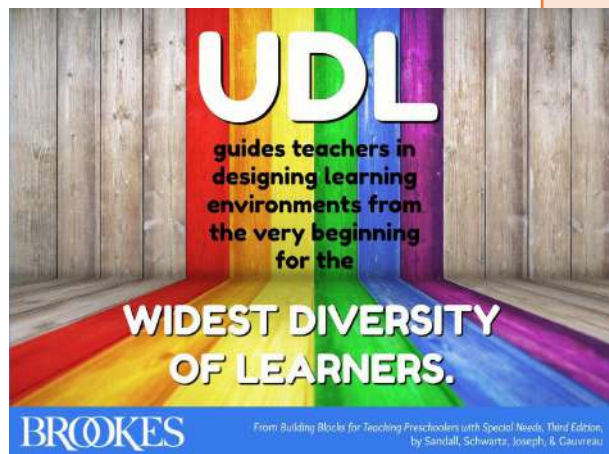


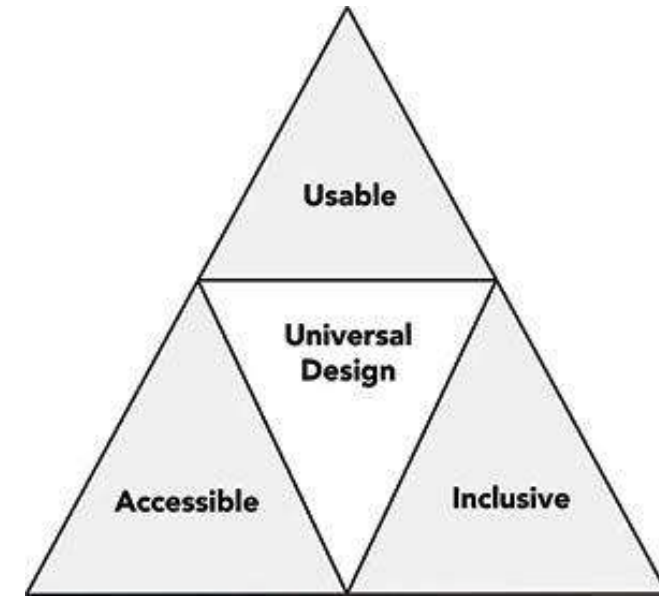
Universal Design of Learning (UDL):

Accessible Digital Resources and Assistive Technologies



Prof. Renu Malaviya
Dept. of Education
Lady Irwin College
University of Delhi

Universal Design of Learning (UDL)



An approach to ensure that educational programs **serve all students**. UDL goes beyond accessible design for people with disabilities to make **all aspects of the educational experience more inclusive** for students, staff, instructors, administrators, and visitors with a great variety of characteristics, including those related to gender, race and ethnicity, age, stature, disability, and learning preference.

UDL is not a special ed thing
or even a general ed thing.
It's just an ed thing.

