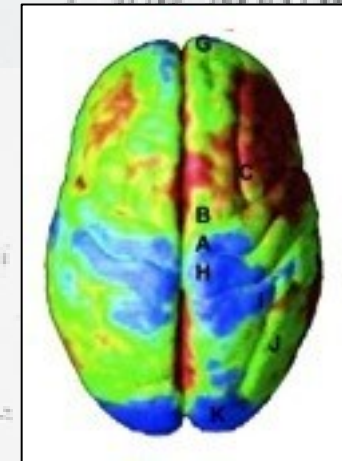
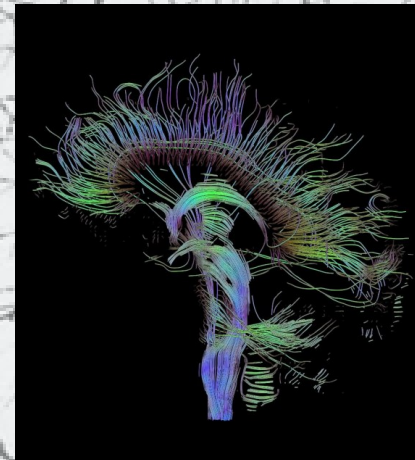




Take Action On Distraction

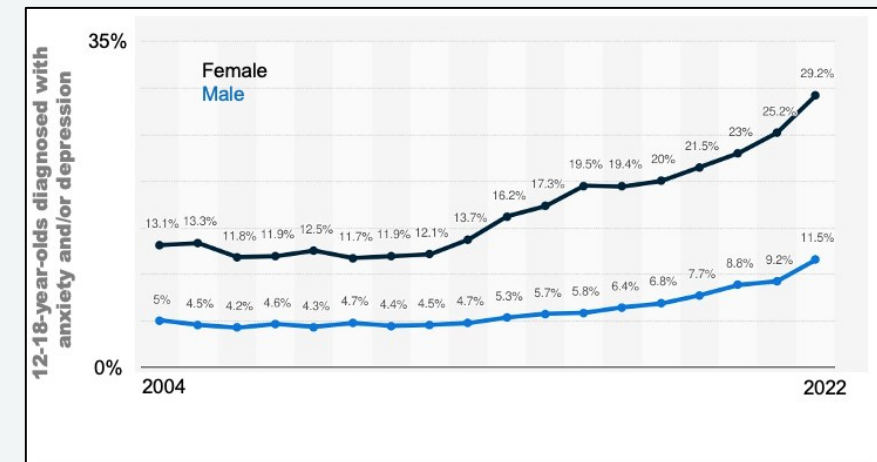
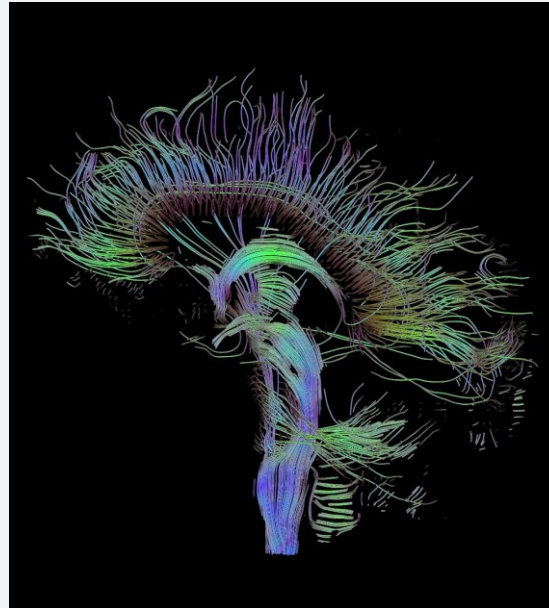
Insights from developmental neuroscience
into supporting children's concentration



Professor Sam Wass

Summary of keynote

Childhood is changing
Children are changing

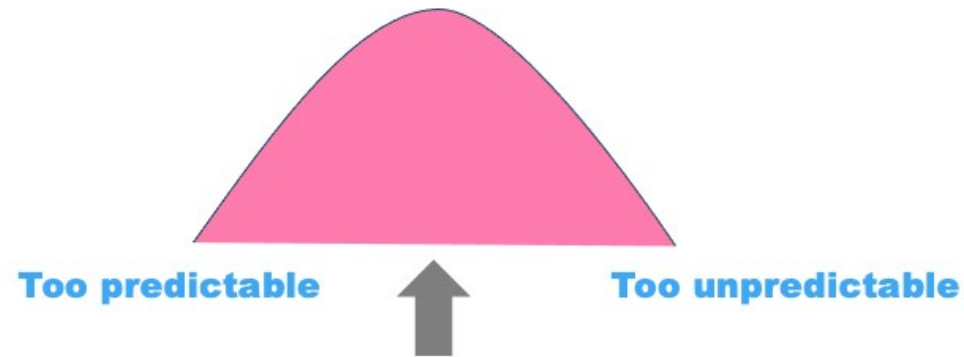


Everybody learns best when they can predict what will happen sometimes, but not always

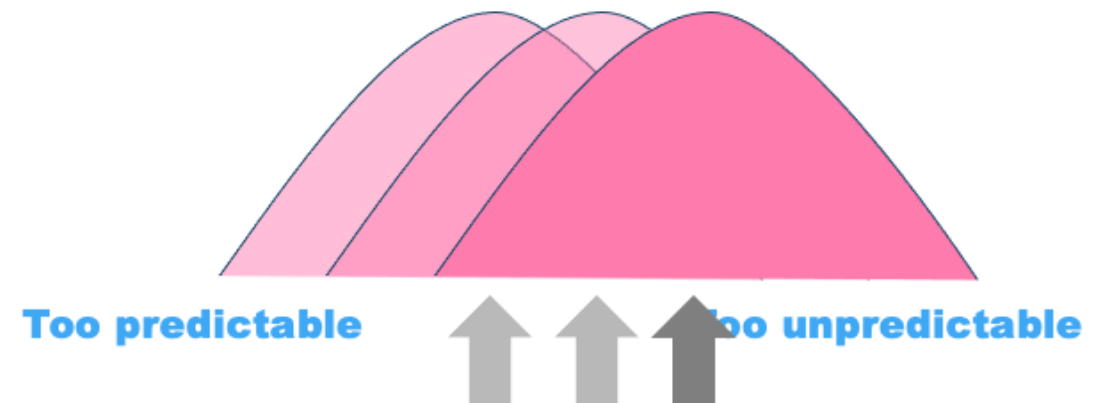
Young brains learn best from predictability

