

Its all in the brain! Cognitive skills, problem skills and attention.

**Dr. Swati Popat Vats
President
Early Childhood Association**













Its official now.. NEP 2020 says...

- **Over 85% of a child's cumulative brain development occurs prior to the age of 6, indicating the critical importance of appropriate care and stimulation of the brain in the early years in order to ensure healthy brain development and growth.**

Mahatma Gandhi on Importance of the first 5 years of life



“We labour under a sort of superstition that the child has nothing to learn during the first five years of its life. On the contrary, the fact is the child never learns in after life what it does in its first five years.”

“The most important period of life is not the age of university studies but the first one the period from birth to the age of six.”



- Maria Montessori

National Education Policy 2020 recommends...

- ECCE ideally consists of flexible, multi-faceted, multi-level, play-based, activity-based, and inquiry-based learning, comprising of alphabets, languages, numbers, counting, colours, shapes, indoor and outdoor play, puzzles and logical thinking, problem-solving, drawing, painting and other visual art, craft, drama and puppetry, music and movement.
- It also includes a focus on developing social capacities, sensitivity, good behaviour, courtesy, ethics, personal and public cleanliness, teamwork, and cooperation.
- The overall aim of ECCE will be to attain optimal outcomes in the domains of: physical and motor development, cognitive development, socio-emotional-ethical development, cultural/artistic development, and the development of communication and early language, literacy, and numeracy.

Plan

Do

Review

Plan

- *Why am I teaching this concept to children?*
- *Why is it important?*
- *Which strategies will I use?*
- *Are there any strategies that I have used before that might be useful?*
- *What are the interests of the children in my class?*
- *Are my strategies in line with them?*

Plan

Do

Review

Do

- *Is the strategy that I am using working?*
- *Do I need to try something different?*

Plan

Do

Review

Review - Self reflection

- *How well did I do?*
- *What didn't go well?*
- *What could I do differently next time?*
- *What went well?*
- *How much were children engaged in the activity?*
- *Do my students want something different?*

David Perkins (1992) defined four levels of metacognitive learners

Which kind are you?

- 1 Tacit learners - this is how it was always done!
- 2 Aware learners - I liked the idea so I used it!
- 3 Strategic learners - They think-question-understand and then use.
- 4 Reflective learners - they question and reflect while implementation too.

**What is this play based
learning that NEP stresses on?**

Does it mean no learning?

IF WE TEACH THROUGH 'PLAY', DO WE TEACH LESS?

- Because a program uses playful ways to build children's success does not mean the curriculum is not rigorous or academic. It means that it is just right for what's best for three, four and five year old children (Gaye Gronlund)

Did you know that the right brain develops first?

It does so by the time children are 3-4 years of age.

Short term-left Long term- right

- o The right brain is responsible for long-term memory storage.
- o Generally this process of storing material in the short term memory (the left brain's responsibility),
- o And then transferring it to our long-term memory (the right brain's responsibility) is automatic,

Left and Right brain

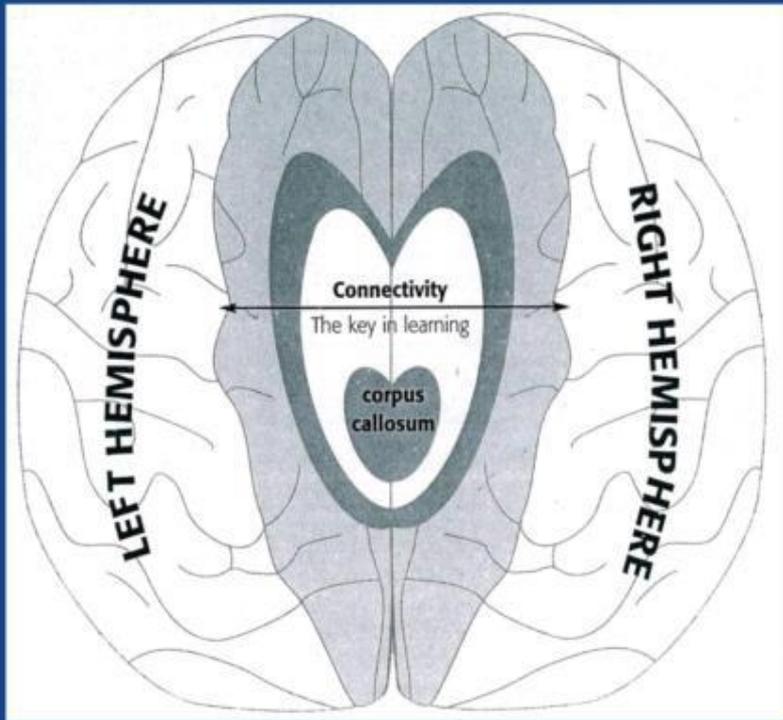
The left brain 'digital brain', is connected to:

- o logic
- o sequencing
- o linear thinking
- o mathematics
- o facts
- o thinking in words

The right brain 'analog brain', is connected to:

- o imagination
- o holistic thinking
- o intuition
- o arts
- o rhythm
- o nonverbal cues
- o feelings visualization

Left and Right Brain



- Our ability to love, hate and experience emotional pain.
- Music and rhyme help them work together.
- Our ability to make decisions and solve problems.

