Knowing and Addressing Learning Disabilities and Behaviour Challenges

Workshop Series for CHIP International
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Your Facilitators

Bindiya Hassaram, Ph.D.
Founder @Learning Differently, India
bindiya@learningdifferently.in
www.learningdifferently.in

Alexandra Couet, MS. Ed
Learning Support Teacher,
International School of Geneva
alexandra.couet@ecolint.ch

Series Overview

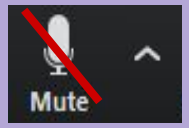
1. Understanding Learning Disabilities
2. Positive Behaviour Support & Classroom Management
3. Exploring the Universal Design for Learning framework

Goals for Day 1

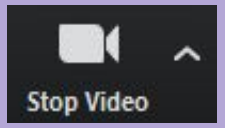
Participants will:

- Have a common understanding of the concept of Learning Disabilities (and the myths)
- Learn about the different types of Learning Disabilities
- Understand the cognitive processes underlying Specific Learning Disabilities
- Recognize other manifestations of disabilities and their impact in an academic environment
- Understand the impact of teacher and student mindset on student learning

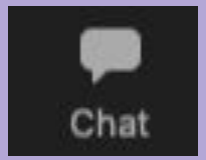
Our Norms for Today



Mics on mute (for now)



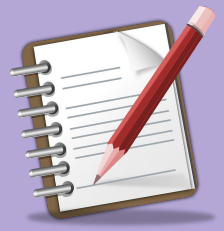
Videos on, if possible



Chat

Please ask all questions in the chat box

Thinking/Reflection



Individual Responses

Small group discussions

Individual Activity: Myth or Fact

1 LD is an excuse for unmotivated or lazy people.

2 People with LD are smart.

3 ~~LD~~ only affects children. Adults grow out of the disorders.

4 The terms dyslexia and learning disability are the same thing.

5 Learning disabilities are only academic in nature. They do not affect other areas of a person's life.

6 People with LD can be successful in college/higher studies

7 Children with LD are identified in kindergarten and first grade.

8 More boys than girls have learning disabilities.

9 Medication, diet or alternative medicines can cure LDs

Specific Learning Disabilities

Heterogenous group of disorders which manifest differently in different people, i.e. not every person with LD is the same

- Resulting from a disorder in the the nervous system
- Can occur with other physical or emotional conditions
- Not the result of physical, visual, auditory impairments
- Not caused by environmental, social or cultural factors, nor a lack of sound educational history
- Can cause difficulties in self-regulation, self-perception and social interaction
- Those with LD have typical intelligence and can be gifted, but continue to have difficulty in learning and using academic skills

Other general facts

- 5 - 15% of school-going children worldwide have LDs (APA, 2013).
- LDs affect a person for their life-span
- The basis of the disorders is presumed to be due to central nervous system dysfunction
- Thus, people with LD have altered processes of acquiring and using information
- Learning disabilities may occur concomitantly with other disabilities
- LDs are diagnosed through psychological, educational and/or language assessments.

Our Mindsets

Both student and teacher mindsets matter

Learned Helplessness

-after repeated experiences of failure and associated stress, students cease to engage because they believe the task will be ‘painful’ **even** when opportunities for change become available.

Teacher Expectations

-Research shows that a teacher’s expectations of students learning has a huge impact on students’ learning

Teachers, Mind Your Language

- Not ‘slow learners’
  - How about “struggling students”
  - Or “underachievers in _____ subject”
  - Faces challenges with...

- Check your mindset

What is mindset? A set of assumptions...(Carol Dweck, 2006)

FIXED MINDSET

-assumes that our character, intelligence, and creative ability are static.

-dreads failure

GROWTH MINDSET

-thrives on challenge

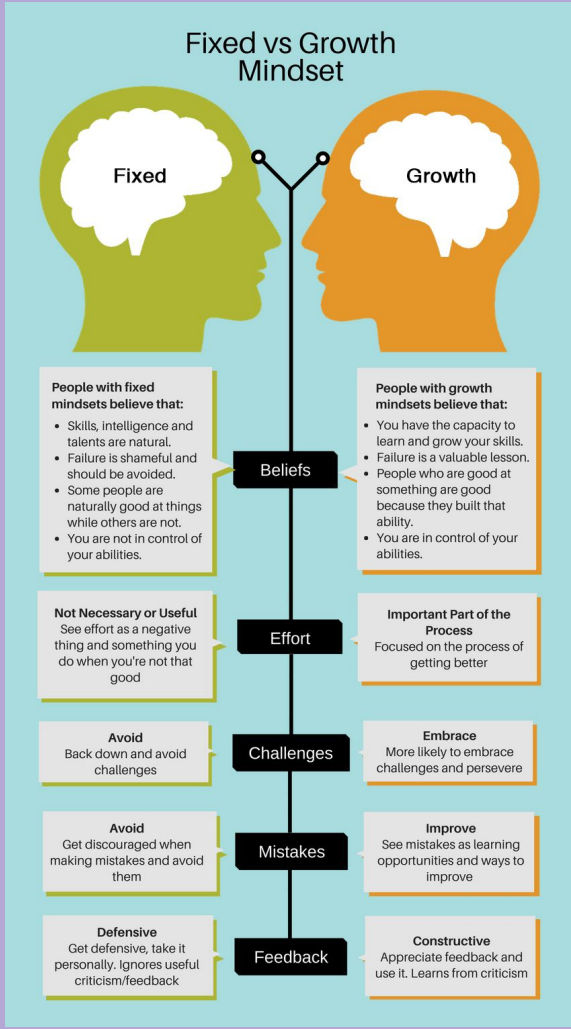
- sees failure not as a opportunity for growth and for stretching our existing abilities.

From the work of Carol Dweck

Student mindset

What is the impact of each

Mindset on learning?