Older brains learn better from unpredictability

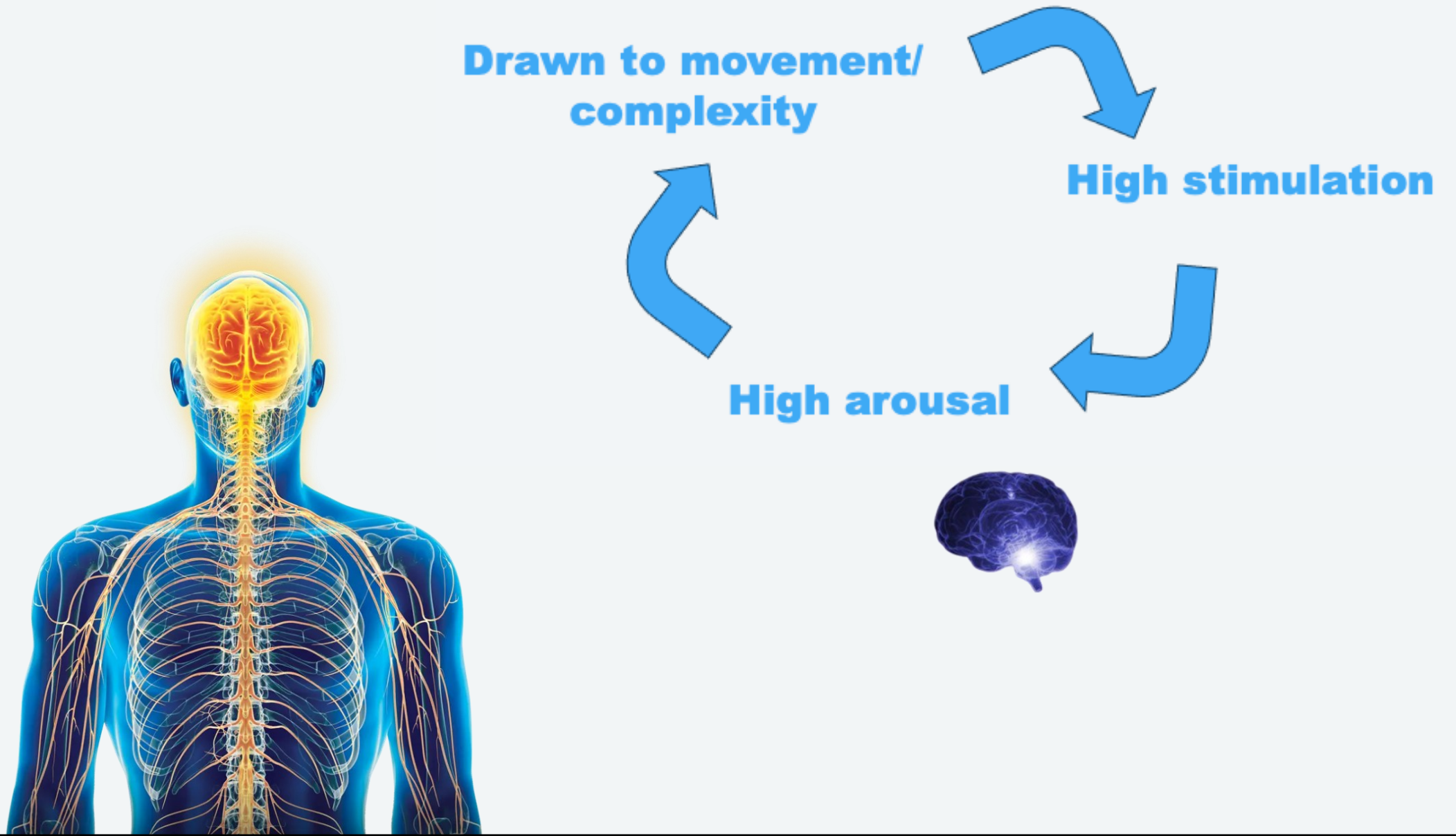
The Goldilocks zone



The Goldilocks zone keeps moving

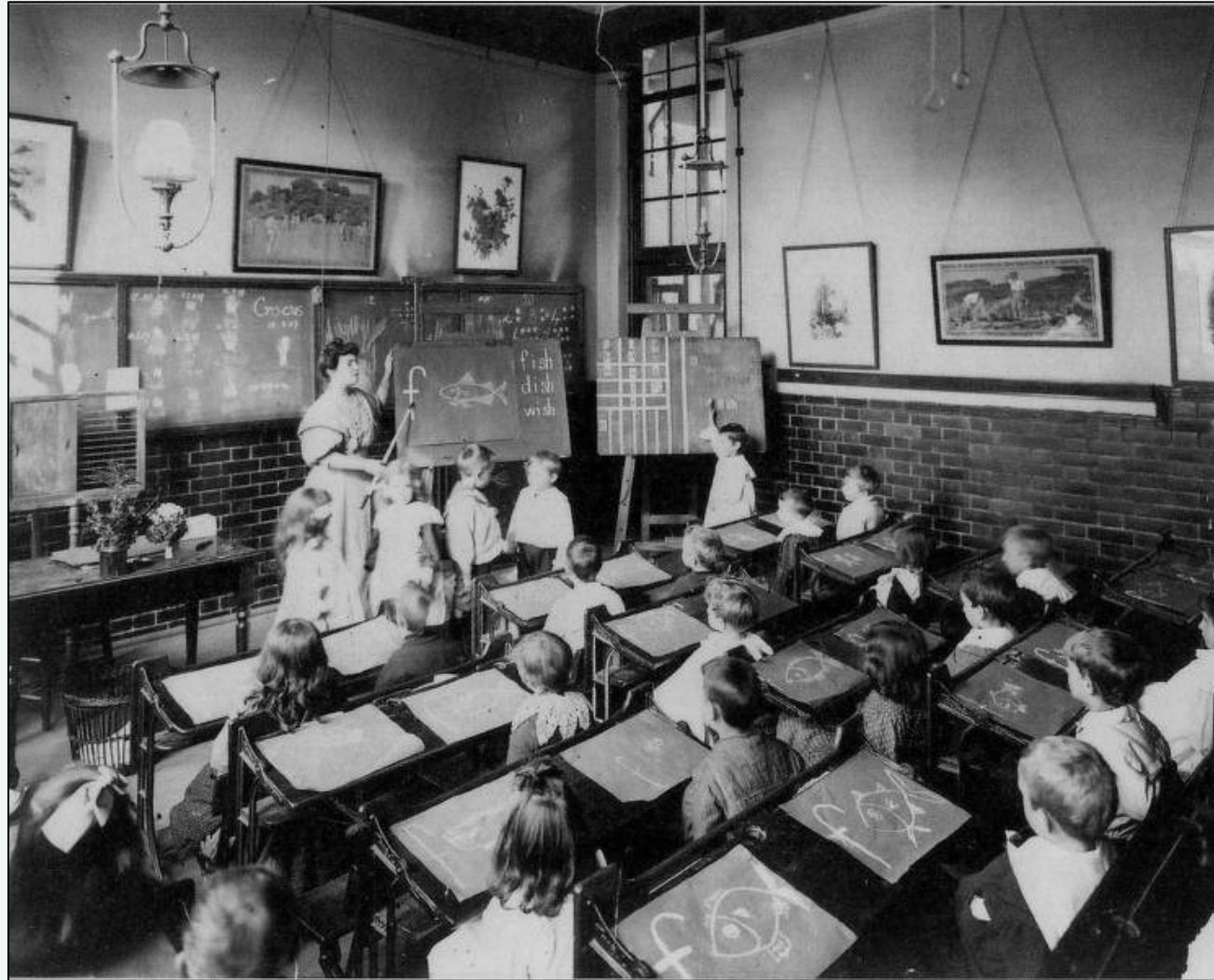


Viscious circle of distractibility

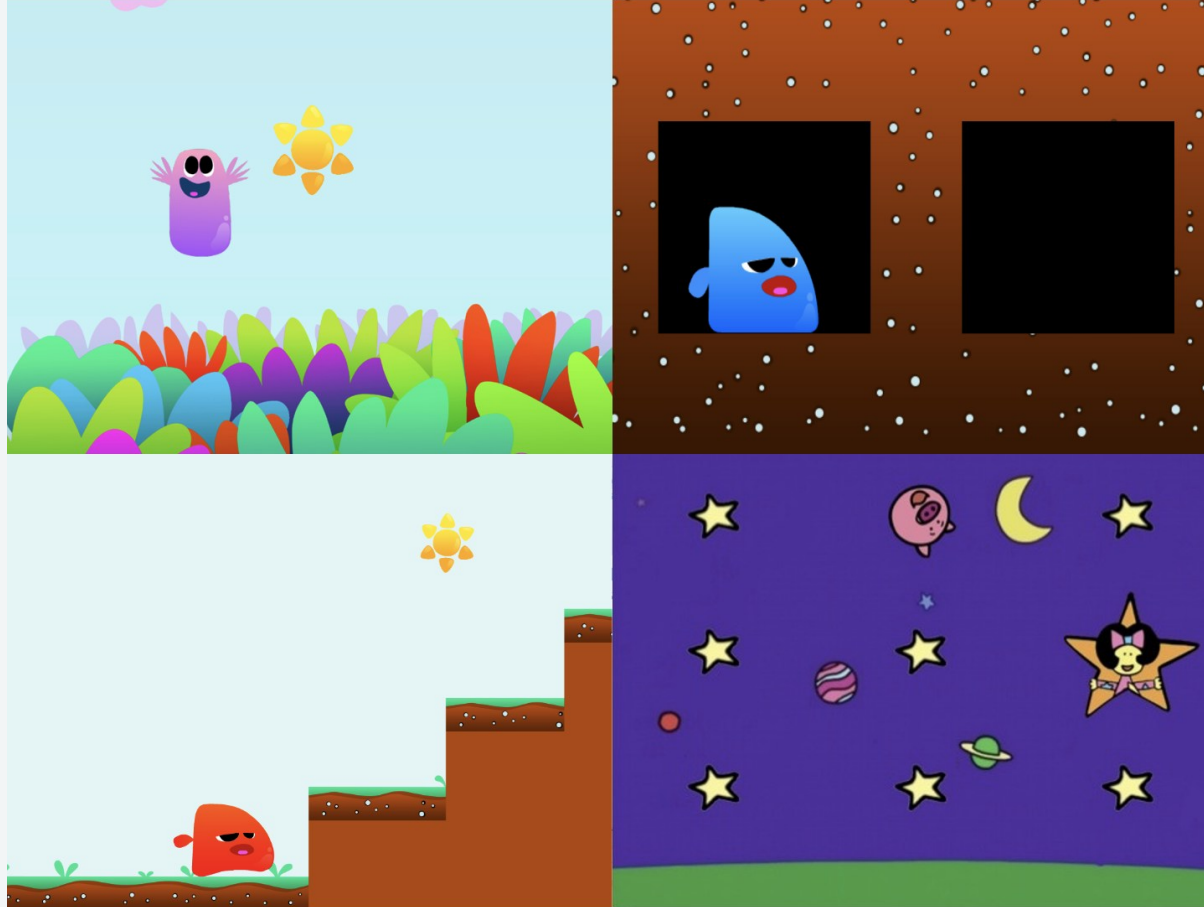


What can we do to help?

Away from the idea of concentration as mental effort



Away from the idea of concentration as mental effort



Away from the idea of concentration as mental effort