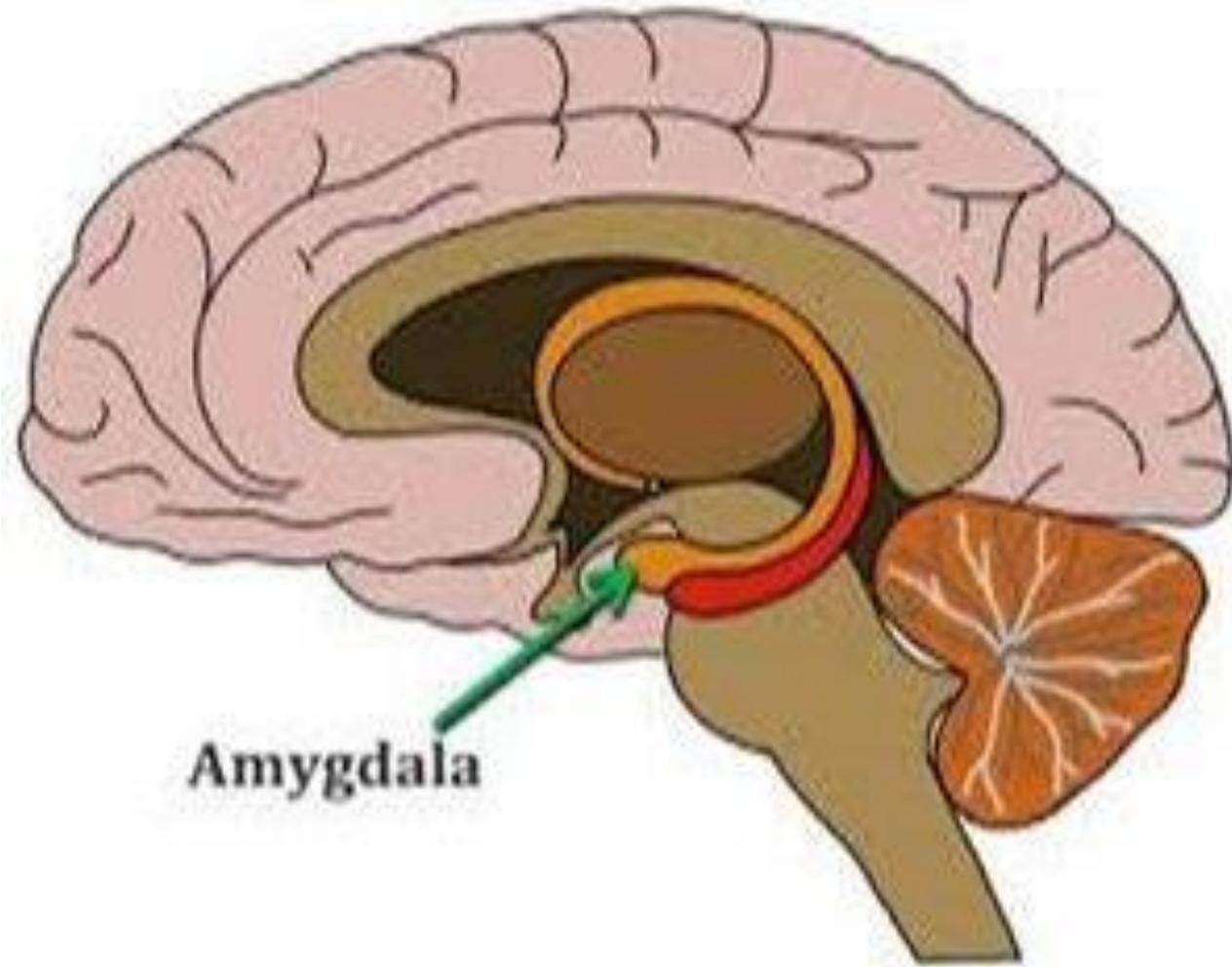
- Left and right brain make me bright.
- Left brain works better when it works with the right!

The lower brain feeds the higher brain

Lower brain needs = **sensory stimulation, motor skills, visual, vestibular and proprioception (balance and movement) and positive emotional experiences** = affects attention, focus, fidgeting, behaviour, social skills and critical thinking in school.

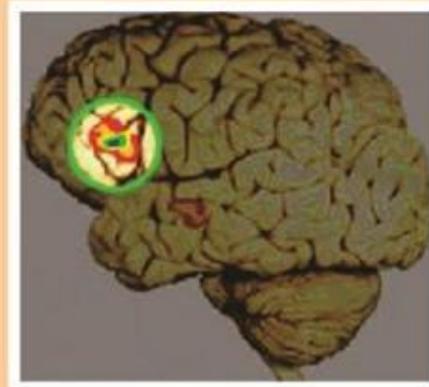
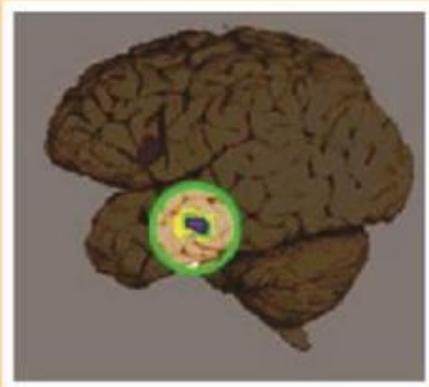
Can't self-regulate, can't sit in their seat, stay focused and have limited motor skills = **mentally fatigued when concentrate to learn and interpret information.**

Lower levels of brain not up to par, then critical thinking, language, speech and higher learning will suffer.



Amygdala

FEAR and the learning process



- **The amygdala is a structure in the brain that plays a major role in instinctive emotional reactions. It takes precedence over thoughtful reflection.**
- **The emotional center matures before the frontal lobes. Young children and especially adolescents are more apt to respond with a gut reaction than a reasoned action.**



What happens when **YOU FLIP YOUR LID**



PREFRONTAL CORTEX IS ENGAGED:



Calm, rational thought, mental flexibility: Able to make good decisions

LID IS FLIPPED --> AMYGDALA IS ENGAGED

Big emotions arise - anger, fear anxiety, sadness. Unable to make good decisions or calm down.