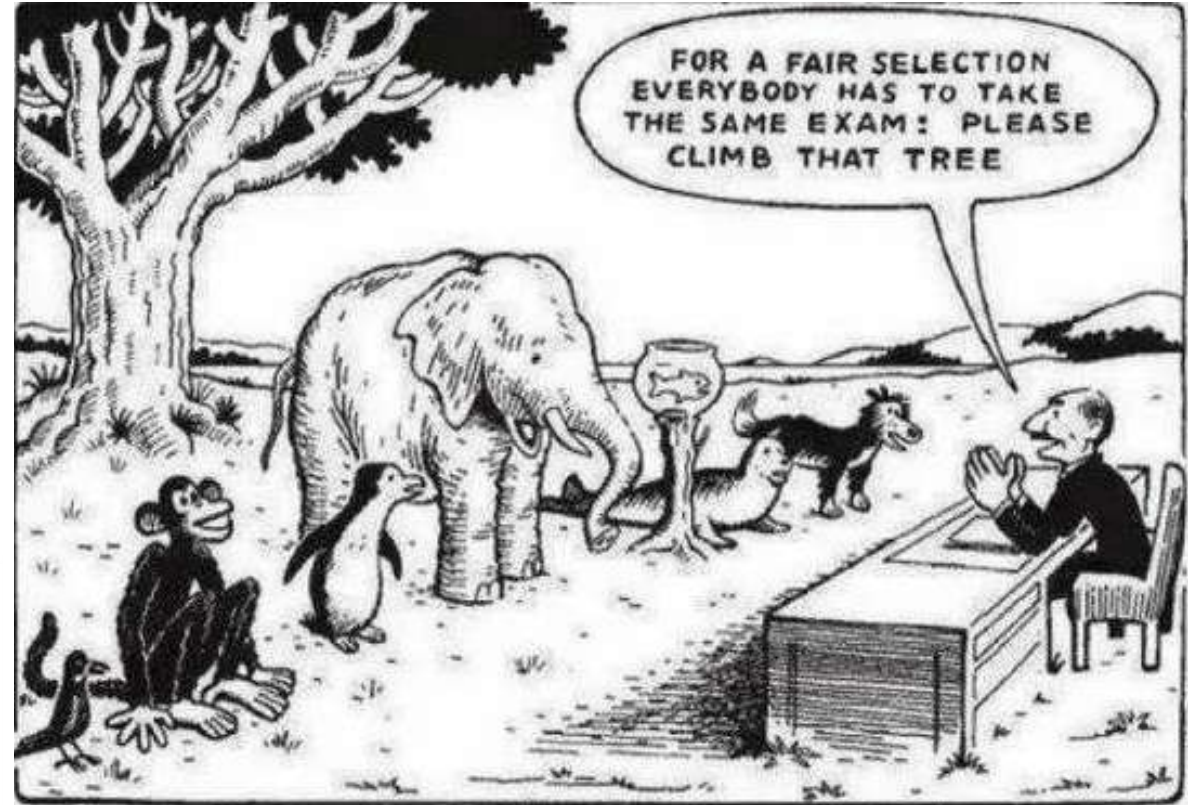
Mike Marotta

**IF A CHILD CAN'T LEARN
THE WAY WE TEACH,
MAYBE WE SHOULD
TEACH THE WAY THEY
LEARN.**

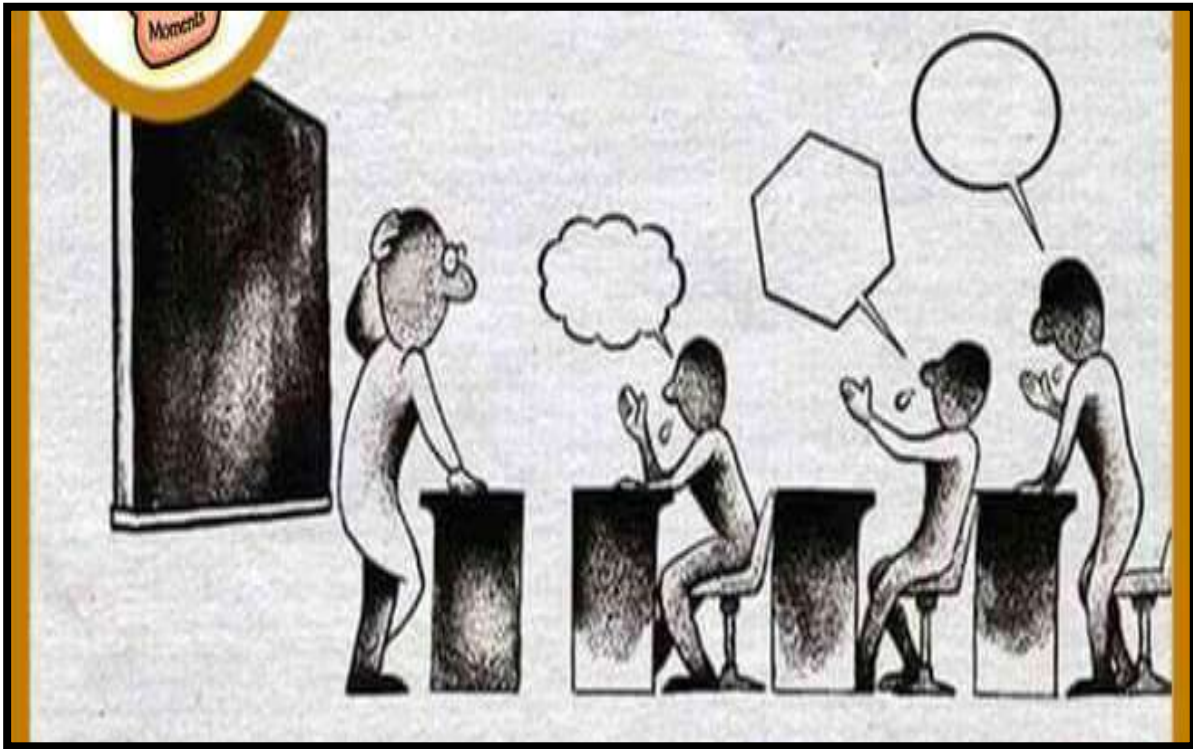


SensoryEdge 

Why UDL????
As Everyone is different



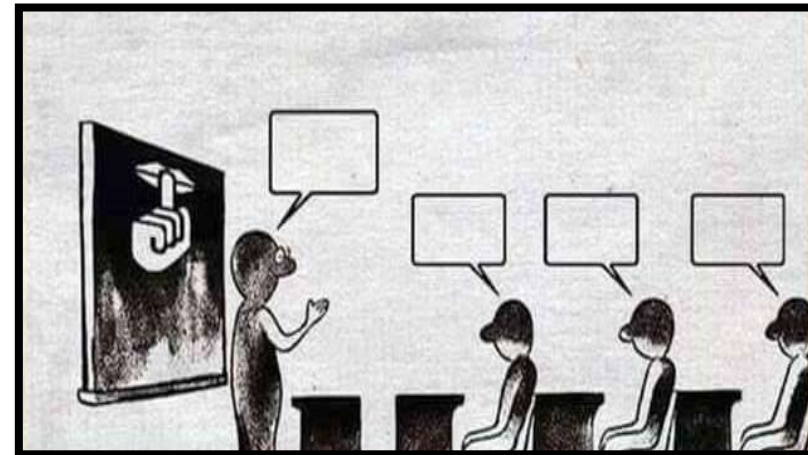
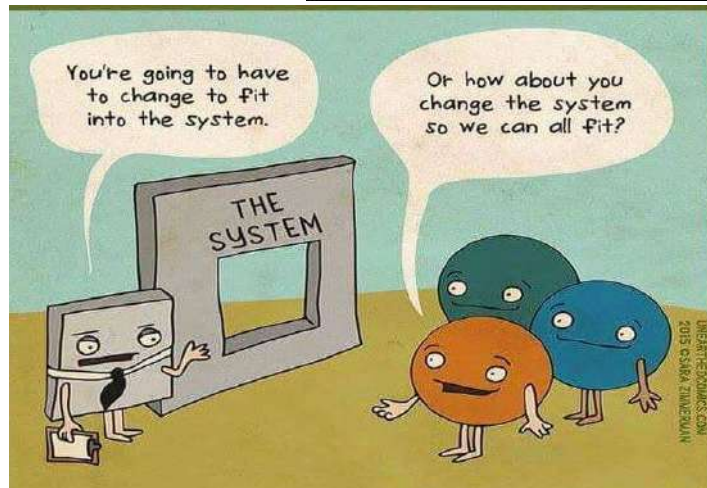
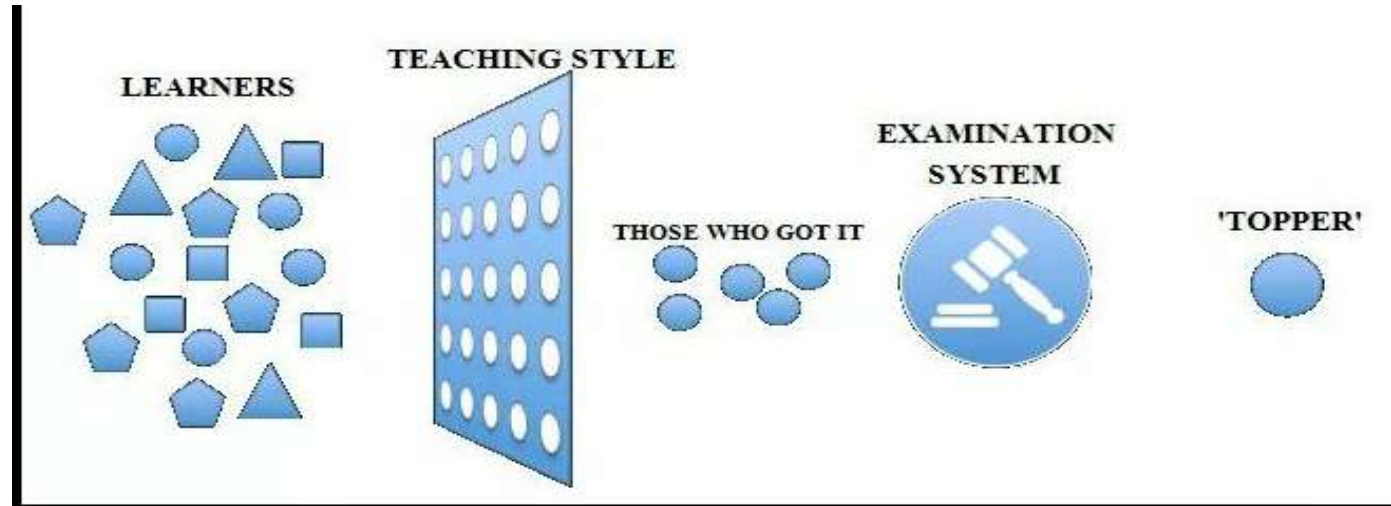
Our Education System