Instead:

**Why are some things easy to concentrate on
and other things hard?**



When a flower doesn't bloom you fix the environment, not the flower

Alexander Den Heijer

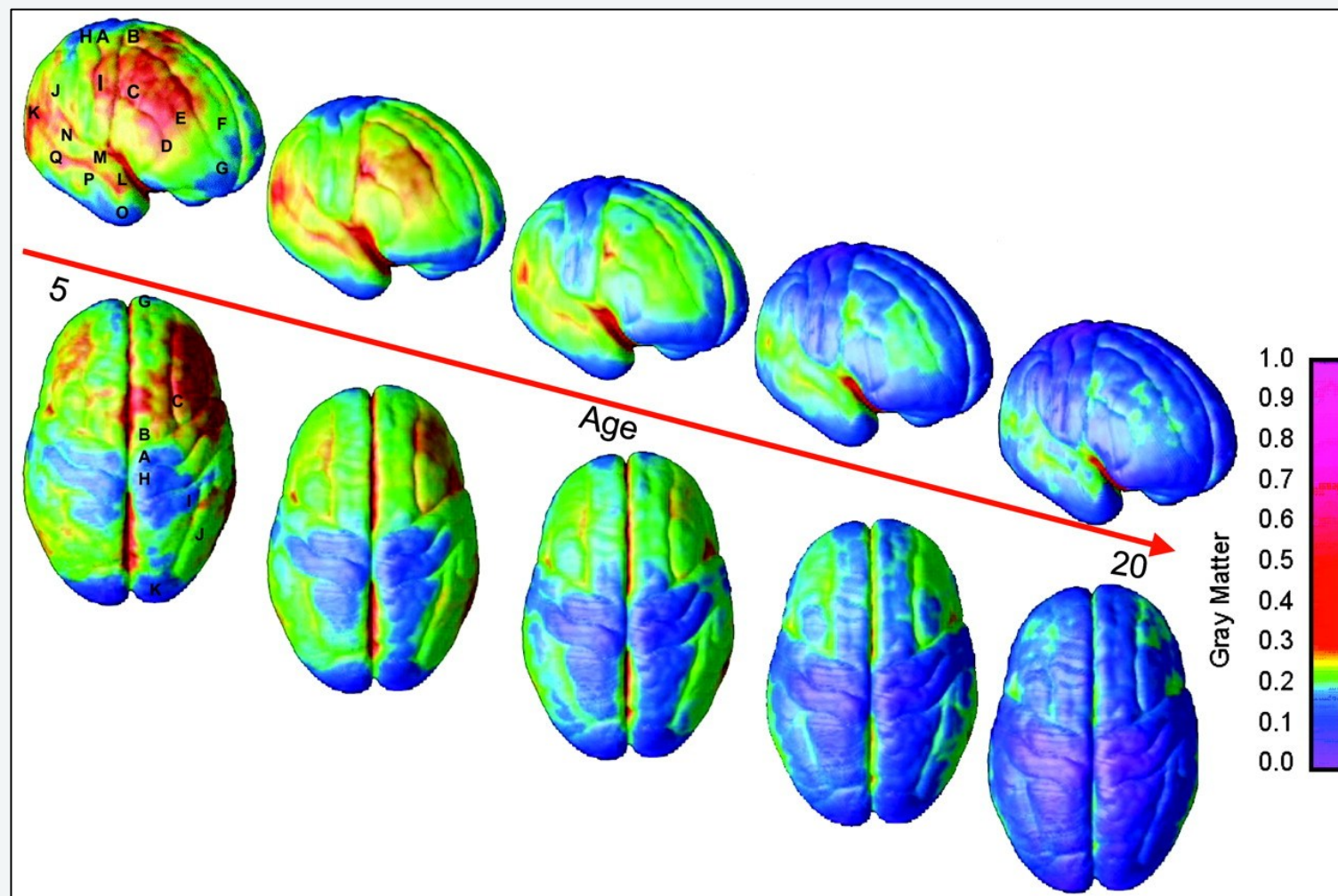
4 sections:

1 Set goals

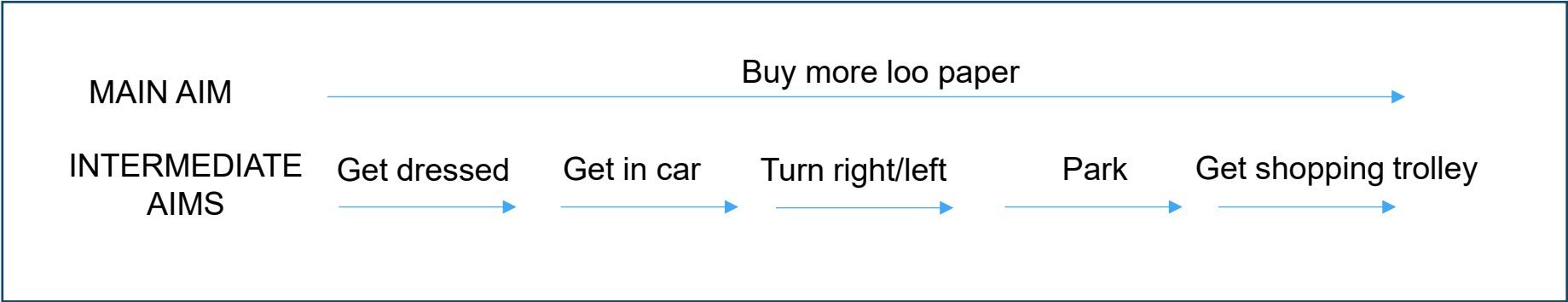
2 Calibrate stress

3 Make waves

4 Reduce noise



Frontal cortex helps you to keep a goal in mind



Doing forms of concentration

Their goals

Your goals

Give me examples of each?