Source: The Whole Brain Child

WWW.RAISINGKIDSWITHPURPOSE.COM

Emergency Reaction

increases

- blood pressure,
- heart rate
- respiration rate and perspiration,
- blood sugar,
- blood clotting
- ✓ dilation of the pupils
- ✓ decrease in saliva,
- ✓ contraction of the spleen.

Stress activates hypothalamus which stimulates other glands

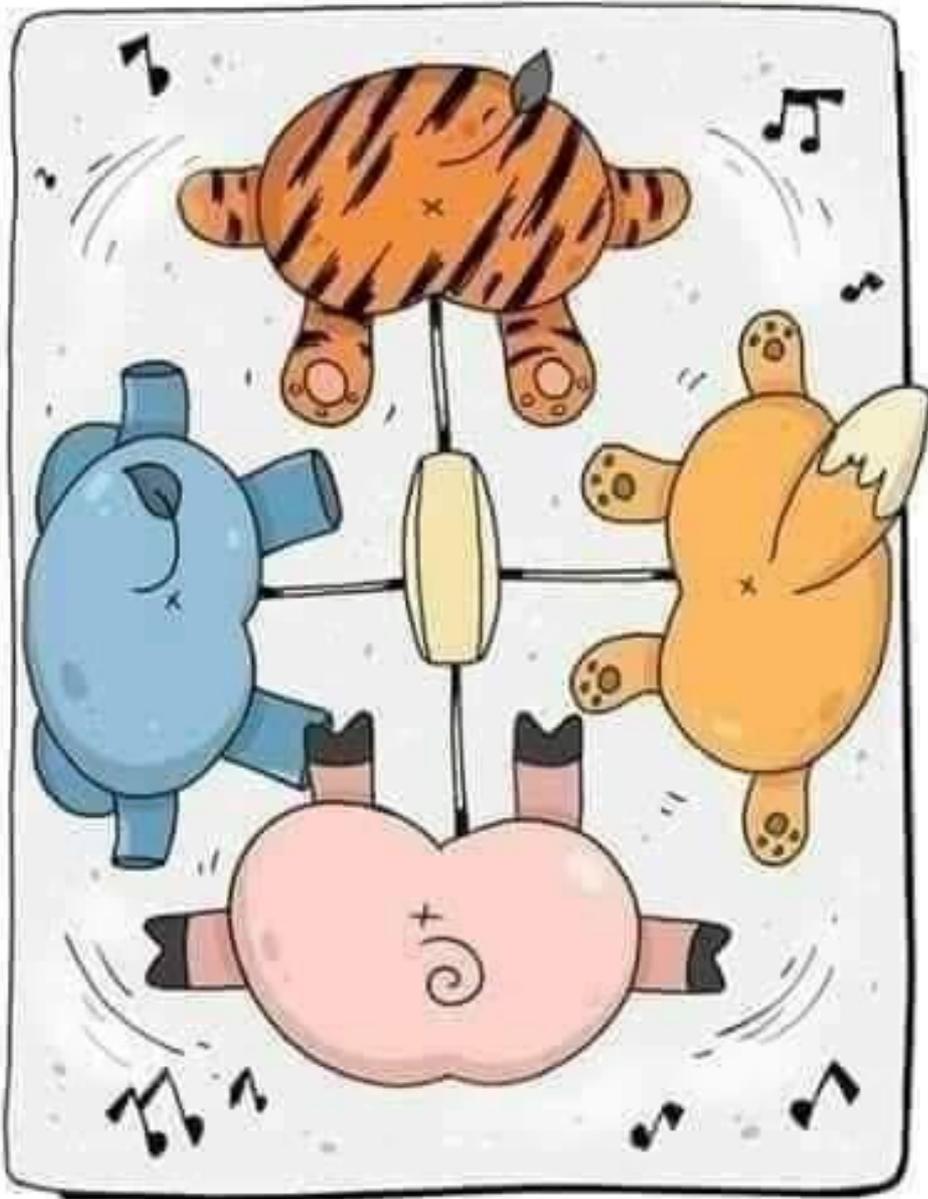


Bringing the learning maxims to life for learning to make sense...

- o Known to unknown
- o Simple to complex
- o Concrete to abstract

Parent centric or child centric curriculum?

Which one should we choose?
Which one do we choose?



Because Play is the Engine of Learning



Sand play -
I am developing fine motor skills by digging, pouring, scooping and cleaning up spills with brush and dustpan.



Parachute Play -
I am developing pro-social skills, self-regulation and impulse control.



Expressing Art -
I am getting opportunities and encouragement to share my thoughts, ideas and feelings.



Water Play -
I am developing eye-hand coordination, math and science concepts.



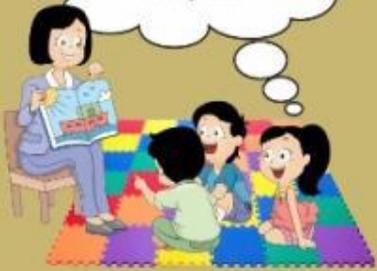
Library corner -
I am improving my vocabulary and language skills.



The building blocks -
I am developing Math skills and learning how to balance things while playing with blocks.



Story time -
I am developing my imagination and also developing my vocabulary at story time.



I see children going through routines which they enjoy and it helps them to retain their memory.



Social Emotional Development
I am learning to respect other's views and managing my feelings. I am also getting confidence in my abilities.



Organizing and Conceptualizing -
I am able to read books and to write words by myself. I am developing imagination and expressing simple ideas.

Playdough -
I am learning to squish, squash, roll, flatten play dough to develop muscles and prewriting skills.