The impact of teacher mindset on learning

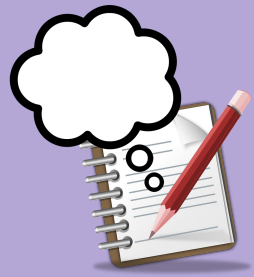
Adults and children have mindsets about themselves and others.

Children are likely to pick up the same mindset as the adults around them.

Fixed mindset ⇒

- Lack of motivation
- Lack of persistence
- Lack of risk-taking
- Narrow/repetitive approaches to learning

Individual Activity: Reflect and Write



Read the statements below. What would your responses be if you had a fixed mindset? A growth mindset?

- A student scored 45% on a math exam?
- A student came to you and said she wasn't able to draw the diagram?

IMAGE: https://theeducatorsroom.com/teach-parents-help-children-develop-growth-mindset

Mindset and Success

- Growth Mindset creates a passion for learning.
- Growth Mindset generates success.
- Success breeds success and the willingness to work hard for it.

Now that we've checked our mindsets, let's go back to the specifics of Specific Learning Disabilities

Learning Disabilities (LD)

LDs are **difficulties in processing information** even though person has average or above average thinking and reasoning abilities.

- Phonological processing
- Working memory
- Processing speed
- Language processing
- Visual-spatial processing
- Executive functions
- Visual-motor processing

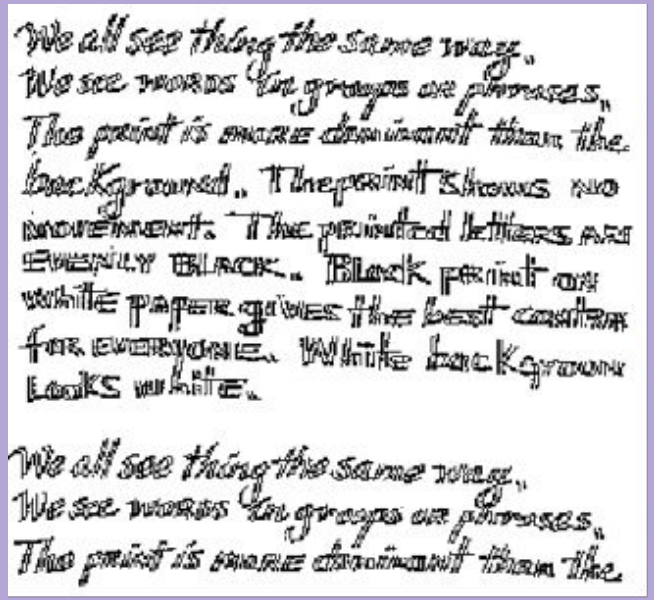
SLD in Oral Language

- Listening (understanding spoken language)
  - Sequencing
  - Multi-step directions
  - Understanding humour
- Speaking
  - Specific vocabulary/word finding
  - Expressing thoughts in words
  - Speaking in complete sentences

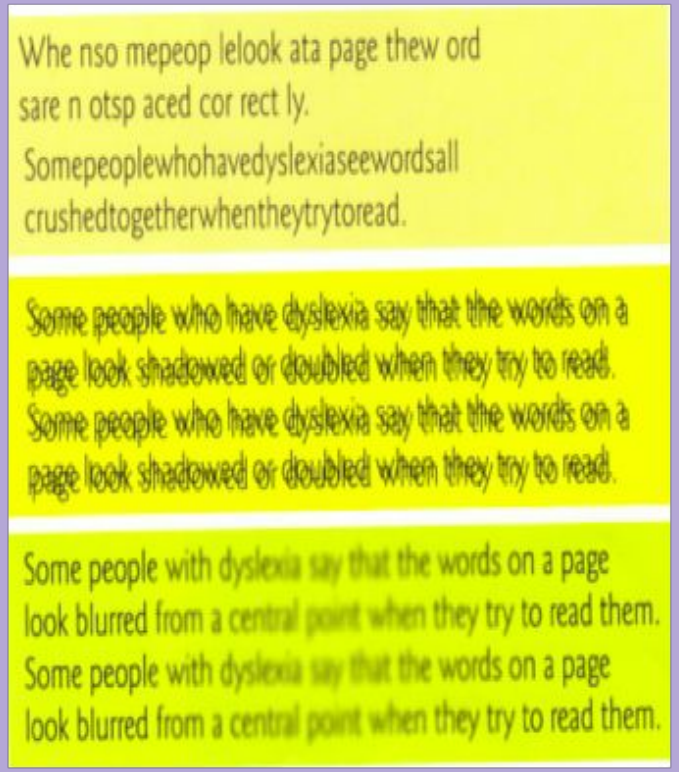
SLD in Reading

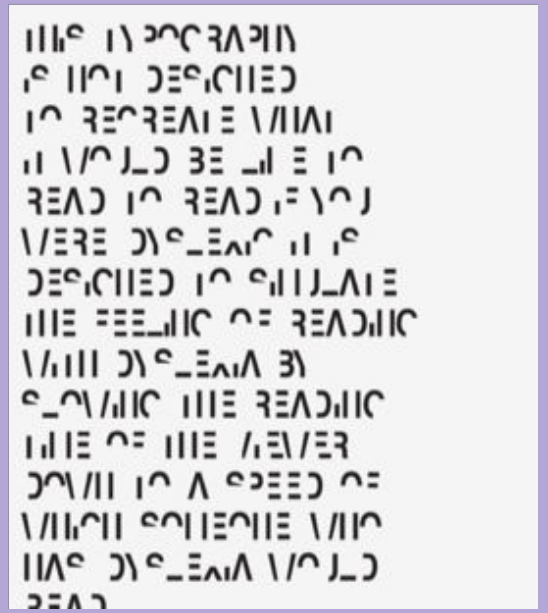
- ❏ Recognition of the alphabet
- ❏ Phonemic awareness (sound-symbol correspondence)
- ❏ Decoding/Spelling (reversal of letters and/or numbers)
- ❏ Reading Fluency
- ❏ Reading Comprehension