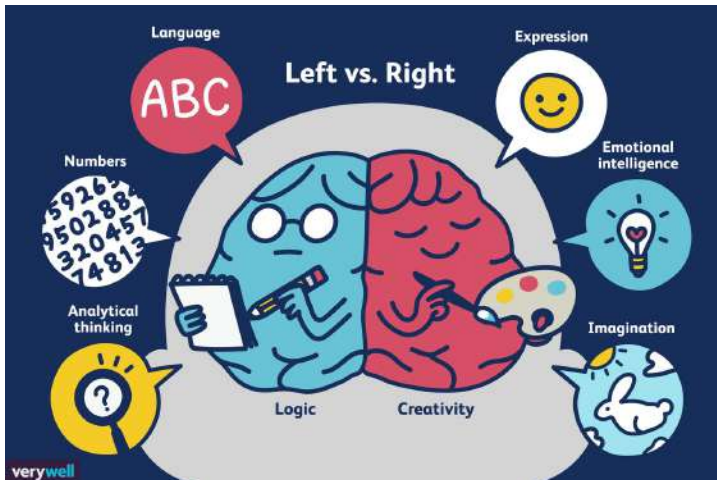
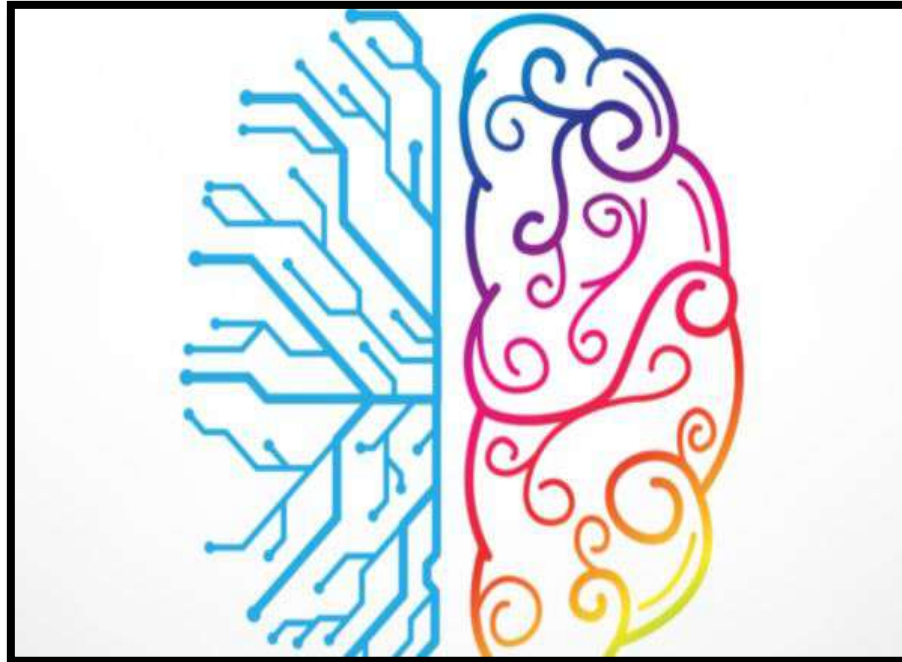
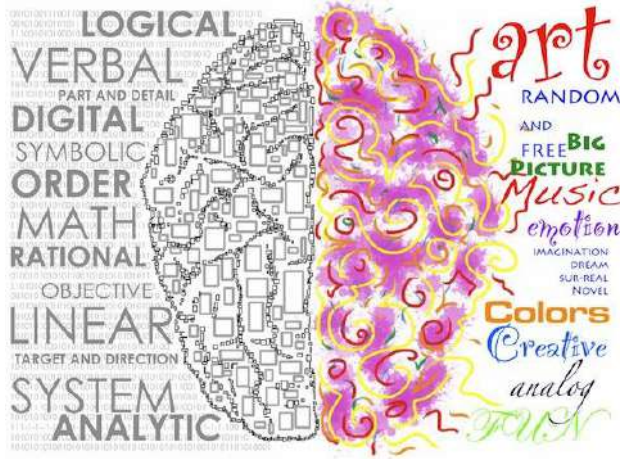
SO MANY DROP-OUTS!!!!