Doing forms of concentration

Eg build a house



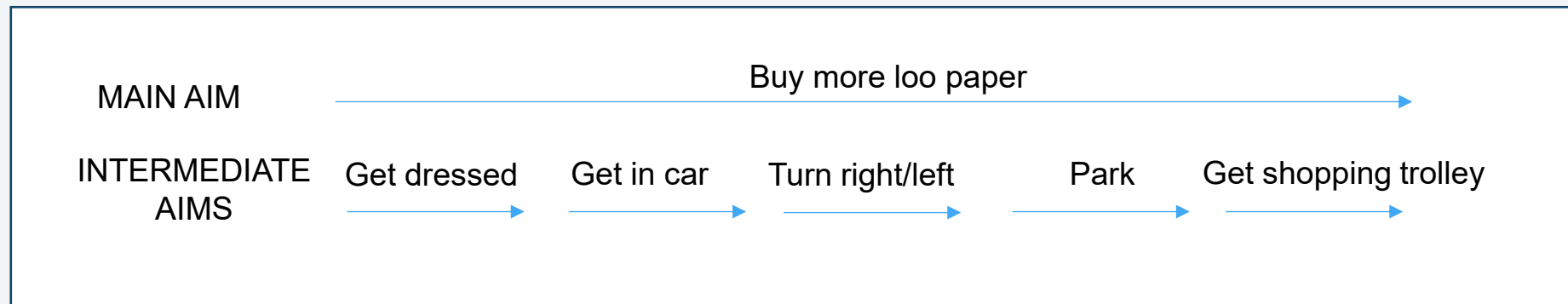
Their goals

Your goals



Eg get ready to go outside

Give me an example of where a student **has** not managed to self-directed task involving complex sequences of action planning



What helps students to keep a goal in mind?

Writing down your plan first

Helps you to remember what your plan was

Helps you to share your internal goals with someone else

Speaking your plan out loud has the same effect

Tools of the mind

Before play, children:

- Draw or write what they will do
- Name their role (“I’m the builder making a bridge”)
- Sometimes specify partners or materials

During play:

- The plan stays visible
- Adults nudge: “What was your plan again?”

After:

- Reflection (did it match?)

Visible, external goals

Not: “Macbeth Act 2”

But: “Explain how Shakespeare makes guilt visible in Act 2.”

Keep the goal visible throughout the task.

- **Use “where are we in the task?” pauses.**
- **At minute 7: “Point to the step you are on.”**
- **At minute 12: “What is the next action?”**
- **At minute 18: “What will a finished answer contain?”**

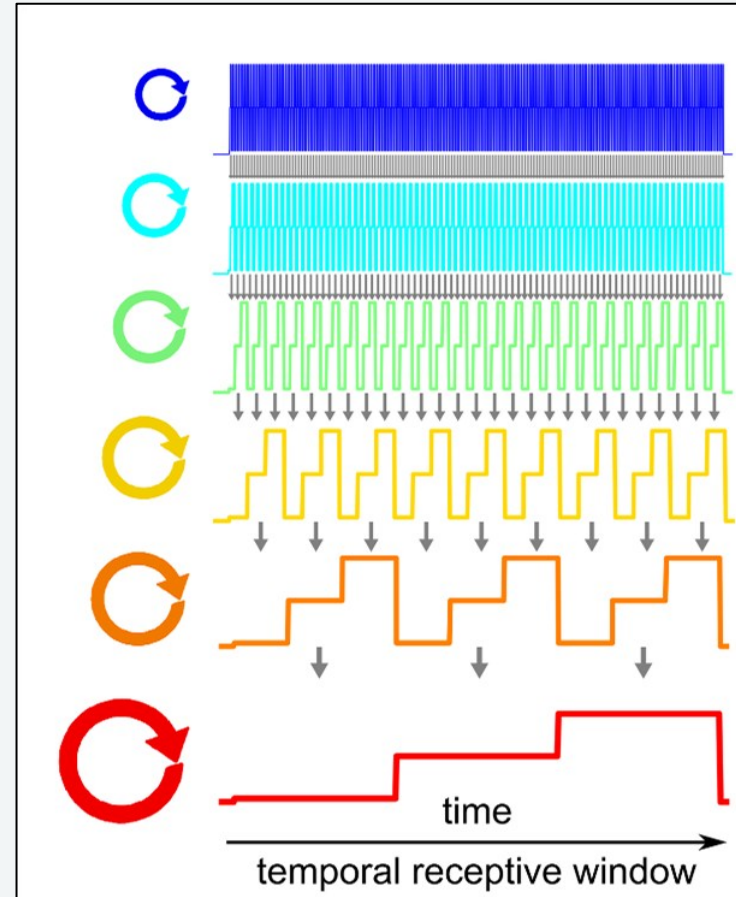
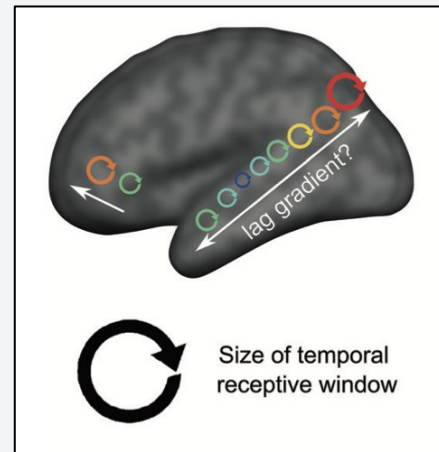
Motivational goals



What helps a teenager to get out of bed?

Motivational goals

Hierarchies of goals



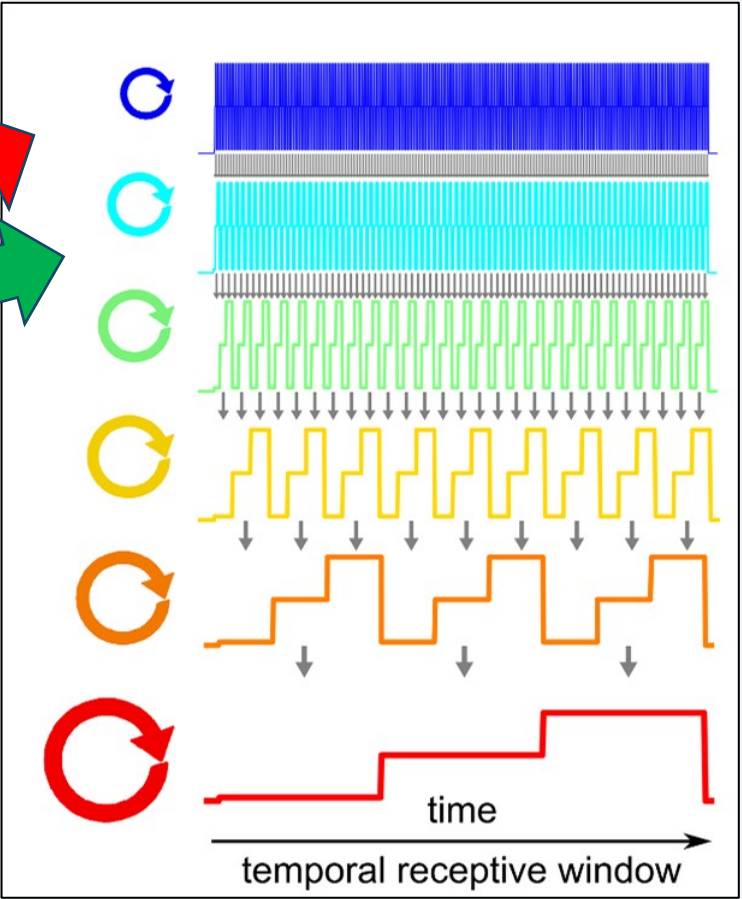
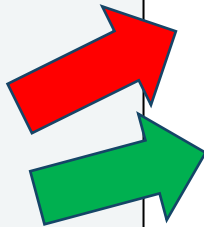
1 Second

1 Year

Give an example of both levels of goal

Motivational goals

Hierarchies of goals



1 Second

1 Year

Motivational goals

We naturally gain more experience of shorter time-scales first

How can we use these ideas to help teenagers to get out of bed?