Why reading is a challenge? Because its unnatural!

- Unlike spoken language, it does not follow from observation and imitation
- There are specific regions in the brain devoted to speech and oral communication
- Yet there is no specific center of the brain dedicated to reading
- Instead it requires multiple areas of the brain work together through neurons
- It means turning print into words and words in pictures, thoughts and memories

To make reading less of a challenge, involve
M.V.A.L

- **M = Motor Control**
- **V = Visual Discrimination**
- **A = Audio-discrimination**
- **L = Language**

Motor Control

Block building
Painting
Craft

Stencils
Use of tools
(*brushes, scissors,
etc.*)
Jigsaws
Mosaics
Meccanno sets

Visual Discrimination

Matching games
Odd Man Out
Dot-lo-Dot

Look-&-Say Cards
Vocabulary sheets
Pictures

Audio Discrimination

Rhymes
Singing
Music

Guessing games
what sound is that?
Percussion (*for
rhythm*)



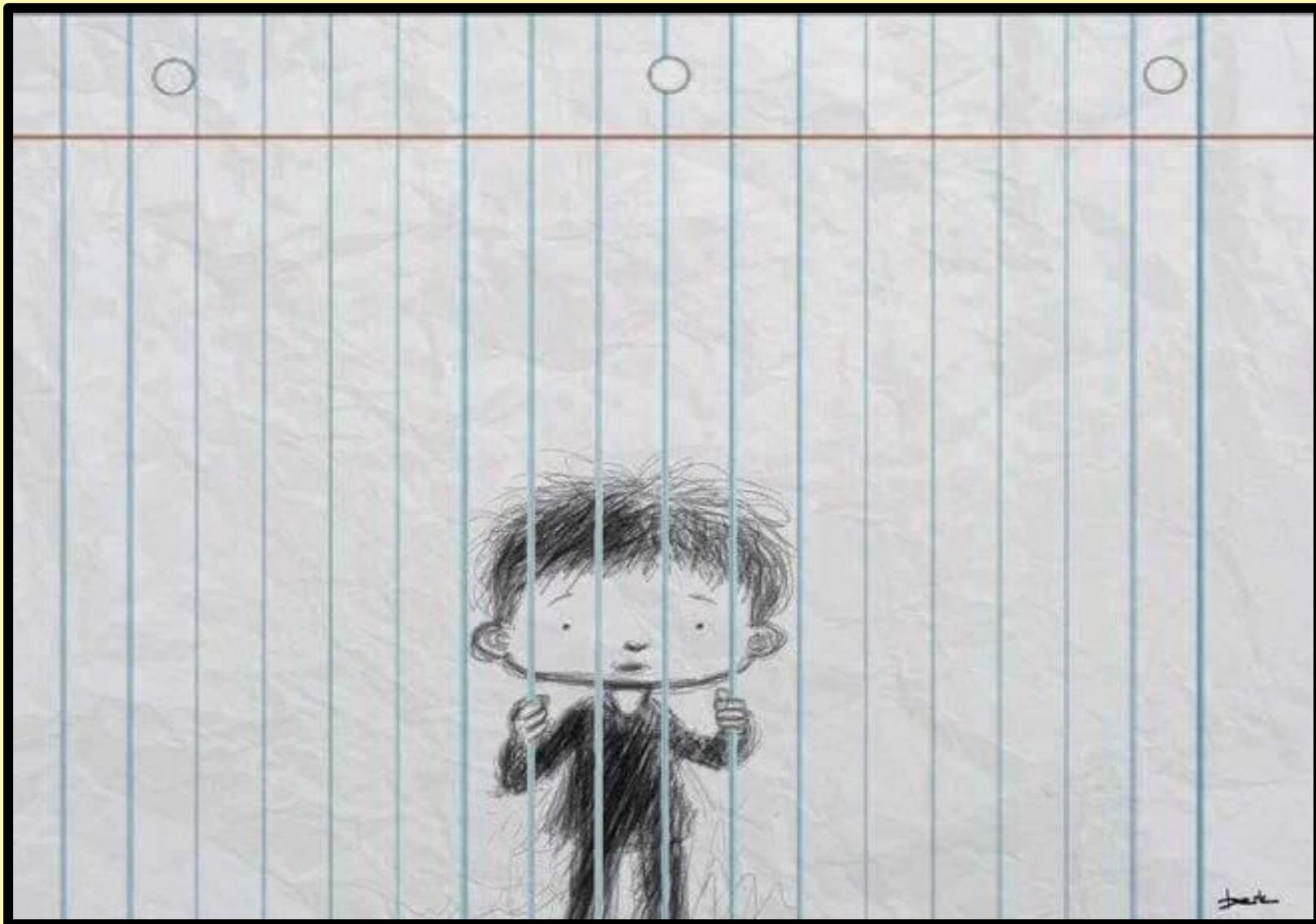
Language Chart

Mother tongue matters!

At Podar Jumbo Kids, we put up charts like this (this is sample as per a particular class, you can make for your class as per the mother tongue of the children in your class) so that each teacher knows key words and sentences of the mother tongue of every child.