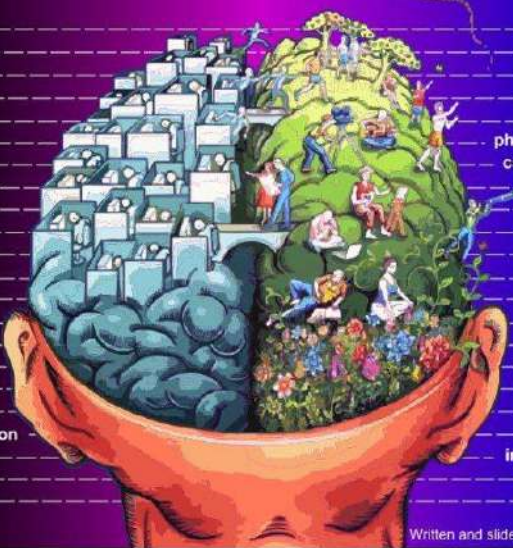
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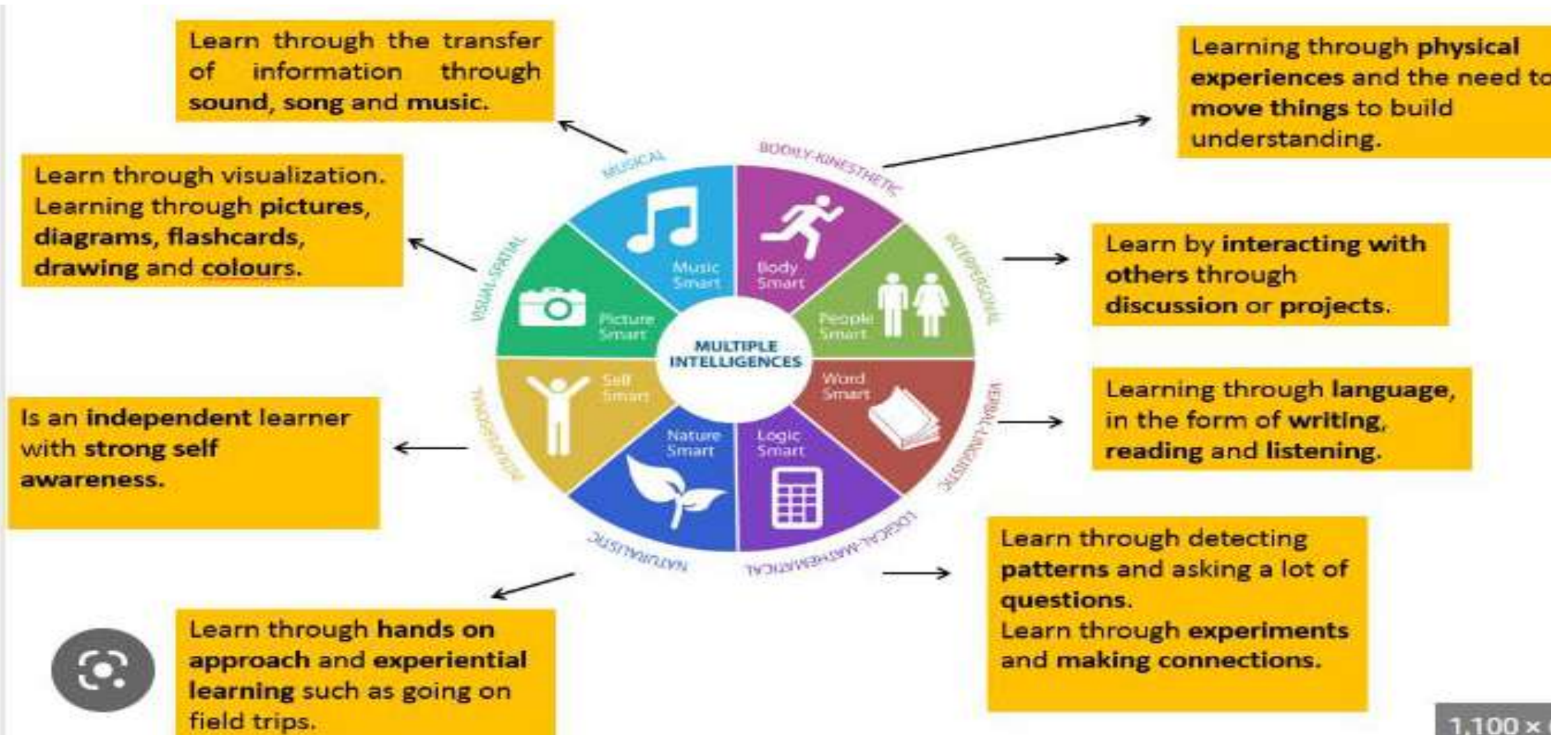
Different Types of brains



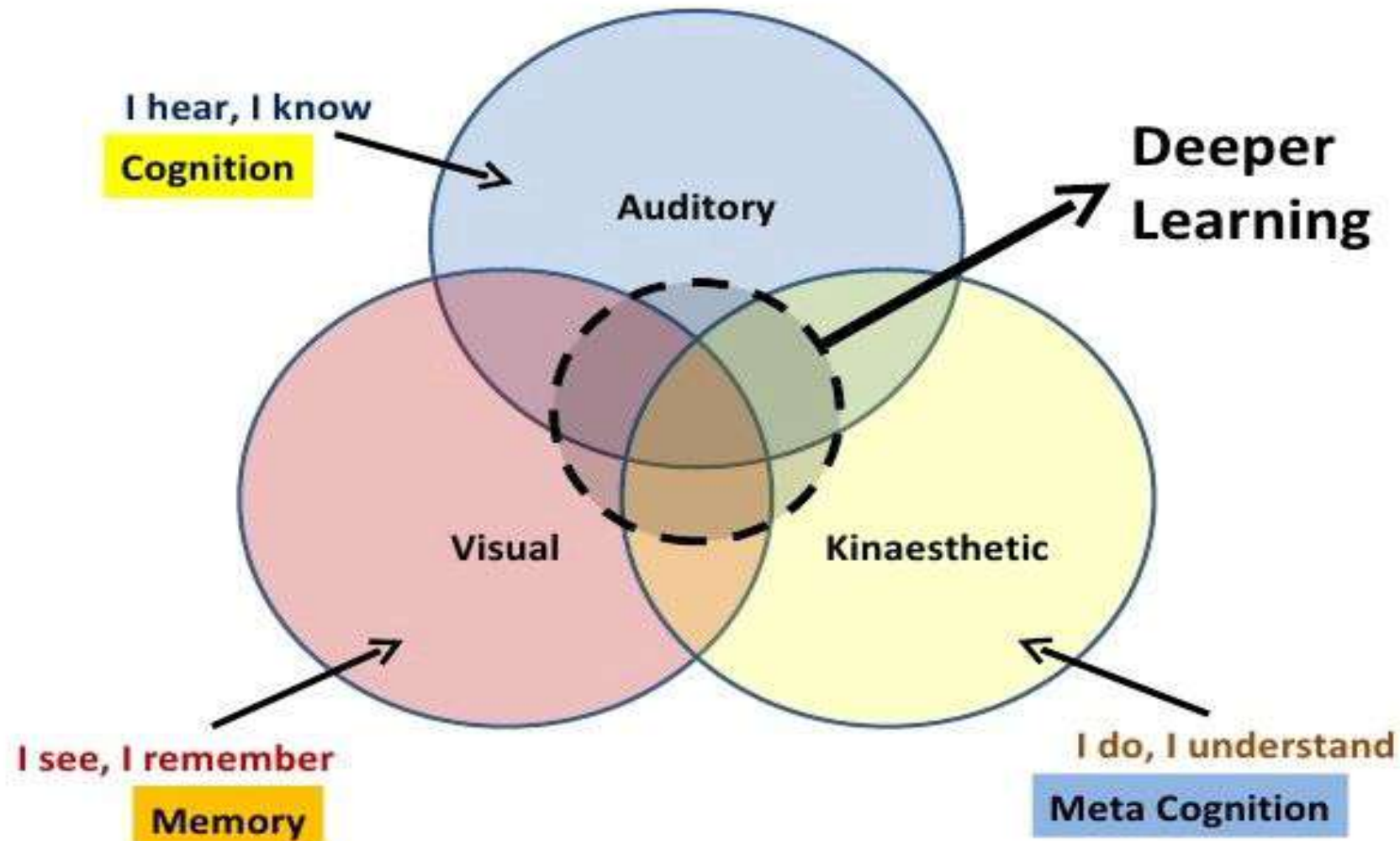
Left brain expression (Analytical)	Right brain expression (Creative)
oriented	'big picture' oriented
at parts	(Looks at wholes)
	Random
	Intuitive
	Holistic
	philosophy & spiritualism
	can 'get it' (the meaning)
	Synthesizing
	Subjective
	uses feeling
	imagination rules
	symbols and images
	present and future
	believes
	appreciates
	knows object function
	fantasy based
	presents possibilities
	spatial perception
	impetuous/spontaneous
	adventurous
	carefree/risk taking