Watch Later: Reading difficulties and the brain
https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/dyslexia/video-dyslexia-and-the-brain (1.14 -)



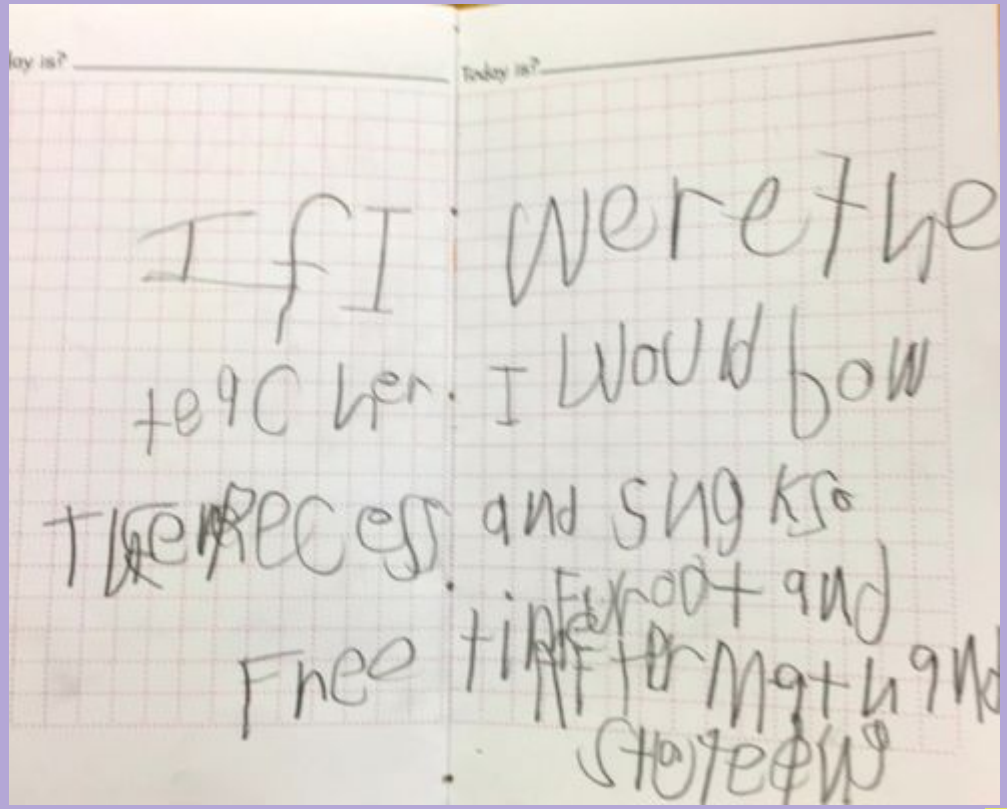
http://news.bitofnews.com/this-is-what-reading-is-like-when-you-have-dyslexia/





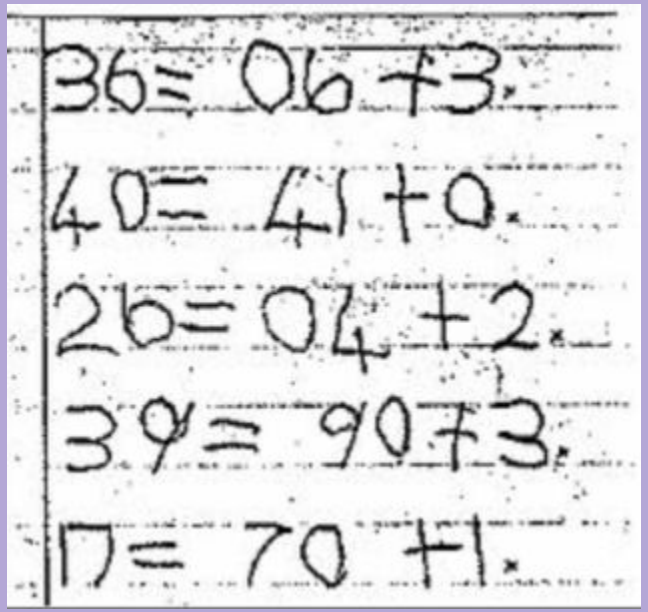
SLD in Written Expression

- ❏ Handwriting
- ❏ Using lines on a page
- ❏ Spelling
- ❏ Grammar
- ❏ Punctuation
- ❏ Sentence Structure
- ❏ Organization/Structure
- ❏ Ideation
- ❏ Taking notes
- ❏ Writing is tiring



SLD in Mathematics

- Math facts
- Math fluency
- Computation (algorithms)
- Math problem solving
- Concepts
- Geometrical shapes



Dyspraxia - Developmental Coordination Disorder

- Gross motor coordination
- Fine motor coordination
- Often seen as ‘clumsy’
- In younger children, developmental milestones can be delayed
  - Rolling over
  - Sitting up
  - Crawling
  - Walking
- Organization

Higher-order thinking skills

- ❏ Comparing/contrasting
- ❏ Classifying
- ❏ Sequencing
- ❏ Categorizing
- ❏ Predicting
- ❏ Estimating
- ❏ Organizing

Attention Deficit (Hyperactivity) Disorder

- ❏ Has trouble staying engaged and on task
- ❏ Makes careless mistakes
- ❏ Has difficulty organizing time, materials, spaces
- ❏ Needs to move constantly
- ❏ Interrupts others in class
- ❏ Seems to not be paying attention but gets answers correct when asked

What are learning barriers to look for?