English	Marathi	Gujarati	Hindi	Punjabi
I want to drink water.	Mala pani pyayche ahe.	Mare pani peevu che.	Main paani peena chaahata hoon.	Mai pani pina chahuda ha.
I want to play.	Mala khelayche ahe.	Hu ramava mangu chu.	Main khelana chaahata hoon.	Mai khedana chahuda ha.
What is the time?	Kiti wajale aahet?	Su samaya cheatyare?	Samay kya hai?	Vakata ki hai?
I got hurt.	Mala laglay.	Mane ija thai.	Mujhe lag gayi.	Mainu satalagagai.
I am hungry. Please give me my snackbox.	Mi bhukela ahe. Kripya majha snackbox dya.	Mane bhookh laagi che. Kripya karine maro nasta no dabbo aapo.	Main bhookha hu, krupiya mujhe apna snack box dijiye.	Mai bhukhahai. Kirapa karake mera snack box diyo.
I want to go home.	Mala ghari jyache ahe.	Mare ghare javu che.	Mujhe ghar jaana hai.	Mai ghar janaahuda ha.
Where is my mummy.	Majhi aai kuthe ahe?	Mari mummy kya che?	Meri mummy kahaan hai?	Meri mummy kithe hai?
He/she is not sharing with me.	To/ti majhya sobat share karat nahi.	Te/teni mari sath share karira hyo ' nathi.	Vah mere saath saah jhana hikarraha hai.	Uha mere nalasan jhanahi karariha hai.
I want to go the to toilet.	Mala saucalayata jayache ahe.	Mare toilet ma javuche.	Main shauchaalay mein jaana chaahata hoon.	Mai toilet jana chahuda ha.







▶ **“Good handwriting is a necessary part of education. I am now of the opinion that children should first be taught the art of drawing before learning how to write. Let the child learn his letters by observation as he does different objects, such as flowers, birds, etc., and let him learn handwriting only after he has learnt to ‘draw’ objects first teach a child to draw straight lines, curves, triangles, figures of birds, flowers and leaves, as that would help the child to draw and not to ‘scrawl’ alphabets.”**

▶ **“Children should be taught to read before they learn to write”.**

Tai Chi



Children need whole body balance to be able to sit longer periods while writing.

Parachute Play



Develops the wrist, fingers, elbow and arm muscles so that kids will never complain about 'hand paining.'

Scissoring



Develops the same 3 fingers that hold a pencil, good to develop the 'tripod' grip.

Nature activities



Helps kids recognize patterns in letters and number for easier and smoother handwriting.

Throwing and Catching a ball



Two skills require to be in place for kids to be successful with a pencil-eye hand co-ordination and small muscle development. Catching and throwing a ball develops both.

Origami and paper folding



Helps kids to focus, develops small muscles and eye hand co-ordination and refines and ability to listen to instructions. Also helps kids understand and use right, left orientation. All necessary skills for writing.

SOME FACTS-

- Writing develops in a systematic manner and yes, children learn reading and writing simultaneously, and maximum that children read is in print, but at that time we are asking them to join letters while writing, so confusion reigns supreme in both reading and writing.



SOME FACTS-

- Should capital letters be taught first or small letters? Small letters should be taught first because children learn to read first and all reading is in small letters also in a sentence you use more than 90% small letters. Another reason is that when you teach them capital letters first then they learn to write words in all capital and then they have to learn to unlearn and write the correct manner, this again takes them backwards on the learning curve.

There are more pencil pick-ups with **uppercase letters** than **lowercase letters**. The reasons for **teaching lowercase letters first** are these: ... If the **child**, though, that has been taught the sounds and shapes of the **lowercase letters**, then the **child** can recognize the **letters** while mom and dad are reading.

We were the first to do away with cursive and Introduce the Marion Richardson font

Schools are writing off cursive

Spence Feingold | TNN

Most schools are now abandoning cursive in favour of clean, legible handwriting. There is little premium on loops, connectors and flourishes. Right-leaning italicized copy doesn't get you a smiley from the teacher on the notebook either. As schools bring in new technologies into instruction, handwriting itself — cursive or otherwise — is increasingly becoming a redundant skill. Even schools that encourage children to use the cursive style do so only after they are into late primary school.

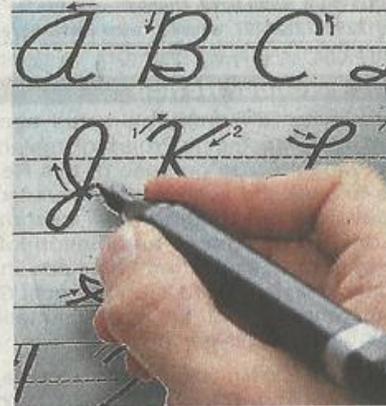
Teaching cursive is not required in the Common Core curriculum standard in the US. Recently, 45 out of 50 states in the US adopted the new Common Core curriculum standard, which focuses on analytical and computer-based skills. This decision has spurred a debate among English educators across the English speaking world.

In India, with the exception of a few traditional institutions, most have stopped insisting on cursive writing. Public schools in

Delhi, for instance, would rather focus on teaching their students better communication skills. "We lay no emphasis on teaching cursive as correct print writing and accurate use of English is what matters most," explains Ashok Pandey, principal of Ahlcon International School in Mayur Vihar. The idea that cursive is obsolete is shared by many others who agree schools should highlight 21st-century expertise.

At Bhavan's Rajaji Vidyasharam in Chennai, teachers point out that plans to introduce tablets in high school will further reduce the importance of cursive skills. Vice principal Geetha Nandakumar has an interesting reason for not bothering with cursive — her primary teachers have found that print writing helps children relate what they read in their textbooks to what the teacher writes on the blackboard.

Some schools start talking about good handwriting much later than was the convention. Till Class 3 or so, children are allowed a free hand with their writing styles. "I believe it is difficult to learn cursive writing at a young age," says Lalitha Hariharan,



principal of Rizvi Springfield School in Mumbai. She does not buy into the theory that cursive writing improves handwriting in any way. "Kids should learn to write without the pressure of rules," she says.