Multiple Intelligence



Multi-Modal Learning



WHAT IS THE 'LEARNING STYLE' ?

The term 'learning styles' speaks to the understanding that every student learns differently. Technically, an individual's learning refers to the preferential way in which the student absorbs, comprehends and retains the information. For example, when learning how to build a clock, some students understand the process by following verbal instructions, while others have to physically manipulate the clock themselves.



Learning Styles

VERBAL

Words are your strongpoint!
You prefer to use words both
in speech and in writing!

VISUAL

You prefer to use pictures,
diagrams, images and spatial
understanding to help you
learn

MUSICAL / AUDITORY

You prefer using sounds or
music or even rhythms to
help you learn.

PHYSICAL / KINAESTHETIC

You use your hands, body
and sense of touch to help
you learn. You might 'act
things out'.

WHAT'S YOUR LEARNING STYLE?

LOGICAL / MATHEMATICAL

Learning is easier for you if
you use logic, reasoning,
systems and sequences.

SOCIAL

You like to learn new things
as a part of a group.
Explaining your
understanding to a group
helps you to learn.

SOLITARY

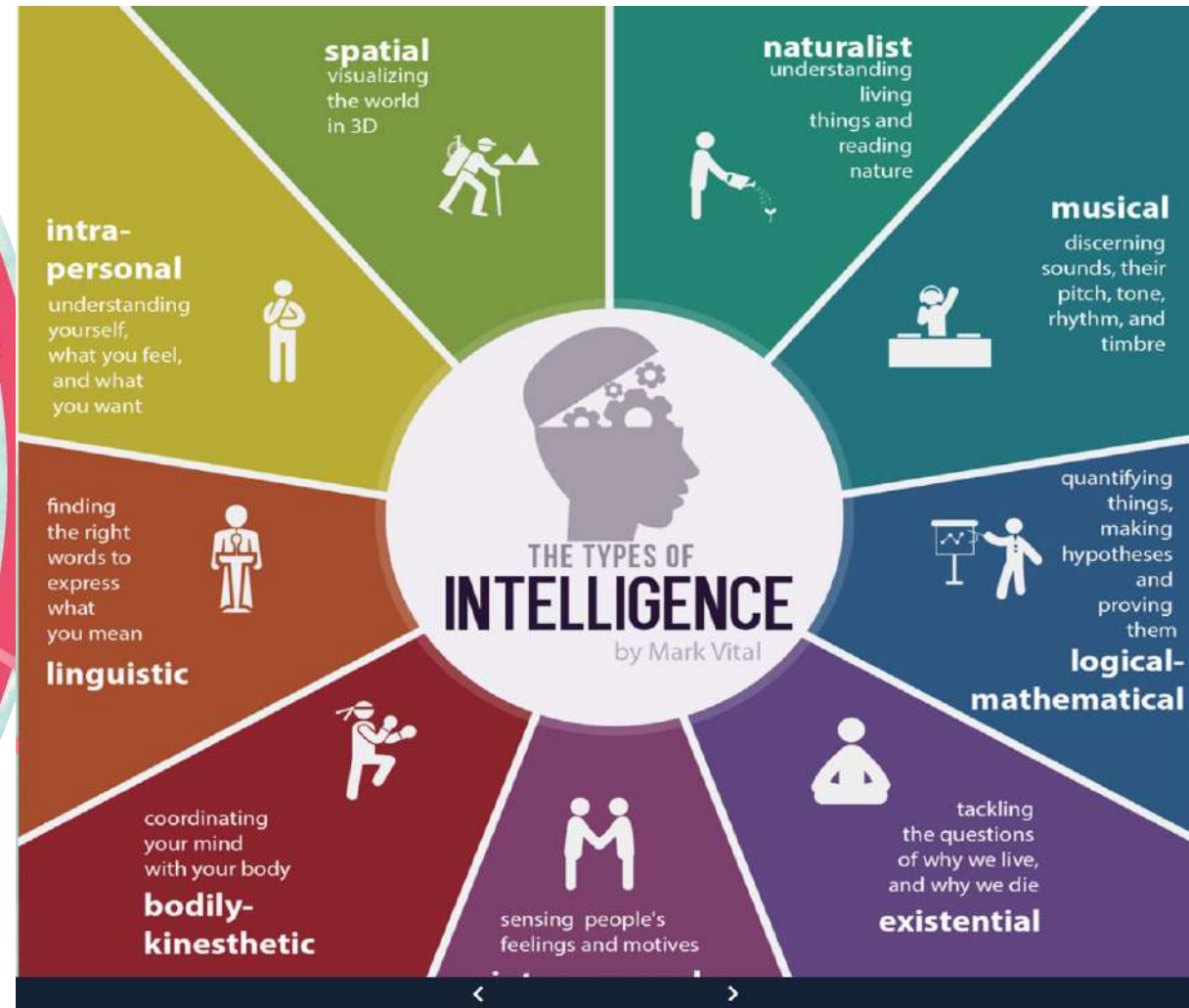
You like to work alone. You
use self-study and prefer your
own company when
learning.

COMBINATION

Your learning style is a
combination of two or more
of these styles.