Students can be challenged with

Sequencing
- Of sounds
- Of words
- Of ideas
- Of steps

Organization of
- Ideas
- Materials
- Body
- Time

Memory for
- Letter-sound correspondence
- Spelling rules
- Vocabulary
- Number facts
- Algorithms for computation

Social Skills
- Poor Group interactions
- Inappropriate responses
- Misinterpreting cues
- Misinterpreting emotions
-

Attention
- Short attention span
- Wandering attention
- Attending to distracting stimulus

Processing
- Of information
- Slow
- Requires repetition
- Requires different explanation

Motor Skills
- Gross motor skills
- Fine motor skills

Cognitive Processes Underlying Learning

Remember: Central Nervous System Disorders

Key Processes Involved in Learning

- Memory
  - Working
  - Long-term
- Processing
  - Language
  - Visual Spatial
  - Speed

Memory and Learning

Learning **relies** on memory.

Think: storage and retrieval of information.

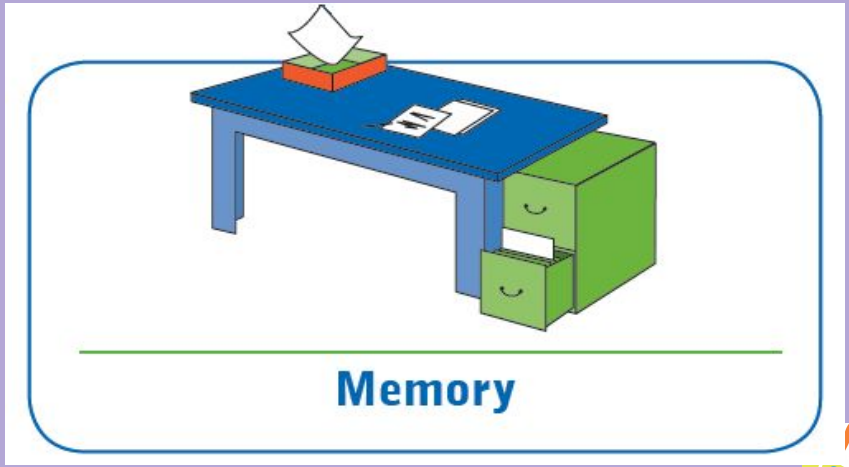
Memory **relies** on learning.

New information attaches itself to known information or *prior knowledge*

Memory

Memory is the ability to ***record***, ***store*** and then ***retrieve*** learned information, facts and skills.

Holding onto to new thoughts and connecting them to past thoughts through **storage** and **recall**.



can you follow directions?

Get a piece of notebook paper, write your answers and draw a picture when you are finished

1) Read all of these steps before doing anything.
2) Write your first name in the top right-hand corner of your paper.
3) In the left-hand margin, write number 1-10, but write them backwards
4) Next to number 3, draw 3 hearts.
5) Color the middle heart all the way.
6) On all of the even numbers, draw a smiley face.
7) Fold your paper in half hamburger style and then fold it again
8) In one of the corners, write your last name in all capital letters.
9) Stand up and wave to the teacher.
10) Sit back down and open up your paper.
11) Flip your paper to the side with your last name on it and erase your last name.
12) Flip your paper back over to the numbered side. On the right-hand side of the paper, draw a triangle.
13) Make an X in the center of the triangle.
14) Use the tip of your pencil to poke a hole in your paper in the center of the X that is inside the triangle.
15) Tap your desk 10 times.
16) Write your teacher's name on the 13th line of the paper.
17) In the center of the last line of the notebook paper, write the word "DONE"
18) Now that you have finished reading everything carefully, only do steps 1 and 2. Then draw me a picture on the back of your paper.

Working Memory

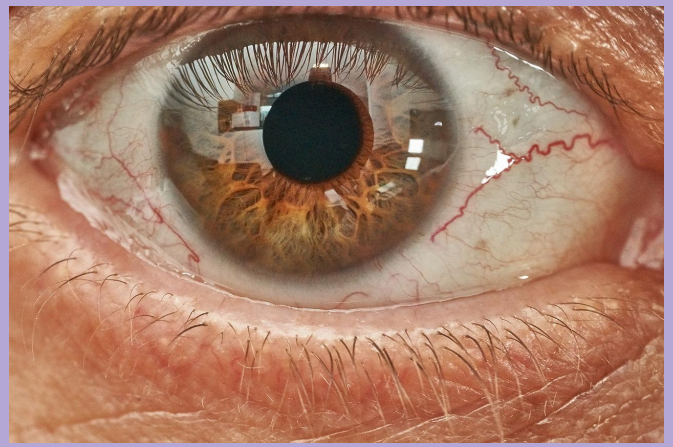
Working memory relies on previous knowledge while juggling new information, and when there are too many ‘balls in the air’, it can all fall apart!

How do we help students not to have too many balls in the air?

Working Memory

Auditory Working Memory

Visual Spatial Working Memory



Examples of Working Memory

Manipulation of new information with old information to build new knowledge

Examples

- ➔ Computing solutions to math problems
- ➔ Allows you to comprehend what you are reading
- ➔ Figure out the meaning of what has just been said to your in a conversation
- ➔ Following directions to a place you need to go without a map
- ➔ Remembering the beginning of the story when you get to the end

