Finding the Balance:

Science of learning and relational pedagogy

ASDPA mini conference
13 November, 2026

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Future Makers

Inspiring the next generation of leaders, thinkers and problem-solvers

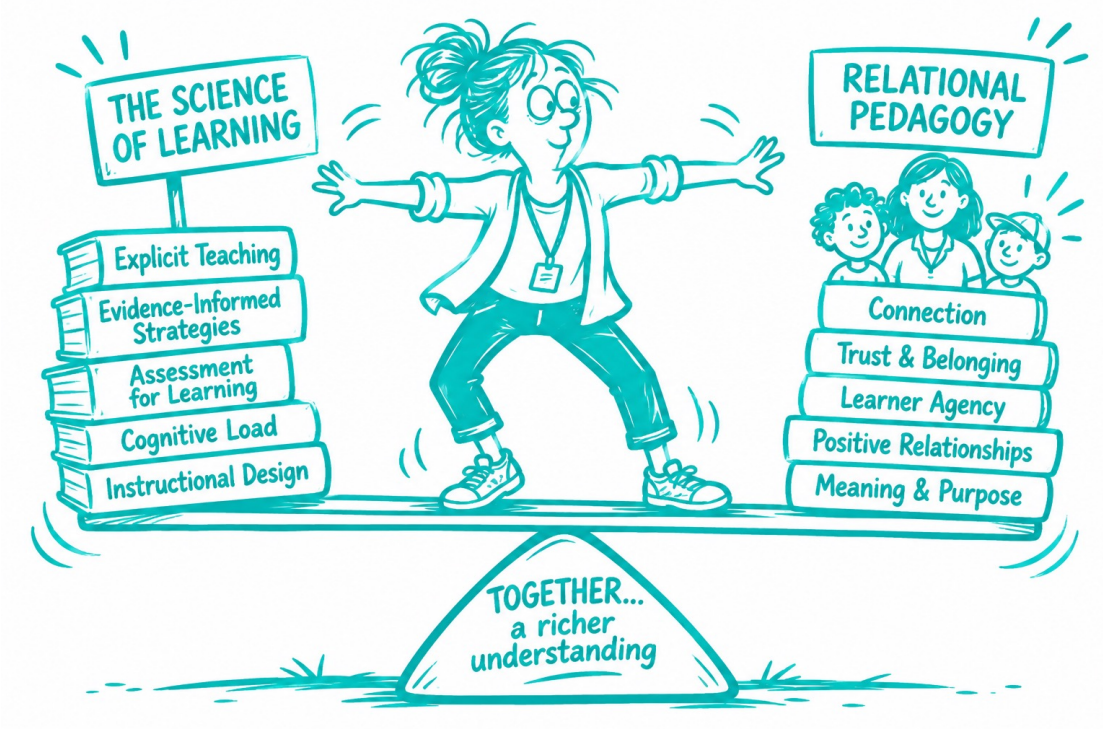
Introducing...