WHAT IS THE 'MULTIPLE INTELLIGENCE'?

The theory of multiple intelligences is a theory of intelligence that differentiates it into specific modalities, rather than seeing intelligence dominated by a single general ability. In each of us there are different areas of intelligence which are developed to different degrees. This theory was proposed by Howard Gardner in his 1983 book *Frames of Mind*.



CONCLUSION

Analyzing learners' needs and preferences, and adapting the teaching to suit students' learning styles is worth the effort because learners become increasingly engaged in their learnings. Learners are very different from one another; they learn best in different ways and they have different levels of motivation. Learners will respond best when their individual differences are respected and where possible, catered for.

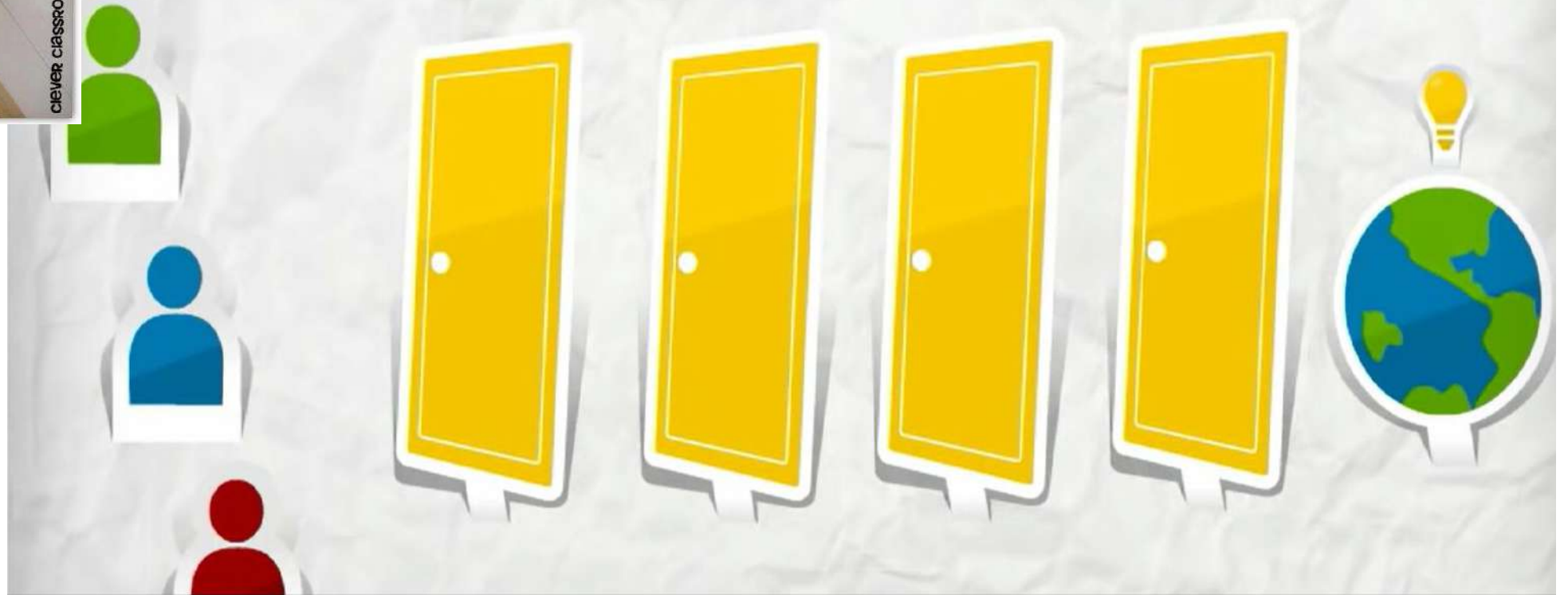
If a child can't learn
the way we teach,
maybe we should teach
the way they learn.

Ignacio Estrada



clever classroom blog

HOW MANY DOORS DO YOUR STUDENTS NEED TO GO THROUGH TO REACH YOUR INSTRUCTION?



HOW MANY DOORS DO YOUR STUDENTS NEED TO GO THROUGH TO REACH YOUR INSTRUCTION?





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LEARNING

**WHAT
DO TEACHERS
CONTROL?**

INSTRUCTION

ACTIVITY

LEARNING

**WHAT
DO TEACHERS
CONTROL?**

INSTRUCTION

ACTIVITY





**UNIVERSAL DESIGN FOR LEARNING IMPROVES
EDUCATIONAL OUTCOMES FOR ALL STUDENTS**

What is Universal Design for Learning (UDL)?

- + UDL is a **framework** that aims to accommodate a broad spectrum of learners by requiring a range of options for ***accessing, using*** and ***engaging*** with learning materials., planning for students in the “margins”.
- + **UDL** principles help educators proactively design **goals, methods, materials and assessment** that address the full range of student variability in today’ s learning environments.
 - + The *ways* of getting to the goal should not be embedded in the goal
- + Multiple means of ***representation, expression*** and ***engagement*** reduce barriers for individuals with disabilities but also enhance opportunities for *every* student.

The key is *flexibility* not *uniformity*. And CHOICE.

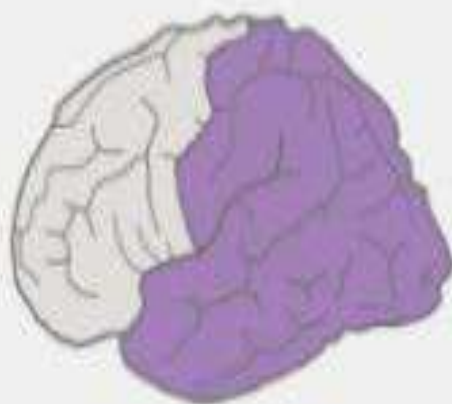
AFFECTIVE NETWORKS:
THE **WHY** OF LEARNING



Engagement

For purposeful, motivated learners, stimulate interest and motivation for learning.

RECOGNITION NETWORKS:
THE **WHAT** OF LEARNING



Representation

For resourceful, knowledgeable learners, present information and content in different ways.

STRATEGIC NETWORKS:
THE **HOW** OF LEARNING



Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

Learning happens when students are able to...

**Recognize, perceive,
and understand
information**



*recognition
networks*

**Strategize how to
learn and
successfully
demonstrate mastery**



*strategic
networks*

**Stay motivated,
engaged, and
participating**



*affective
networks*

...so effective teaching of diverse learners includes:

1.

***Multiple
Means of
Representation***

2.