From Short-Term to Long-Term Memory

Rehearsal (repetition), e.g., remembering a phone number you just looked up

Encoding: fitting the information into fabric of what you already know

e.g. outlines, hierarchies, categories, mnemonics

i.e. how you “file” the information

Retention

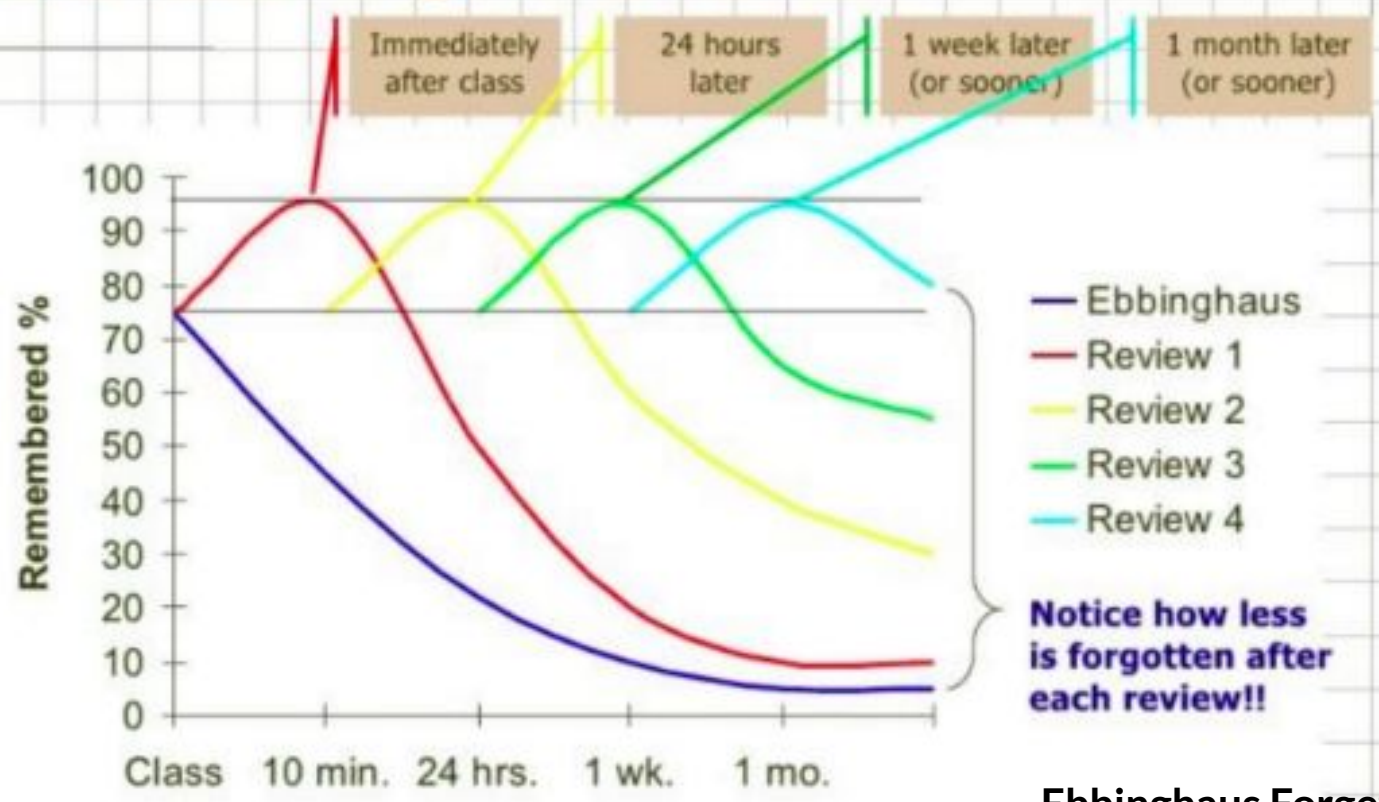
Encoding *does not ensure* retention.

80% of learning is forgotten within 48 hours.

Need to activate storage and retrieval processes:

Review: retrieval of information temporarily copies it into working memory for further processing

Overcoming the Curve

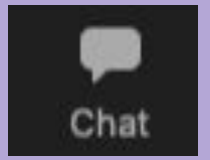


Ebbinghaus Forgetting Curve

Long-Term Memory

- Recalling information from the past, hopefully with ease and accuracy
- Effective filing of information is needed
- The more tags you attach to new information, the easier it will be to retrieve it

What are the implications for a student when these processes are challenged ?



- Working memory
- Long-term memory

Think about both visual and auditory memory

Strategies to Help with Working Memory

Present material in text (written), images (visuals), and audio, i.e. multisensory

- Visual representations are great!
- Always provide verbal and written instructions
- Ask students to retell (rehearse) what they have just heard/read
- Allow use of memory aids (eg. formulas)

Reduce the amount of new information/skills presented at one time

- Focus on one aspect of the task at a time
- Highlight key facts to focus students attention
- Reduce the demand (eg. answer fewer questions, practice on smaller range of items etc…)

Overexposure

- Frequently repeat important information about what you are teaching, what you are asking students to do

Processing Speed

Processing speed is the pace at which you take in information, make sense of it, and begin to respond. (perceive, process and respond). This information

- can be visual, such as letters and numbers
- can also be auditory, such as spoken language.

Processing Speed (in the classroom)

Saying too many things at once can also pose a challenge. If you give multiple-step directions

> "When you come to class today, bring your reading book. Also, can you remember to talk to Mr. John before you come to class."

Slow processing speed impacts learning at all stages.

> It can make it harder for young children to master the basics of reading, writing and counting.
>
> And it impacts older kids' ability to perform tasks quickly and accurately.

Other difficulties:

- Finishing tests in the allotted time
- Finishing homework in the expected time frame
- Listening or taking notes when a teacher is speaking*
- Reading and taking notes *
- Solving simple math problems in their head quickly
- Completing multi-step math problems in the allotted time
- Doing written projects that require details and complex thoughts
- Keeping up with conversations
- Other social difficulties

https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/information-processing-issues/processing-speed-what-you-need-to-know

Reduce time pressure associated with a task

- Allow longer response time for the student to
  - respond orally to questions in class
  - complete seatwork assignments in class
- Allow extra time for tests, usually time and a half
- Provide extra time for the student to complete in-class assignments
- Reduce the amount of work the student is required to do
- Shorten the assignment so it can be accomplished within the time allotted
- Focus on quality of productions, rather than quantity
- Provide copies of notes rather than requiring the student to copy from the board in a limited time

Build efficiency and automaticity

Provide instruction to increase the student's reading speed by training

- reading fluency,
- ability to recognize common letter sequences automatically that are used in print;
- sight vocabulary

Provide timed activities to build speed and automaticity with basic skills, such as:

- reading a list of high-frequency words as fast as possible
- calculating simple math facts as fast as possible

Build self-awareness of time

Teach the student to use a stopwatch or to record his or her start and end times for assignments to monitor the time spent on each activity.