Schools where English is introduced late had stopped insisting on cursive much earlier. At Delhi's Sardar Patel Vidyalaya, for instance, Hindi is the primary language and the effort is to not intimidate children when they start learning English. "We just

want children to become as comfortable as possible in writing English. We haven't taught cursive in almost 10 years," says principal Anuradha Joshi.

There is a fear that in the age of emails and texts, handwriting finesse will take a beating and SMS shorthand will find its way into term papers. In addition, experts have reported how handwriting training helps children develop better hand-eye coordination, fine motor skills, and other brain and memory functions.

A few schools still ask for good penmanship from their students. Delhi's Springdales School, Dhaula Kuan is one of them. The school prefers the Marion Richardson writing style, which is somewhat easier to follow and handle than cursive. "We put great store by proper handwriting," says Jyoti Bose, principal of Springdales School, Dhaula Kuan. The Padma Seshadri Bala Bhavan (PSBB) Group of Schools in Chennai insists that children start practising script writing from the time they join school.

With additional reporting by M Ramya and Sharmila Ganesan-Ram

Gg

A vertical rectangular box containing 15 rows of handwriting lines. Each row consists of a top blue line, a middle red line, and a bottom blue line. The first row contains the letters 'Gg' in a simple, bold font. The remaining 14 rows are empty for practice.

Gg

A vertical rectangular box containing 15 rows of handwriting lines. Each row consists of a top solid black line, a middle dotted black line, and a bottom solid black line. The first row contains the letters 'Gg' in a simple, bold font. The remaining 14 rows are empty for practice.

Gg

A vertical rectangular box containing 15 rows of handwriting lines. Each row consists of a top solid black line and a bottom solid black line. The first row contains the letters 'Gg' in a simple, bold font. The remaining 14 rows are empty for practice.

LEARNING MATH IN ALL FUN PLACES

- Block area
- Dramatic play
- Cooking area
- Art area
- Playground
- Water play
- Sand play
- Music & movement

What's required is **UNDERSTANDING** before **TECHNIQUE** that will make all the difference

Teaching math through reasoning



Teaching math through guessing and estimating



Math through problem solving and the ability to use clues



What's required is **UNDERSTANDING** before **TECHNIQUE** that will make all the difference

Study of geometry through blocks and cloud shapes

Using Montessori material to teach size, shape, depth, 3D shapes



Listening and the language of math is the next step

When a child is able to refine his listening skills then he will be able to focus on the finer differences in numbers, number patterns and instructional words like -

- Location/position words -
on, off, on top of,
over, under.
- Movement words -
up, down, forward,
backward.
- Distance words -
near, far, close to, etc.



HANDS ON SKILLS

- Maths poses skills help children begin to understand mathematical relationships in the world around them
- These skills include the following ---
 - ✓ **Patterning**
 - ✓ **Sorting**
 - ✓ **Classifying**
 - ✓ **Ordering & seriating**
 - ✓ **Beginning number concepts**
 - ✓ **Problem solving**
 - ✓ **Measuring & estimating**
 - ✓ **Visual/spatial awareness**

Learning requires senses

Art is the best activity to stimulate the senses...and we have lots of art and crafts in our curriculum, right?

**What the heck happened?
I was minding my
own business when
someone snatched
me up, dipped my
feet in yellow paint,
pressed them on a
blue piece of paper,
plopped me down,
and painted a duck.**





135 crore people in India and all had a single idea of making a scenery in childhood, which was



Draw 4 objects



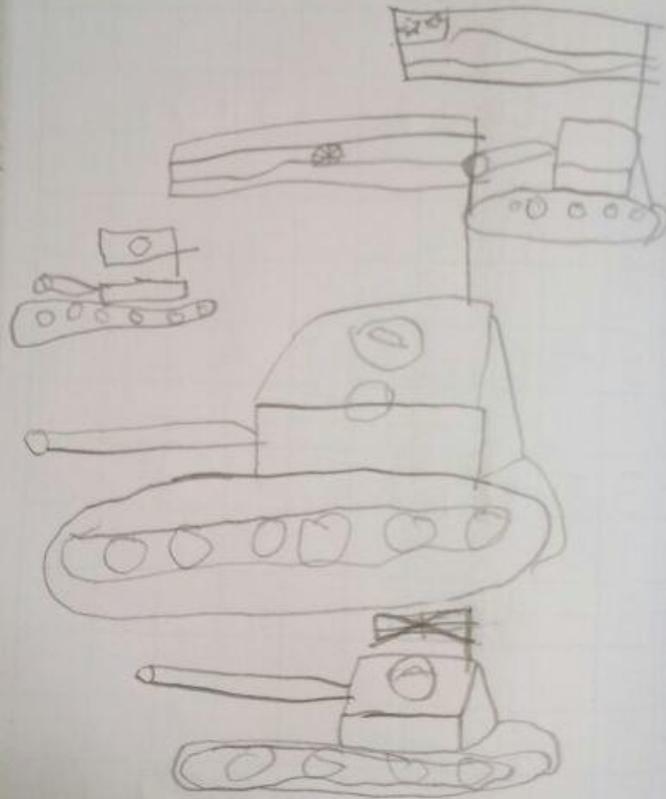
01.12.2021

Write number name 'four'

4 - four

- 4 - four

Draw 4 objects



96

Write number name 'four'

4 - four

- 4 - four

97

How will we know that the left brain has kicked in ?

Why?

When children start asking the question why it means the left brain has kicked in.