***Multiple Means
of Action &
Expression***

3.

***Multiple
Means of
Engagement***



Different ways of Engagement: The Why of Learning

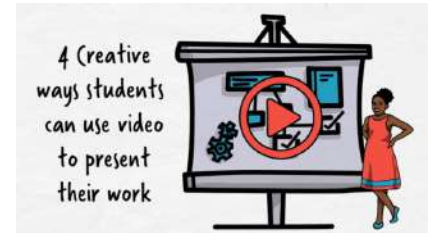
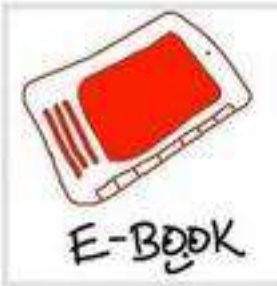


Different types of Representation: What of Learning



Scales printed on children desk with its width, height and weight will provide them an accessible yardstick to develop and comprehend the concept of measurement.

Different types of Action & Expression





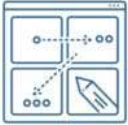









Action and Expressions



Universal Design for Learning: Expression & Communication

Select the strategy you want to use to express your ideas and share what you know.

<p>Compose a Piece of Writing</p> 	<p>Record an Audio Explanation</p> 	<p>Create an Illustration</p> 	<p>Combine Drawings and Text (e.g., Comic or Graphic Story)</p> 
<p>Sketch Out a Storyboard</p> 	<p>Design a Flowchart</p> 	<p>Sketchnotes</p> 	<p>Produce a Video or Digital Story</p> 
<p>Create Visual Art (e.g., Sculpture or Model)</p> 	<p>Express Yourself Through Movement or Music (e.g., Reenactment or Dance)</p> 	<p>Surface Connections with a Concept Map</p> 	<p>**Your Choice** Design Your Own</p> 



Examples of Assistive Technology



NO TECH

- Pencil grip
- Post-it-notes
- Slanted surfaces
- Raised lined paper
- Covered overlays
- Tactile letters
- Magnifying bars
- Weighted pencils



LOW TECH

- Buzzers
- Portable word processors
- Talking Calculator
- MP3 player
- Electronic organizers
- Switches/Buzzers
- Lights



HIGH TECH

- E-Readers
- Touch screen devices
- Computerized testing
- Speech Recognition Software
- Word Processors
- Text-to-Speech(TTS)
- Progress Monitoring Software



Assistive Devices and UDL

- Screen magnifiers



Assistive Devices for Hearing Challenged

Assistive Technology

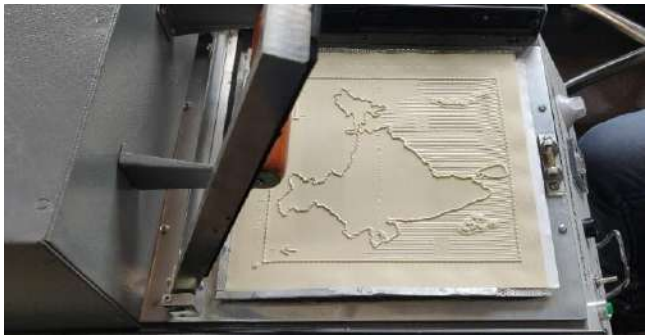
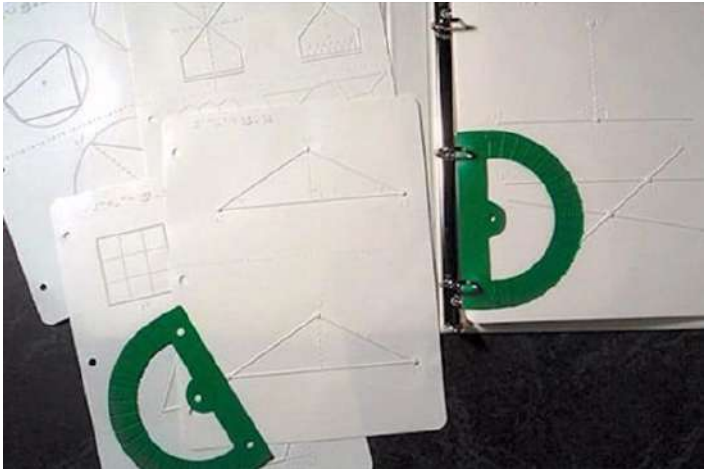
- Assistive Listening Device (ALD).
- Hearing Aids.
- Telecommunication Device for the Deaf (TDD).
- Infrared Systems.

(Assistive Technology For Students With Hearing Impairments, n.d.).

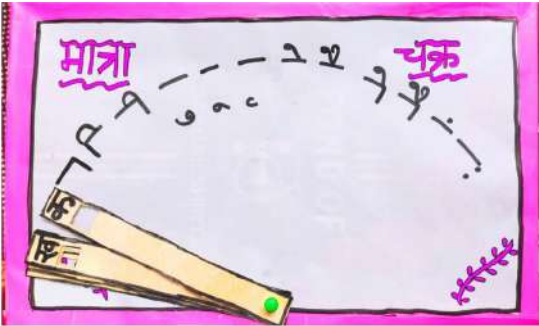
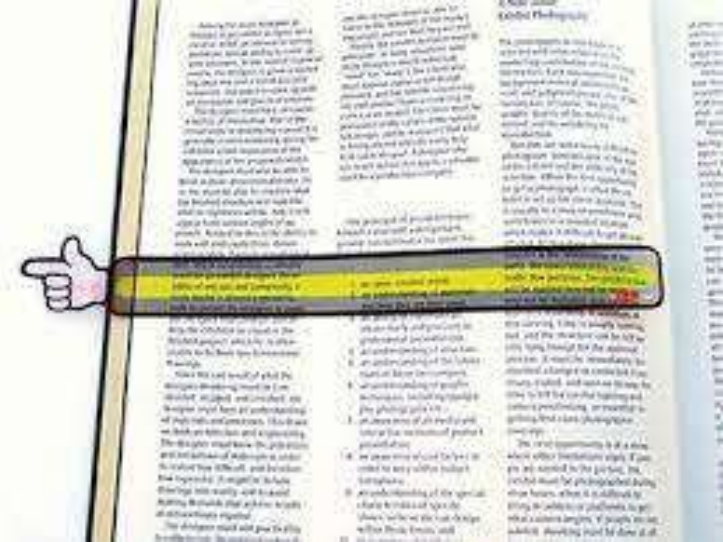