Set a goal for the student to gradually reduce the time needed to do these tasks

Processing is both receptive and expressive

Receptive:

- Taking in information

Expressive:

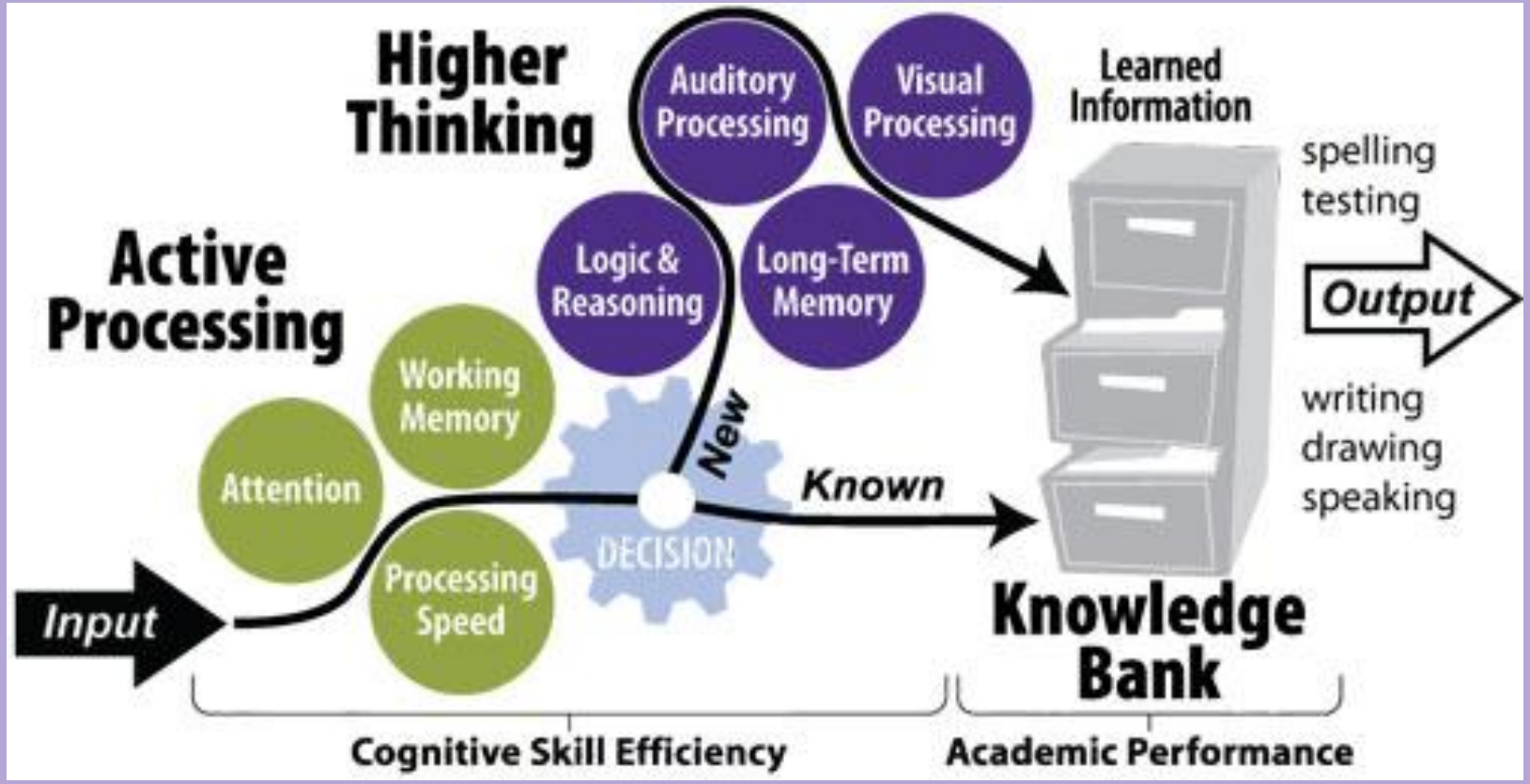
- Communicating information

How might you address these difficulties?

- understanding oral or written directions
- vocabulary skills (social and academic vocabulary)
- using complete sentences or correct grammar

⇒ becoming easily frustrated

- ❏ Provide “wait time”
  - ❏ for listening to directions
  - ❏ responding to questions
- ❏ Use simple instructions
- ❏ Provide visual and verbal instructions
- ❏ Teach key vocabulary explicitly
- ❏ Teach parts of speech



When you can focus on attention, working memory & processing speed ⇒ students can access higher order thinking in order to produce output.

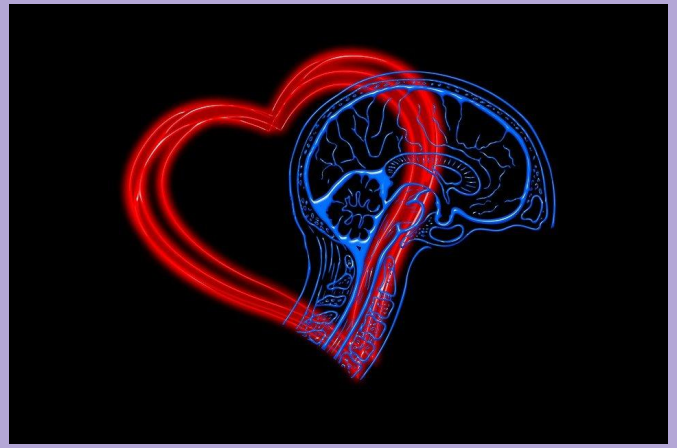
Ask yourself....

What can I do to ...?