Motivational goals

Target short-term if possible

Concrete motivations, easy for teenagers to image

4 sections:

1 Set goals

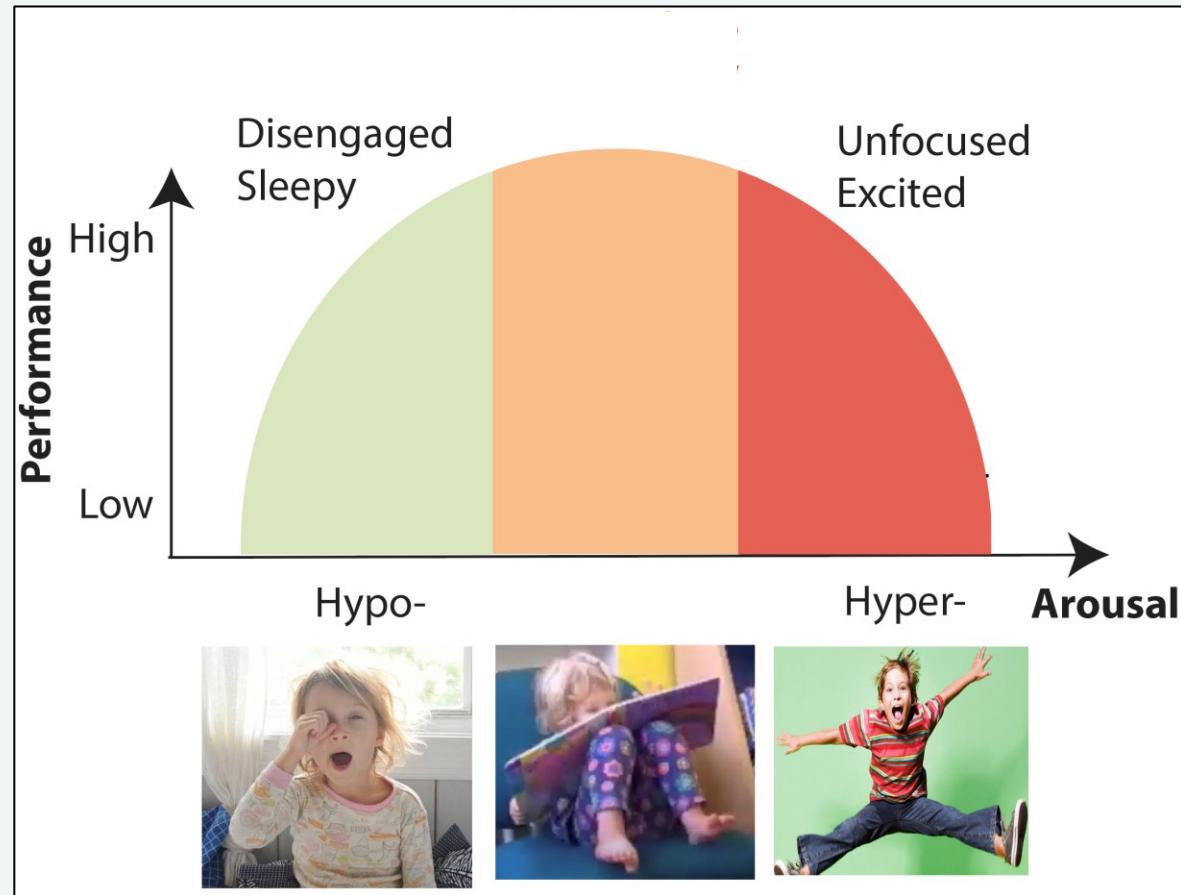
2 Calibrate stress

3 Make waves

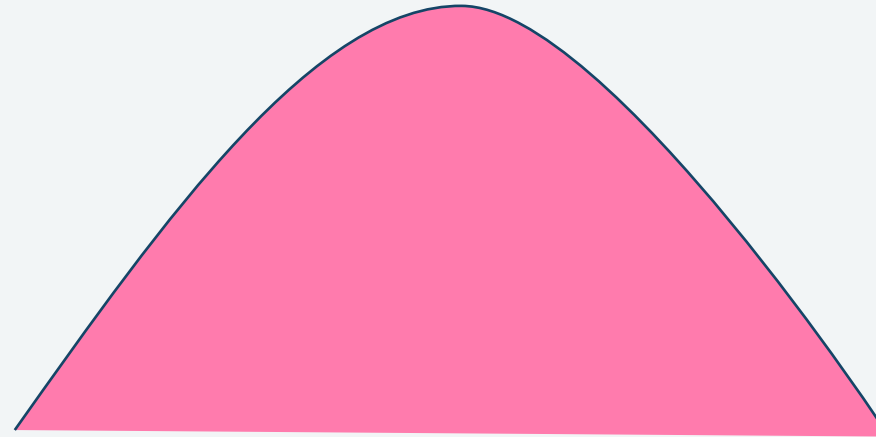
4 Reduce noise

Can't engage

Distractible



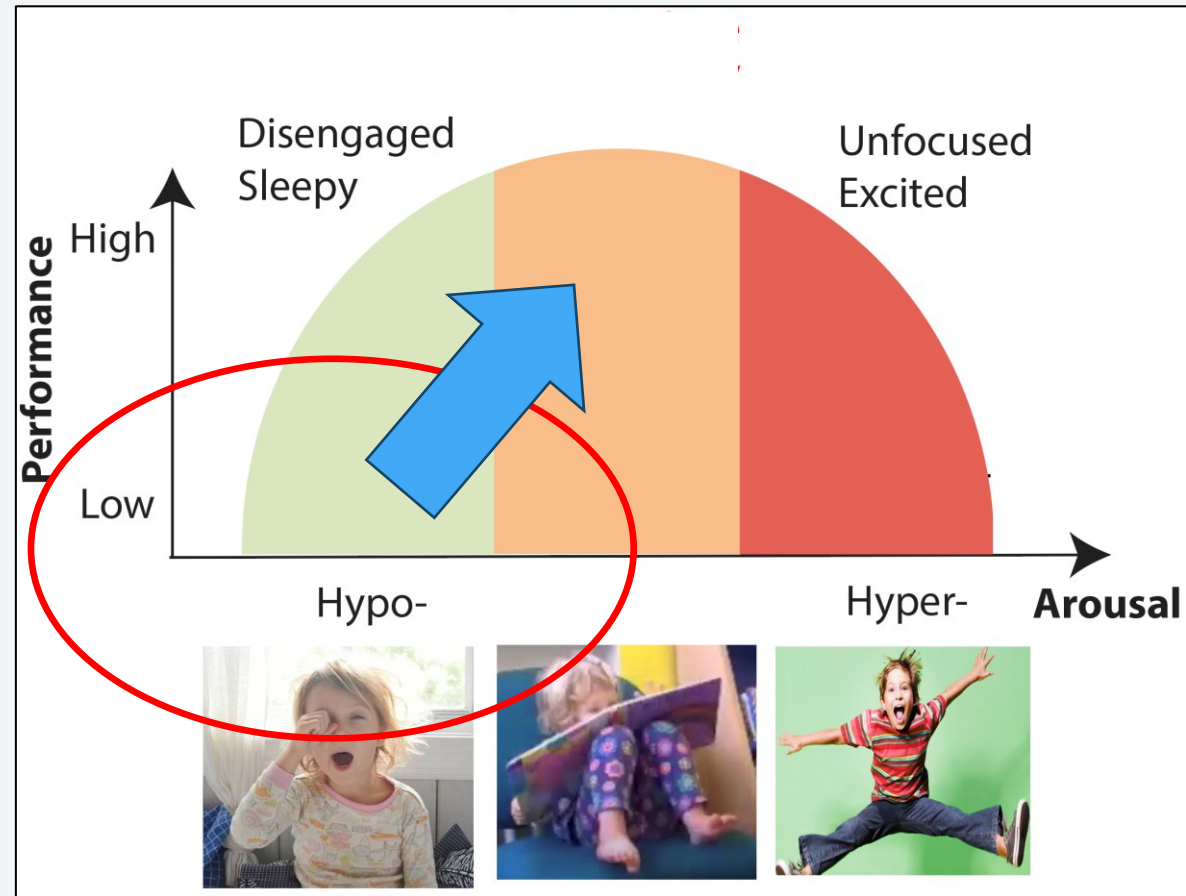
The Goldilocks zone



Too easy
Can't concentrate



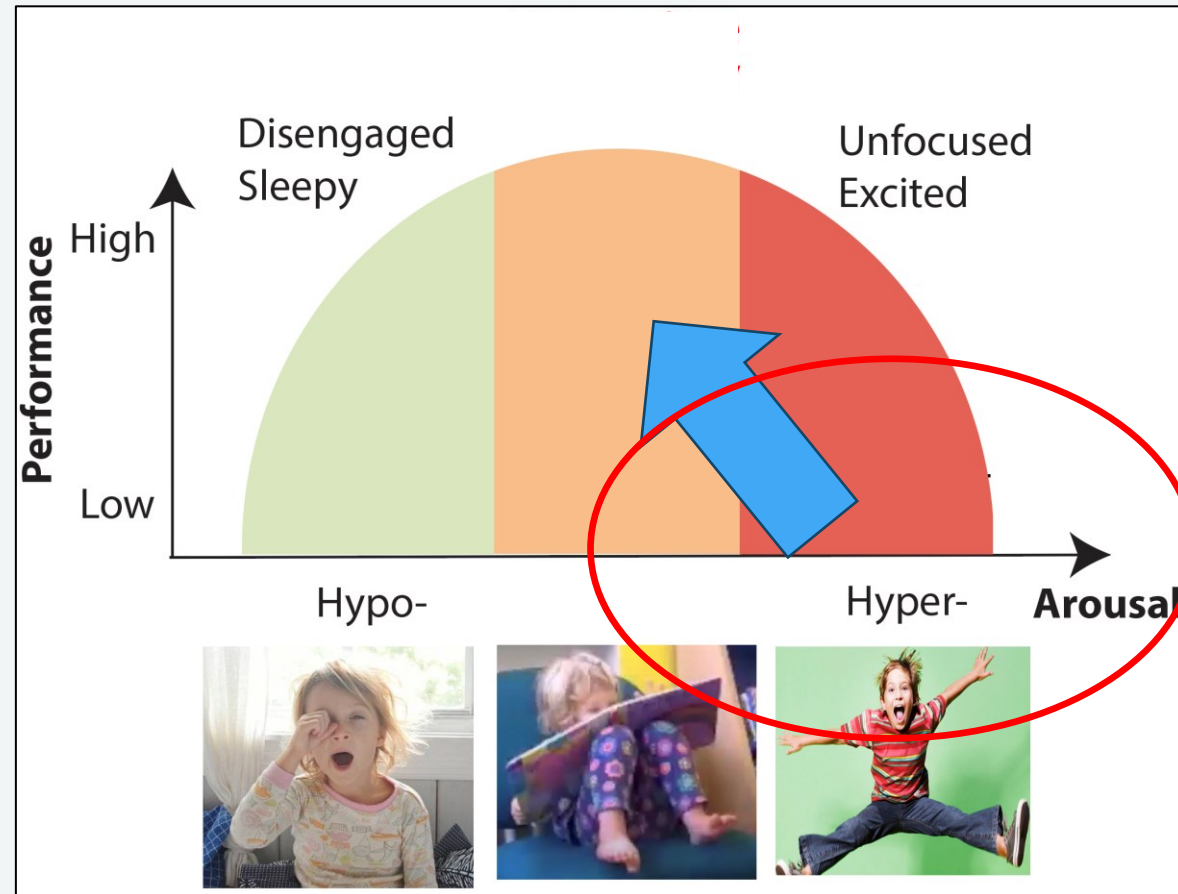
Too hard
Can't concentrate



What works?

Calibrate stress – up!

- **add challenge**
- **set a time limit**
- **teach someone else**
- **improve quality**
- **increase stakes – add competition**
- **child-led**
- **unstructured**



What works?

Calibrate stress – down!

- **find the next smallest step**
- **use rough drafts**
- **start with “write a bad first sentence”**
- **allow private rehearsal before public answer**
- **break the task into smaller steps**