Language and metacognition in children - strategies

**HOT
questions**

**Open
ended
questions**

**Verbal
instead of
physical
cues**

Metacognition and emotional labeling

Helps in self
regulation
and conflict
resolution

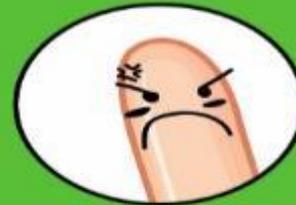
The New Version- Where is Thumbkin? - By Dr. Swati Popat Vats



Where is Thumbkin?
Where is Thumbkin?
Here I am. Here I am.
How are you this morning?
I am feeling happy.
Give a smile, do a dance



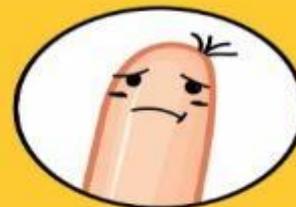
Where is Pointer?
Where is Pointer?
Here I am. Here I am.
How are you this morning?
I am feeling angry
Take a deep breath. Punch a pillow



Where is tall man?
Where is tall man?
Here I am. Here I am.
How are you this morning?
I am feeling scared.
Mummy is here, daddy is here,
teacher is here.



Where is Ring man?
Where is Ring man?
Here I am. Here I am.
How are you this morning?
I am feeling bored
Play with your toys. Do a dance.



Where is Baby/Pinky?
Where is Baby/Pinky?
Here I am. Here I am.
How are you this morning?
I am feeling sad.
Sing a song. Draw and paint.



#Vatsgyan

When you are happy and you know it...
- the one about feelings!



If you're happy and you know it, laugh out loud.
If you're happy and you know it, laugh out loud.
If you're happy and you know it and you really want to show it,
If you're happy and you know it, laugh out loud.

If you're angry and you know it, stomp your feet.
If you're angry and you know it, stomp your feet.
If you're angry and you know it and you really want to show it,
If you're angry and you know it, stomp your feet.



Sigh



If you're sad and you know it, heave a sigh.
If you're sad and you know it, heave a sigh.
If you're sad and you know it, and you really what to show it,
If you're sad and you know it, heave a sigh.

If you're bored and you know it, clap your hands.
If you're bored and you know it, clap your hands.
If you're bored and you know it and you really want to show it,
If you're bored and you know it, clap your hands.



Hooray

If you're happy and you know it, shout hooray!
If you're happy and you know it, shout hooray!
If you're happy and you know it, and you really want to show it,
If you're happy and you know it, shout hooray!



Dr. Swati Popat Vats

AVOID SAYING...

“Stop hitting!”

“Don’t stand up during circle time.”

“Don’t throw the books!”

“How many times d I have to ask you to clean up?”

“Don’t colour on the table!”

“Don’t yell!”

“Don’t run!”

“Don’t take this toy!”

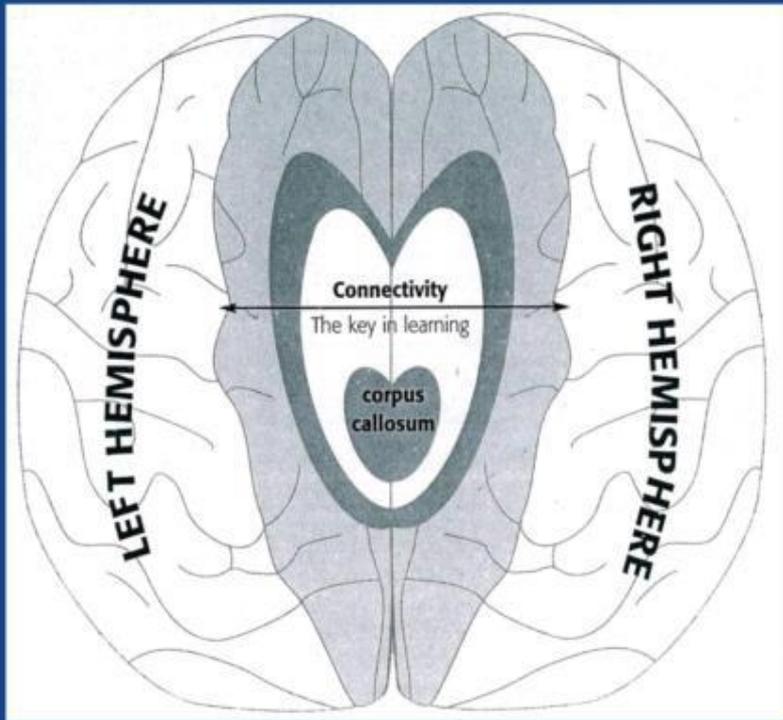
“Don’t you remember how to line up?”

“Don’t touch.”

“Don’t talk to me that way!”

“You are not playing nicely together.”

Left and Right Brain



- Our ability to love, hate and experience emotional pain.
- Music and rhyme help them work together.
- Our ability to make decisions and solve problems.

- Left and right brain make me bright.
- Left brain works better when it works with the right!

#Fun Fact Friday



What you see:

Walking, walking on the floor, keep on walking one step more, Little feet go nice and slow, let's line up it's time to go, slowly slowly find some space, give your body lots of place.... is my favorite song to sing as I walk to the washroom, outdoor, anywhere in my school at Podar Jumbo Kids.

What children gain:

- Walking on the patterns on the floor enables children to understand the pre writing skills required to learn for writing.
- It builds their concentration as they walk along the patterns and go to the washroom.
- It involves singing which leads to their vocabulary and language development.

www.jumbokids.com

Metacognition in self regulation and conflict resolution

Self-regulation and conflict regulation are important skills to teach children.

These skills are EQ and when combined with IQ they result in SQ= Success Quotient!