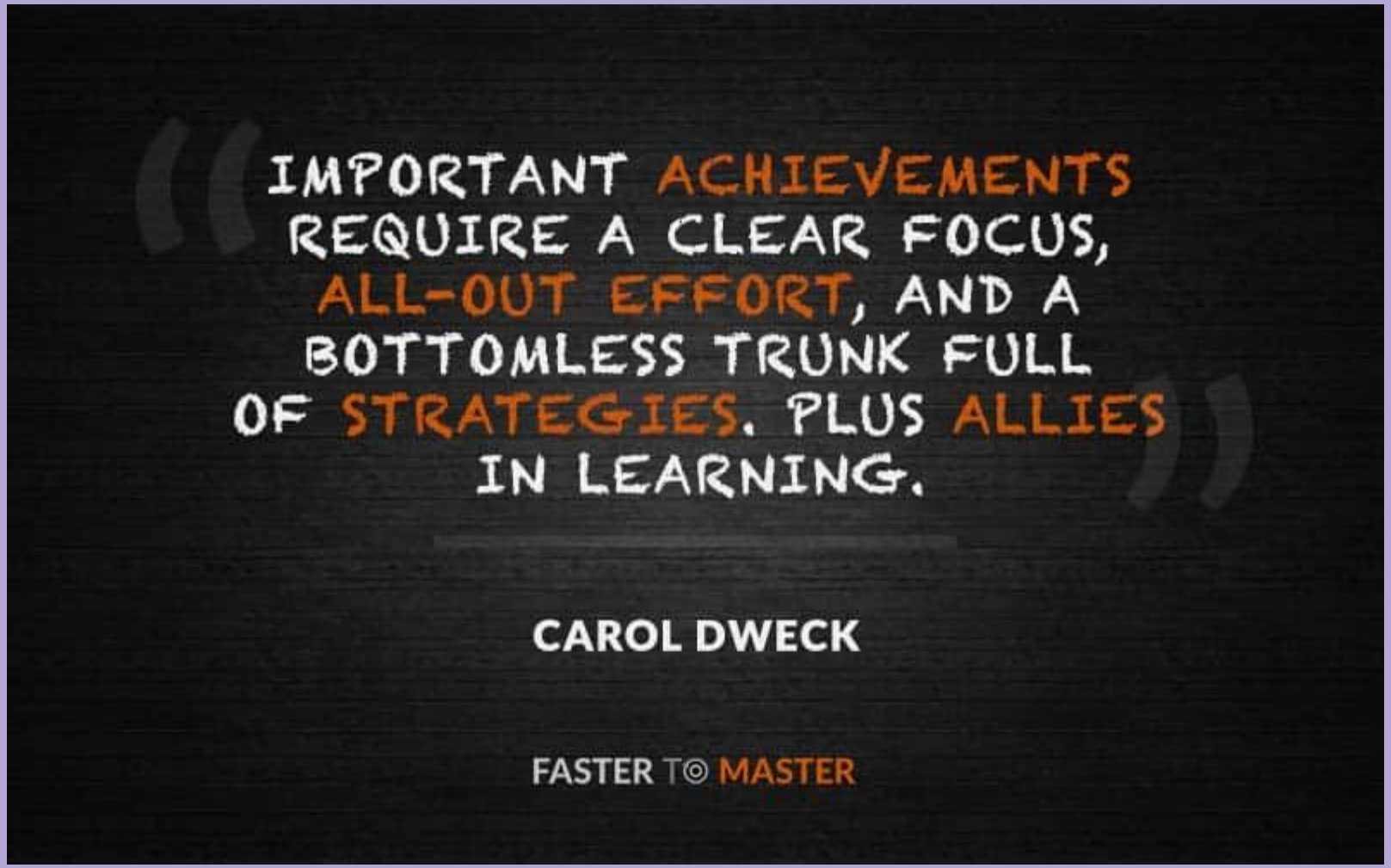
- ❑ Facilitate attention
- ❑ Reduce processing speed
- ❑ Reduce working memory

The non-academic impact of LD

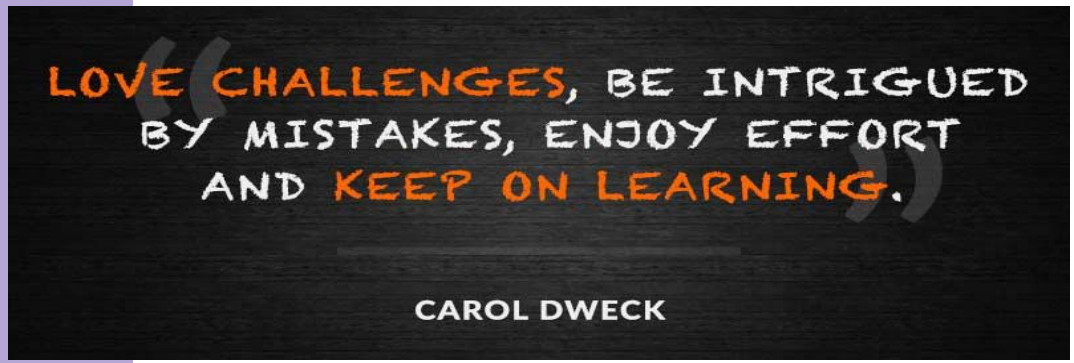
- Slow learning curve and acquisition of knowledge
- Negative self-concept
- Frustration
- Limited persistence
- Behavioural outbursts
- Bullying
- Stigma



Heartset and Mindset


IMPORTANT ACHIEVEMENTS REQUIRE A CLEAR FOCUS, ALL-OUT EFFORT, AND A BOTTOMLESS TRUNK FULL OF STRATEGIES. PLUS ALLIES IN LEARNING.
CAROL DWECK
FASTER TO MASTER

We need both hearts and minds



Designing Learning Targets

Goal: In her own home, Ama will be able to make a correctly textured fufu in 40 minutes

6.

5.