- **use low-stakes quizzes before high-stakes assessment**
- **adult-led**
- **structured**

4 sections:

1 Set goals

2 Calibrate stress

3 Make waves

4 Reduce noise

Children's brains are messily rhythmic



Line 2 (u) u / u u / u u / / /
 — A fox | saw the mouse | and the mouse | looked good.
 1 2 3 4

Subsecond - speech rhythms (volume)



Physical movements

Breathing



Back through the mud! Squelch squerch! Squelch squerch!



Back through the river! Splash splosh! Splash splosh! Splash splosh!



Back through the grass! Swishy swashy! Swishy swashy!



Group rhythms

**How can I use rhythms and repetition
in my practice?**

REPEATED PHRASES

“I had ___, then I got one more, now I have ___.”

TEACH IN SEQUENCES

I do, we do, you do

CALL AND RESPONSE

YOU: We're going to count the...

THEM:

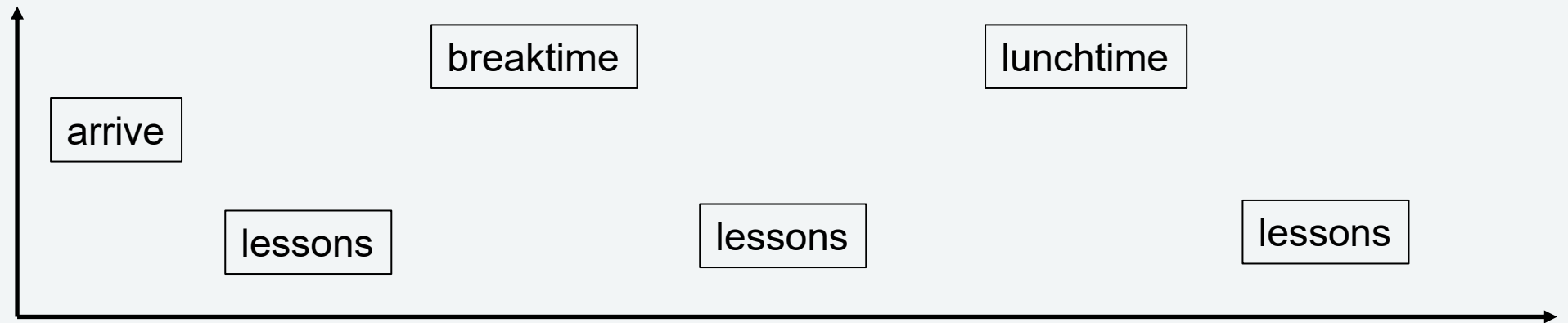
**blocks
jumps
buttons**

YOU:

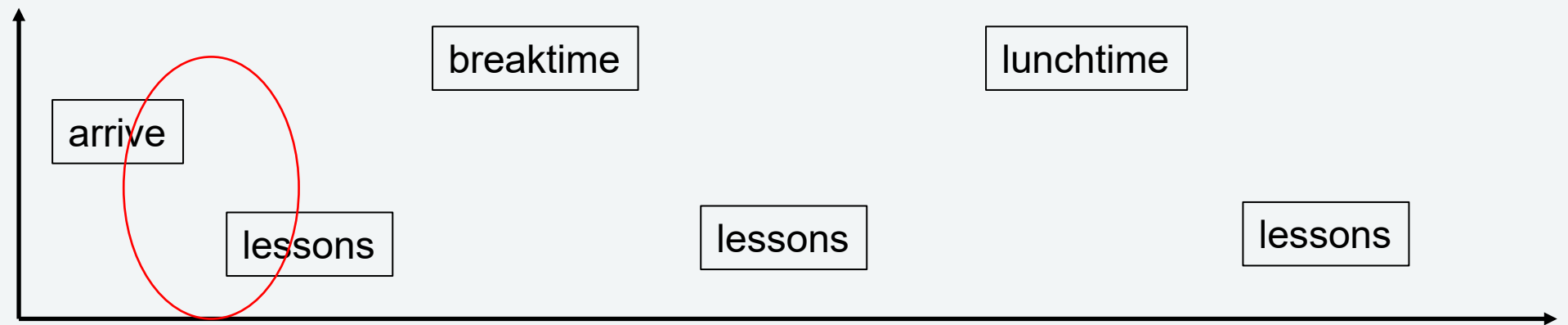
together

PAIRED GESTURE

Daily routines



Daily routines



Daily routines

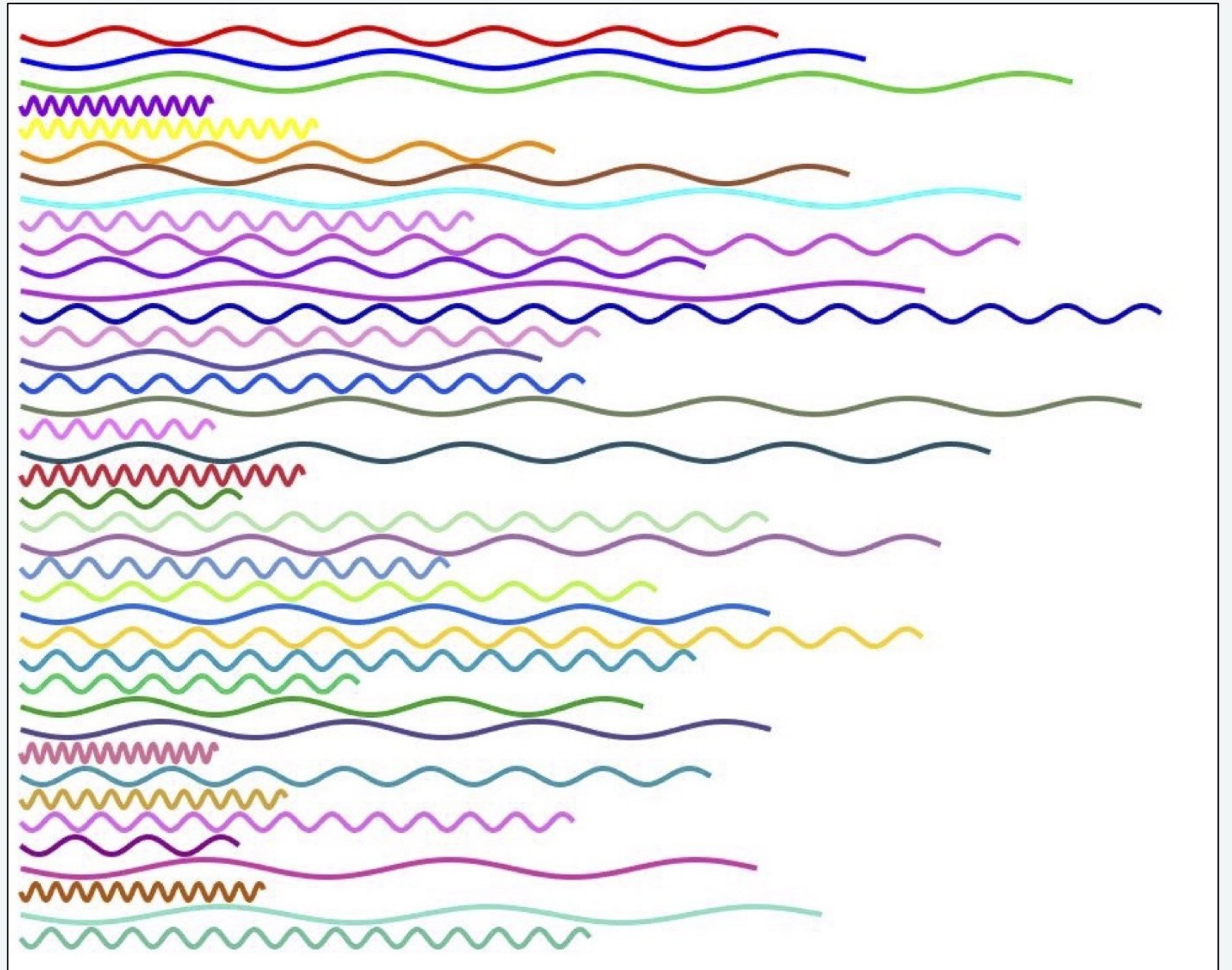
What would be a less effective opening to a lesson?

Why?

Daily routines

- **The same opening every lesson:**
- **“Do now. Book open. Three questions. No talking. Timer on board.”**
- **A retrieval starter: Three questions from last lesson, one question from last week, one question from last month.**
- **A settling question: “What do you already know about today’s topic?” “What would make this difficult?” “What is the first step?”**
- **A sensory landing: Lights stable, slide uncluttered, teacher in same place, instructions visible before pupils enter.**

Making waves



4 sections:

1 Set goals

2 Calibrate stress

3 Make waves

4 Reduce noise

Environments

Design environments that minimise attention capture

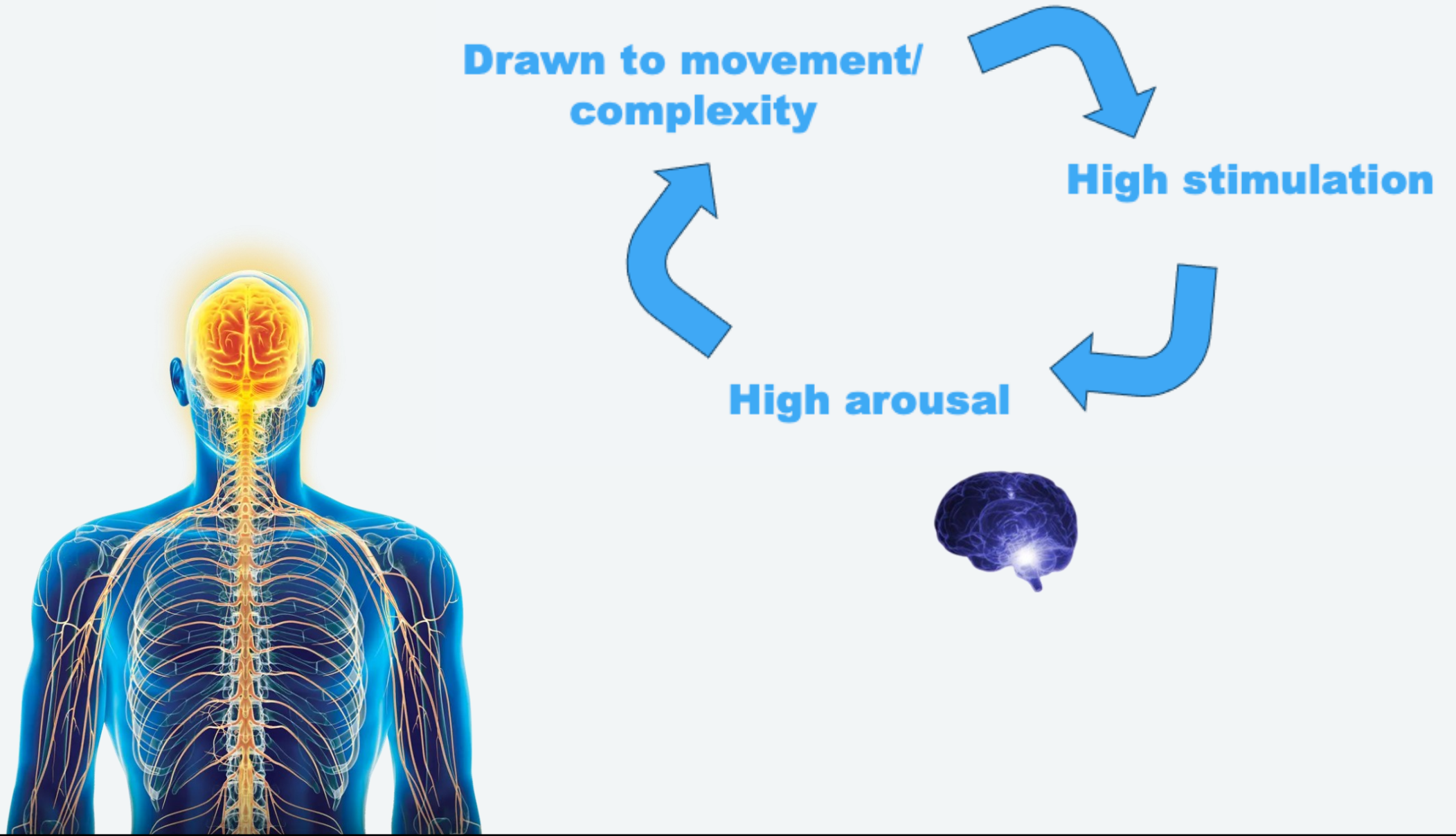
Visual noise/Auditory noise

High signal to noise

Not too easy, not too hard



Viscious circle of distractibility



What are some easy ways to make environments less distracting?

Auditory noise:

- **give key explanations from one stable location;**
- **avoid talking over packing away, handing out sheets or movement;**
- **pause before the most important sentence;**
- **repeat key instructions in identical words;**
- **write instructions as well as saying them;**
- **avoid “while you’re doing that...” instructions.**

Visual noise:

- **one main idea per slide;**
- **remove old instructions when they are no longer relevant;**
- **use the board as a map of the lesson, not a dumping ground;**
- **keep success criteria visible;**
- **avoid decorative clutter around complex explanations;**
- **use clean worked examples.**

How many nouns were there on the last slide?

Knowing where to look for in advance

4 sections:

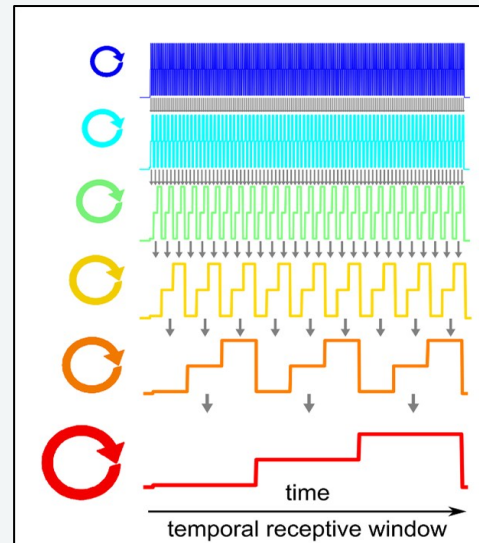
1 Set goals

Visual goals
Hierarchies of goals

2 Calibrate stress

3 Make waves

4 Reduce noise



4 sections:

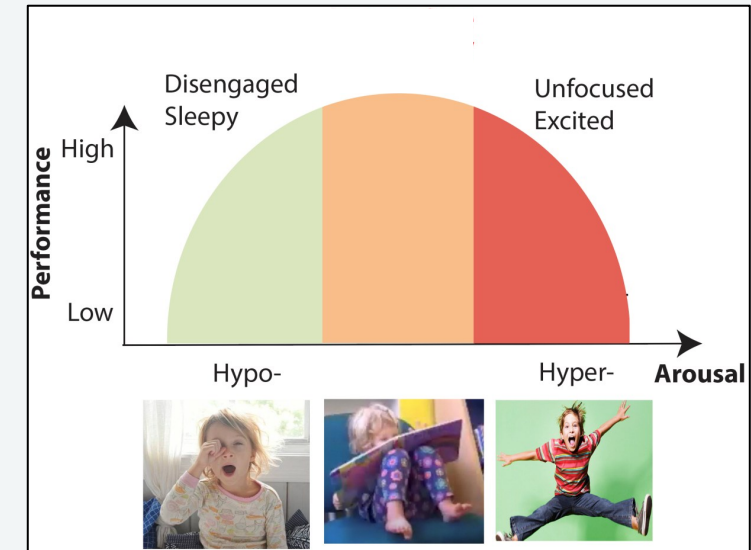
1 Set goals

2 Calibrate stress

Under stress
Over stress

3 Make waves

4 Reduce noise



4 sections:

1 Set goals

2 Calibrate stress

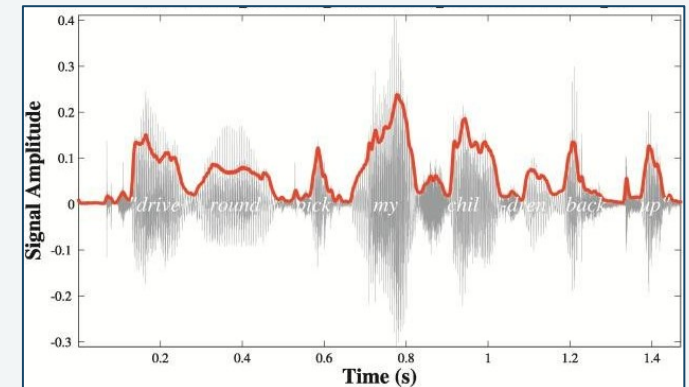
3 Make waves

4 Reduce noise

Subsecond

Rhythms of meaning

Daily routines



4 sections:

1 Set goals

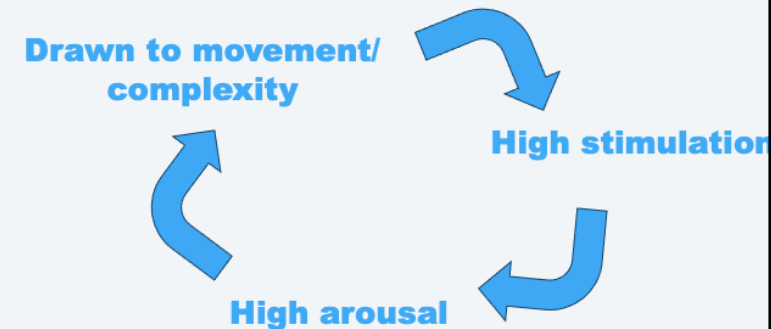
2 Calibrate stress

3 Make waves

4 Reduce noise

Auditory noise

Visual noise



THANK YOU!

LEVERHULME
TRUST



European Research Council
Established by the European Commission



Contact:

s.v.wass@uel.ac.uk

www.isey.org

Instagram @profsamwass/@isey_uel

Twitter: @profsamwass/@ISEY_uel

LinkedIn – personal: www.linkedin.com/in/sam-wass-987513202/

LinkedIn - ISEY: <https://www.linkedin.com/company/107254666/>



INSTITUTE FOR THE SCIENCE
OF EARLY YEARS & YOUTH

Feedback



Cambridge Schools Conference, July 2026
Future-ready: preparing learners to thrive

Any questions?

Cambridge Schools Conference, July 2026
Future-ready: preparing learners to thrive

Thank you!

Cambridge Schools Conference, July 2026
Future-ready: preparing learners to thrive