make someone ‘feel better’. These same 4 senses are also the best senses to use to teach something that is a bit more difficult to understand. **Concepts** are more difficult to understand because they are not real object that can be touched and held in the hand. Concepts are things such as manners, hygiene, shapes, position in space, numbers and letters, and in later years, fractions, science, etc. When concepts are taught (while using real objects that represent these concepts), abstract concepts become easy to understand and to learn. For example using soap, a toothbrush and toothpaste, a towel and clean water makes the concept of hygiene much easier to grasp.

The first 4 senses can be called high intensity senses, which help memory to kick in, while the more complex and paired senses – ears and eyes can be called the senses that need repetition to store information in memory.
The 2 paired senses – the ears and eyes feed into thinking part of the brain and is why teachers use these 2 senses the most in the classroom – to make children clever. The older the children, the more teaching should ‘feed’ the ears and eyes to facilitate learning, but in foundation phase (and whenever a brand new concepts is learned), learning on a concrete level works best where children can touch, handle, smell and if appropriate get a taste of what they are learning about.

_Touch = primitive hearing_  
_Taste = primitive sight_

Preschool learning is most effective if learning is fed into the brain through touch, movement, smell and taste, with lots of input to preschoolers’ ears and eyes too, but without neglecting the fabulous four (touch, movement, smell & taste). **Happy & effective learning** happens when the fabulous four are working; **serious & abstract learning** happens when ears and eyes are primed and bodies are still. Simple maths says 1 comes before 2, hence focus on the use of the fabulous four is also a wise choice to teach something new, not by **excluding** talking and showing, but by using touch, movement, smell and taste to help the brain to make sense of what is heard and seen.
An example of a 3year old drawings saying:

I am aware of my eyes, nose, mouth, arms and legs, but my head and body is still one.

Help me to experience my body, ears, hands and feet using games, songs and dances; using a bean bag on different body parts; rubbing my ears before every new theme is discussed or instruction given and plenty more fun activities.

An example of a 4year old drawing saying:

Look, I am aware of my head, eyes, ears, nose, separate body, arms and legs.

Help me to experience my hands and fingers, feet and toes to develop balance and fine motor control using games, songs and dances; touching and using different body parts; rubbing my ears before every new theme is discussed or instruction given and give me plenty more fun activities, but because I am becoming more skilled, challenge me!

Also, maybe ask my mommy to check my tummy? If a draw a tummy maybe it is just nice and full, but maybe... just maybe my tummy isn't well, or I am pretending to be pregnant like mom!

An example of a 5year old drawing saying:

I am aware of my entire body, especially running and playing games using my arms and legs. Did you notice my cricket bat and ball?

Do not be too concerned about the proportions of my body, just help me to become more aware of my body, fingers and toes by touching the different body parts; putting a red square on my tummy and a green triangle on my back. Let's do many more fun activities like that every day till my drawing shows you that I know those parts.

My body is my very first map. Did you know? My brain works just like
a GPS - without a good map, a GPS cannot work out how to get you from point A to point B, and so my brain cannot help me catch a ball, climb a jungle gym, gallop, walk on a raised beam, where left and right is or how much space I need to draw. My body is my GPS, please help me discover and use my entire body skilfully before you ask me to sit still for long and to learn to write and read. I’ve got a whole lifetime to do that, I only have now to learn playfully, please allow me to do just that?

**An example of a 6 year old drawing** saying:

I am aware of my entire body and in the right proportions. I fill the page because I feel good about myself and feel grounded by drawing a line under my feet. Don’t worry too much about my tiny feet, my motor planning is not 100% yet, but it will improve when my teacher teaches me to: **stop, think, plan** and then only **do**.

Did you notice that I am aware of my elbows? Mmmm, and check out my neck! This means my head is now still and my eyes are **getting ready** to read and write more than just my name. If teacher can just help me with a bit more fine motor activities (interlocking blocks, puzzles, pegsboards, wood work, cutting on a line, etc) to develop my fingers, I will be a bright-eyed grade 1 pupil next year.

Thank you mom and dad, for allowing me to develop fully but **playfully** in preschool! Now my body heart and head is **nearly** ready to sit still and listen how to write and read. Now I am ready for a preschool workbook or an activity page or worksheet because all my other skills have already been developed! Yes, I can even cross my midline, tie a shoe lace and **skip** with a rope!

**Examples of what else children’s drawings might say**

**NOTE** these are real examples of children’s drawings. Kindly do not use these examples to ‘diagnose’ other children’s drawings. These drawings are purely being used to illustrate that
drawings reflect what is going on in the sensory and motor, emotional and cognitive parts of the brain.

I am six years old and not comfortable in my skin. Please ask a professional person such as an occupational therapist or a Mind Moves person to determine if my skin is too sensitive or not sensitive enough. It is important to know, because if my skin is too sensitive, I need one kind of treatment and if my skin is not sensitive enough, I need another kind of treatment. Either way mom, please help me!

I am six years old and am wearing a hearing apparatus. My big ears show that I am very aware of my ears. I have not mouth because I am very quiet because now that I have my hearing aid, I need to go to speech therapy and read lots of stories and play even lots more games with mom and dad, so I can learn to speak clearly.

This is my dad and I. See, I can draw a mouth? My dad tells me stories and page through books with me and names all the things in the book, so I know his voice and I show that I know by drawing his mouth.
Our teachers went to a NAPTOSA talk on Mind Moves and asked us:

1. Draw a picture of ourselves
2. Do three Mind Moves for a whole week in pairs. We did these three moves every morning and did each move three times. We did the Antennae Adjuster (rub our ears), the Mind Moves massage (firmly tracing our outlines) and the Rise and Shine (giving ourselves and each other a hug)
3. After doing these three Mind Moves for five days, we drew another picture of ourselves and these are some of the results.

BEFORE

A WEEK LATER

We did not learn to draw in one week, but our body maps have improved in a week and our drawings are showing it!

There were hundreds of drawings from teachers from many schools, these 2 were selected randomly, but many more examples are available.

My teacher said the drawing that made them all cry was a drawing by David-Ryan (13 years old) who goes to a school for children with special needs. He has been diagnosed with
Cerebral Palsy, but his dedicated teacher Daleen, did his body outline every day, because the children in his class could not easily work in pairs to do each other’s outlines.