4. By the end of June, Ama will be able to pound the fufu to the correct consistency

3. By the end of April, Ama will be able to cook the plaintain and cassava to the right texture and drain the water

2. By end of Mach, Ama will be able to set up all the equipment and materials for her mom to start cooking

Baseline: Currently, Ama can assist her mother by collecting the correct equipment and ingredients for making fufu

Determining Areas of Focus

- Using observation/assessment data to select priorities for students
  - Think “Critical Skills”
- Writing measurable goals
- Using data to adapt/fine-tune instruction

Using observation/assessment data to select priorities for students

- How do we select what gets priority?
  - Think **Critical Skills**
    - What are they?

Critical skills

reach

across the curriculum

&

across time

Critical Skills

- Reading
- Speaking
- Listening
- Writing
- Collaborating
- Problem-solving
- Critical thinking
- & others

Team Decisions

- Who is involved in the decision?
  - Classroom teacher
  - Grade level leader
  - Parent
  - Who else?

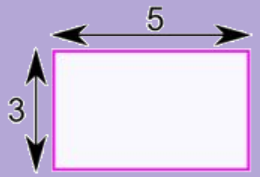
Skill Development

- **Acquisition** = I learned the skill. I can do it.
- **Fluency** = I can do it quickly and consistently.
- **Maintenance** = I can do it later, even if I haven't done it recently.
- **Generalization** = I can do it in different contexts.

Snapchat

Making a cup of tea!

Driving a car!



Finding the area of a rectangle

Where do we want the student to be?

- What are we comparing to?
  - Developmental milestones
  - Grade/Standard level expectations
  - Performance of peer group

Strong Suggestion

Begin/Continue to maintain all kinds of skill data at the class/grade/building/state level. This will be a good resource for you to use as comparison points for your context.

Determining Priority

- Choose 1 – 3 areas of priority, based on a team decision.
  - Which are the most important skills for the student to acquire at this time?
  - Ask the students themselves…what do they want to learn?
  - Ask families – what do they value?
  - Ask teachers – what's most urgent for success?

Determining the Learning Target

- What skill needs to be improved?
  - Making a delicious cup of chai
  - Making correctly textured fufu

Determining the setting

- When/where is this skill needed?
  - At my home
  - At a friend's home

Remember: a critical skill should be needed across contexts.

Good learning targets take advantage of natural learning opportunities

The more a skill can be practiced, the more likely it will improve

Creating the Scale

- **Duration** – more time
- **Frequency** – more often
- **Task analysis** – more parts of the task
- **Latency** – less time delay between instruction and occurrence
- **Rate** – per minute/per hour/per day/per paragraph
- **Level of independence** – with/without reminders, prompts, checklist
- **Proportion** – 2 out of 5 times, 2 in 3 days
- **Quality** – change in quality (more visible, better appearance)

Writing the Goal

(Preposition) (settings) (name of student) will (skill/behaviour) (preposition) (acquisition criterion) (preposition) (fluency criterion)

In her own home and at other people's houses, Dhira will make a delicious cup of chai in under 7 minutes.

In her own home, Ama will be able to make a correctly textured fufu in 40 minutes

More Goals

- In Math classes, Simon will accurately complete five two-by-two digit multiplication problems, in 3 out of 4 opportunities

- In English and History classes, Ruth will interpret words and phrases as they are used in grade-level texts, including determining technical, connotative, and figurative meanings, with 75% accuracy.

More examples of goals

- When it is time to transition from groups to a center circle, from the classroom to the playground, Gail will quietly follow the routine within 15 seconds of an auditory reminder.

- During read-aloud time and lunch, Bob will pronounce consonant blends /ch/, /sh/ and /th/ within conversation well enough that classmates and teachers can understand what he says.

- In math and science class, Samuel will correctly add and subtract all numbers through 15, with no more than one error per 10 problems on ten assignments in a row.

	Scale	Measurement Criteria	Report Date
Goal/ Benchmark	4	In her own home and at other people's houses, Dhira will make a delicious cup of chai with under 7 minutes.	March 2022
Goal/ Benchmark	3	In her own home and at other people's houses, Dhira will make a delicious cup of chai in under 15 minutes.	December 2021
Goal/ Benchmark	2	In her own home and at other people's houses, Dhira will make a delicious cup of chai in under 20 minutes.	September 2021
Goal/ Benchmark	1	In her own home and at other people's houses, Dhira will make a delicious cup of chai in under 25 minutes.	June 2021
Baseline	0	In her own home and at other people's houses, Dhira **is able** make a delicious cup of chai in under 30 minutes.	March 2021

Levels of Assistance

- Independently
- With minimal prompting
- With some prompting
- With multiple prompting
- With assistance

	Scale	Measurement Criteria	Report Date
Goal/ Benchmark	4	In Math classes, Simon will accurately complete five two-by-two digit multiplication problems, in 3 out of 4 opportunities	March 2022
Goal/ Benchmark	3		December 2021
Goal/ Benchmark	2	.	September 2021
Goal/ Benchmark	1		June 2021
Baseline	0	In Math classes, Simon can complete five one-by-one digit multiplication problems, in 3 out of 4 opportunities	March 2021

Fidelity and record keeping

- Fidelity means the intervention is repeated the same way every time.
    - There is no difference in the way the intervention is provided, no matter who provides it.

- It is important to record keep in order to monitor progress of the student, and to decide if the intervention is working or not, or the student is responding or not.

Using data to adapt/fine-tune instruction

- If an intervention does not work, and you are using a research-based intervention, some adjustments you can make are:
  - Frequency – how often the intervention is provided
  - Duration – the period of time the intervention is provided
  - Group size – the number of students receiving the intervention at the same time

- If the rate of improvement falls below expectations at least 3 times, this could indicate a learning difference

Take-home activity

- Decide on one or two goals for your student
- Create measurable learning targets with a scale
- Decide on the intervention you are going to use
- Write a learning plan!
- Decide how you will progress monitor

Learning is…

Cognitive

AND

Social

AND

Environmental