Conflict resolution

Taking
turns
instead of
sharing

Walk
away

Use
language
instead of
hands

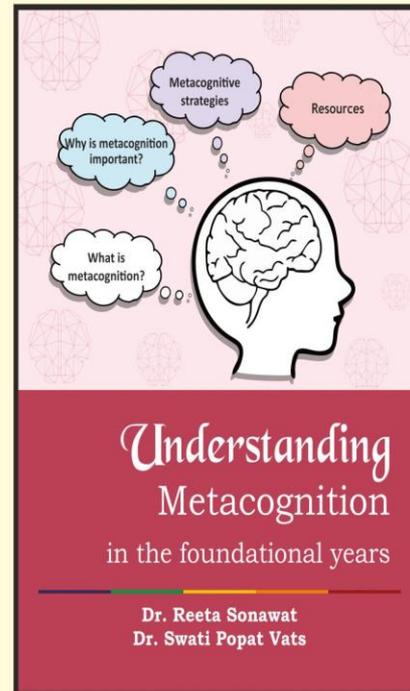
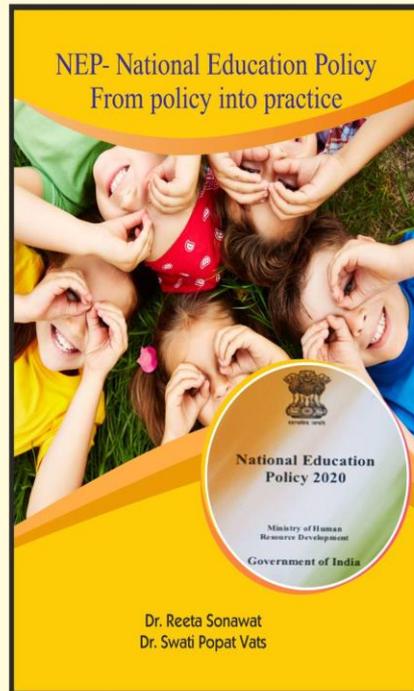
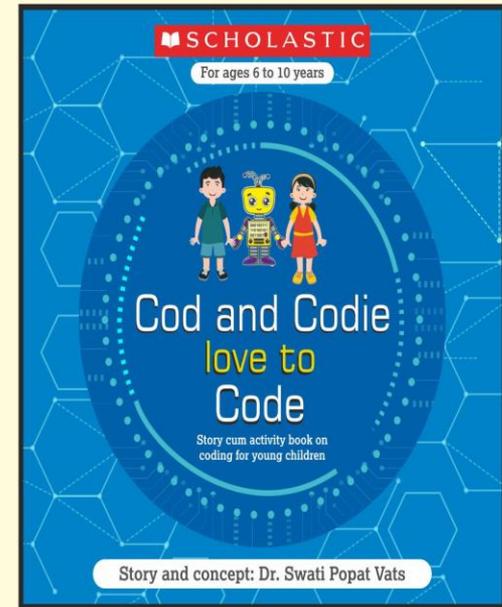
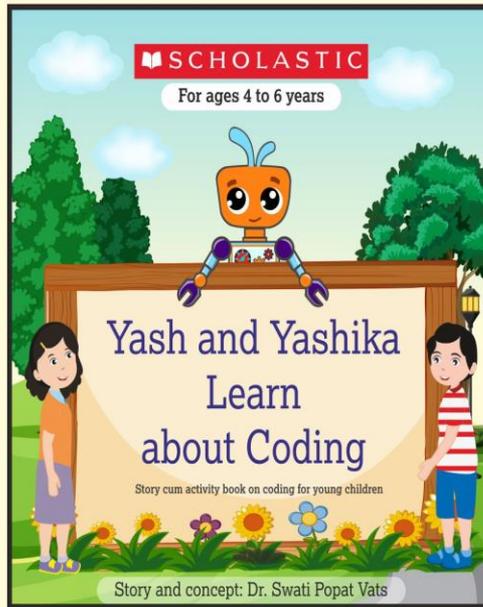
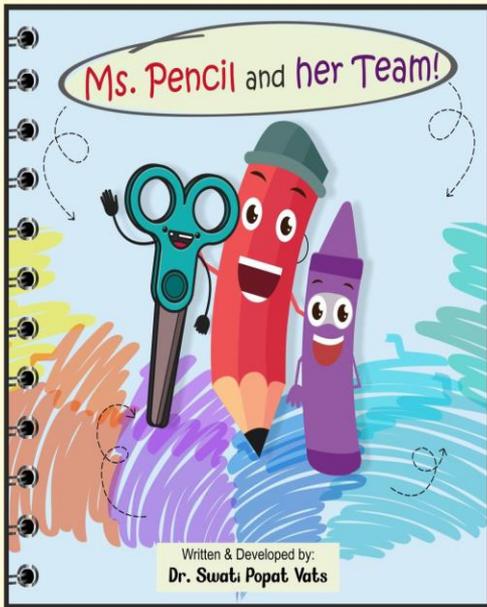
Seeking
help

Discussing
and
planning
with adults

Metacognitive teachers and assessment

- Child does not complete work- task persistence, what should I do?
- Child writes incorrectly- self regulation, ability to understand right and wrong, what should I do?
- Child does not write neatly- ability to hold the pencil, ability to understand neat, what should I do?
- Child is unable to write within the lines- ability to control hand movement, colouring within the lines, what should I do?
- Child forgets things taught- retention, holding memory, what should I do?

In A Theory of **Cognitive Dissonance**, Festinger offers an **example** of how an individual might deal with **dissonance** related to a health behavior by discussing individuals who continue to smoke, even though they know it is bad for their health.



Dr. Swati Popat Vats

**President
Early Childhood Association and
Association for Primary Education
and Research**

www.eca-india.org

**Contact me on-
ecapresidentindia@gmail.com
Or whatsapp me on**

+91 7506639870