- Teletypewriter (TTY)
- Telecommunications device for the deaf (TDD)
- Voice to text software programs
- CART Communication Real-Time Translation
- Personal FM systems
- Soundfield systems
- Captioning Services for video/audio productions
- Face to Face Communication Systems

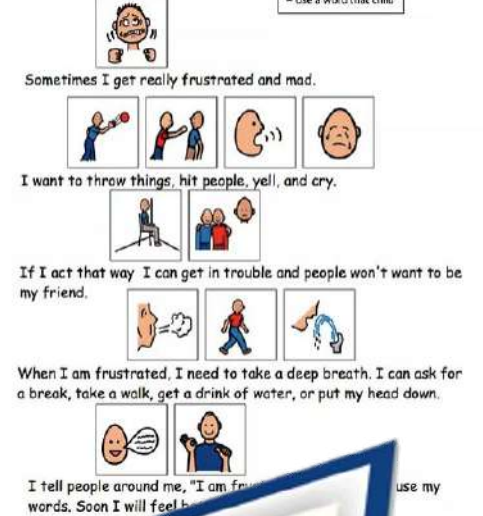
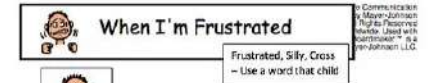
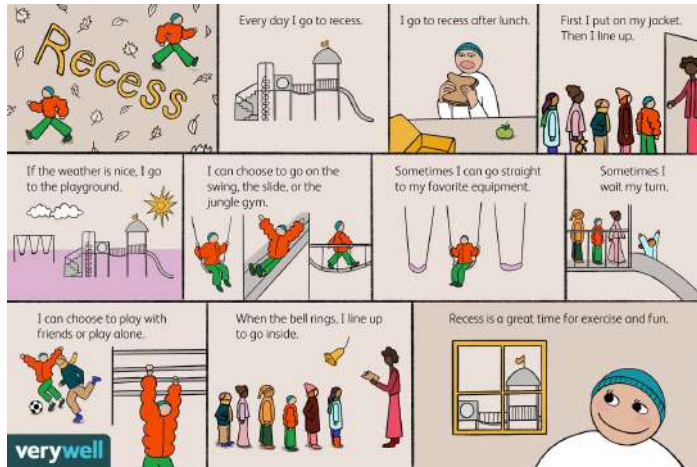
Assistive Devices for Visually Challenged



Assistive Devices for SLD

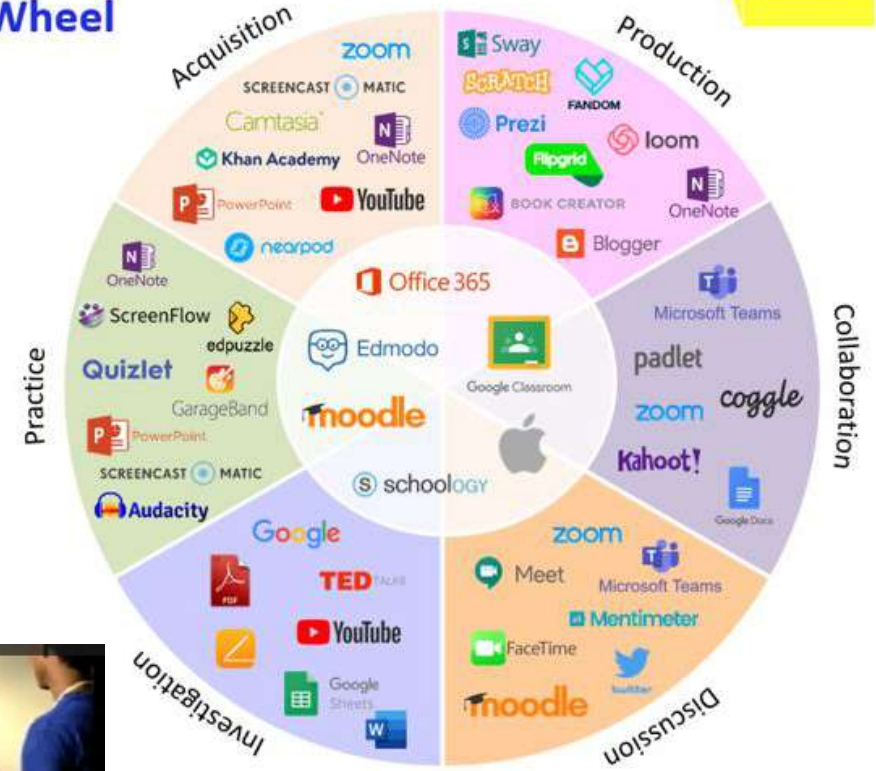


Assistive Devices for Autism Spectrum Disorder

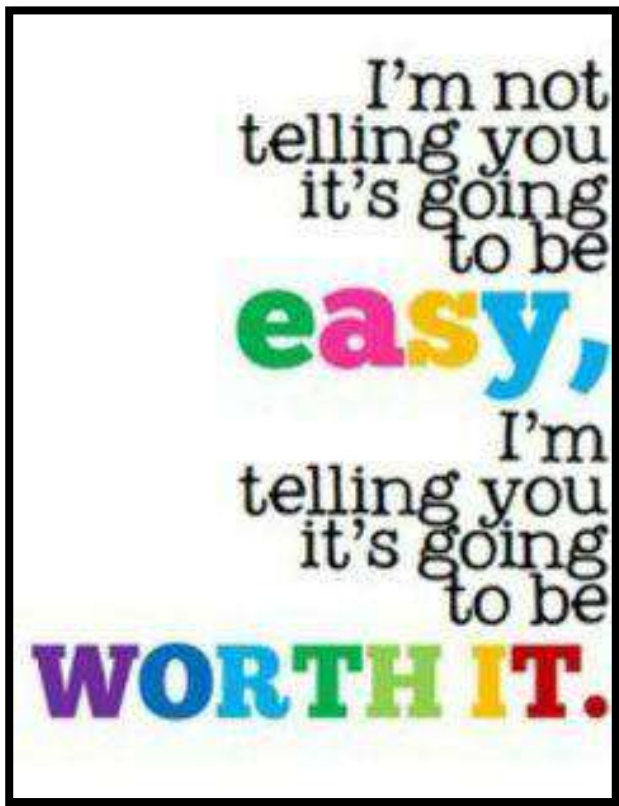




Technology Wheel



<p>✓ Representation</p>	
<p>✓ Action and Expression</p>	
<p>✓ Engagement</p>	



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