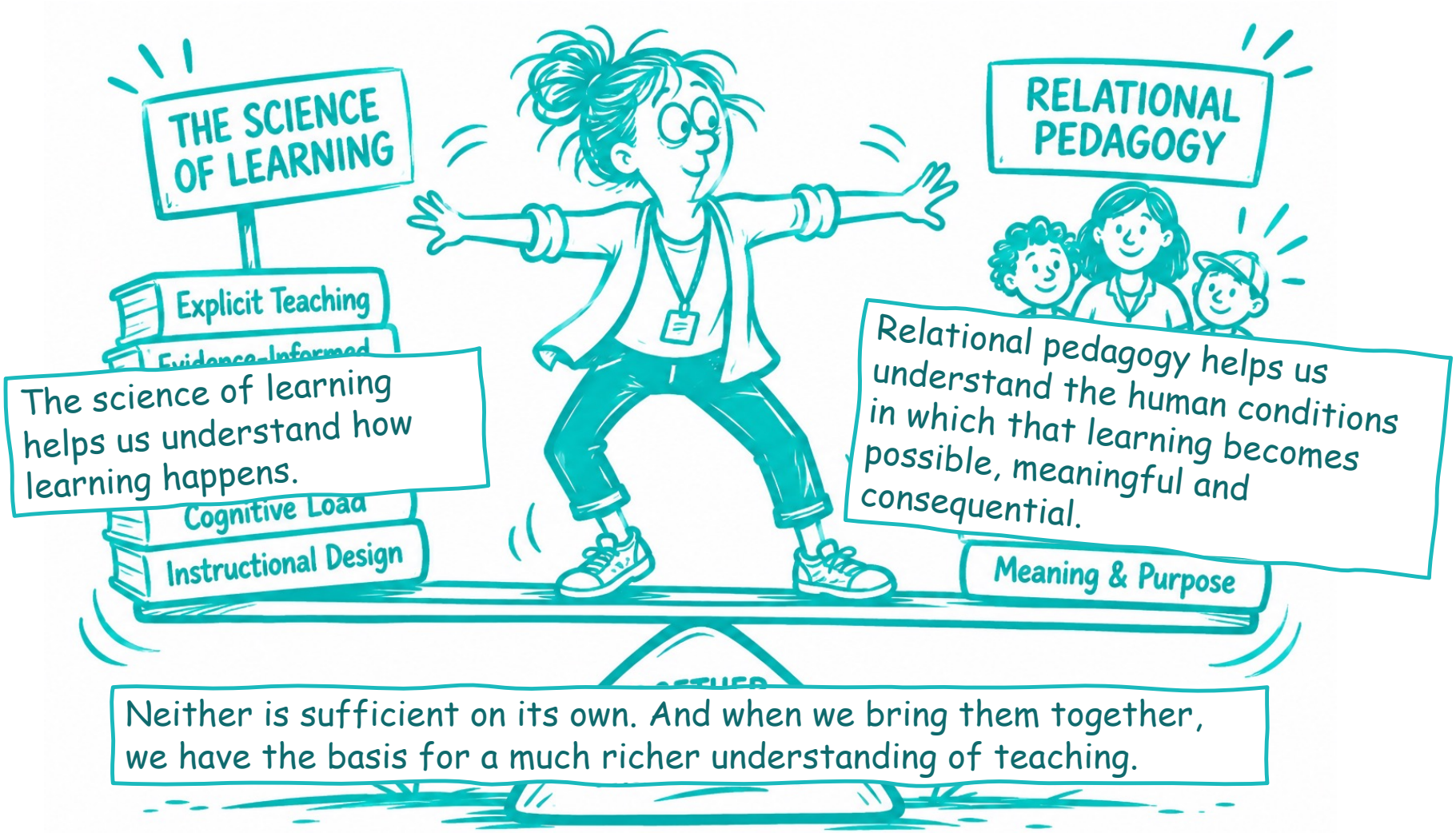
- What has influenced their future aspirations?
- What has prepared them for the paths they want to pursue?
- How can we ensure this is captured in our design of curriculum, our pedagogical processes and the ways we measure success?



1

These aren't competing approaches




THE SCIENCE OF LEARNING
Explicit Teaching
Cognitive Load
Instructional Design
RELATIONAL PEDAGOGY
Meaning & Purpose
The science of learning helps us understand how learning happens.
Relational pedagogy helps us understand the human conditions in which that learning becomes possible, meaningful and consequential.
Neither is sufficient on its own. And when we bring them together, we have the basis for a much richer understanding of teaching.

The science of learning is not a teaching method

It draws on research from several fields, including cognitive psychology, educational psychology and neuroscience.

The evidence can help us understand learning processes, but translating those findings into classroom practice requires professional judgement.



Where’s the evidence?

Convened by the U.S. Congress in 1997, the National Reading Panel (NRP) conducted a massive meta-analysis to establish scientifically based reading research. Its findings on Alphabetics (P/A and Phonics) became legendary:

- **Phonemic Awareness (P/A):** The NRP evaluated 52 studies and found that explicit instruction in manipulating spoken sounds (segmenting and blending) significantly improved early reading and spelling skills, yielding a large overall effect size. The panel noted it was most effective when taught alongside physical letters and kept brief (under 20 hours).
- **Phonics:** Evaluating 38 high-quality studies, the panel found that **systematic, explicit phonics instruction significantly outperforms unsystematic or non-phonics approaches** (such as "Whole Language" or incidental instruction). It demonstrated a moderate effect size ($d \approx 0.41$ to 0.45), with the strongest impacts seen in Kindergarten and 1st Grade ($d \approx 0.55$).

https://www.nichd.nih.gov/sites/default/files/publications/pubs/nrp/Documents/report.pdf

NRP Meta-analysis Nuance

- **Not a Total Program:** The NRP explicitly stated, *"Phonics instruction is never a total reading program"* and should not become the dominant component.
- **Diminishing Returns with Age:** The NRP noted phonics instruction did not produce significant text-reading or comprehension benefits for struggling readers past 1st or 2nd grade.
- **Isolation vs. Context:** Most studies in the phonics meta-analysis measured a student's ability to read single words or pseudo-words (nonsense words) out of context.
- **P/A Limitations:** The NRP highlighted that P/A training is optimal under 20 hours and works best when quickly integrated with printed letters.

What was missed...

The NRP meta-analyses successfully proved that early, explicit instruction in the mechanics of the English code gives children a **definitive baseline advantage**.

However, using a 26-year-old document as an unyielding statutory rulebook has sparked a secondary crisis: laws often mandate a rigid, "phonics-first-and-only" approach, **overlooking the panel's original, balanced recommendation to weave code instruction seamlessly into a holistic, comprehension-focused literacy environment**.

A 7-year, forensic analysis reveals:

- The NRP findings are illusionary truths that are now the basis of the statutory language of the federal and state “science of reading” laws
- The federal and state “science of reading” laws have compounded the crisis in knowledge extraction
- The NRP P/A and phonics meta-analyses have been used to gaslight the public
- How “Science of Reading” researchers captured the narrative and the public has been deceived on a historic scale
- How “Black-Boxing” has been used in the narrative capture of the NRP’s P/A and Phonics Meta-analysis
- How the NRP P/A and Phonics Meta-analyses have been politicized and monetized undermining children’s social and cognitive development

WITHOUT THE LABEL

"Drinking water helps you feel less thirsty."

hmm...



"Sure, I suppose."

WITH THE LABEL

"Science says drinking water helps you feel less thirsty."



"Ah! Now that sounds convincing."

Same claim. Extra cultural authority.

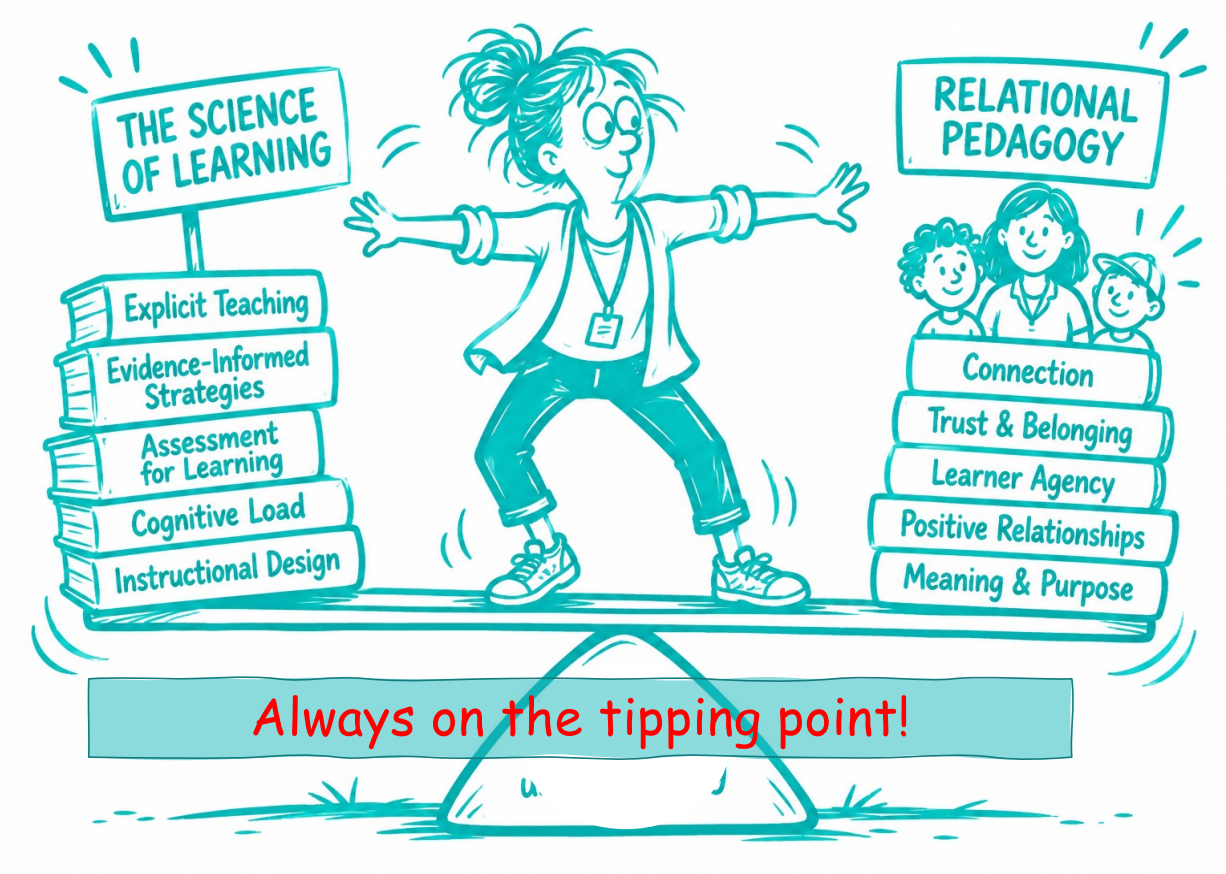
The same caution applies to relational pedagogy.

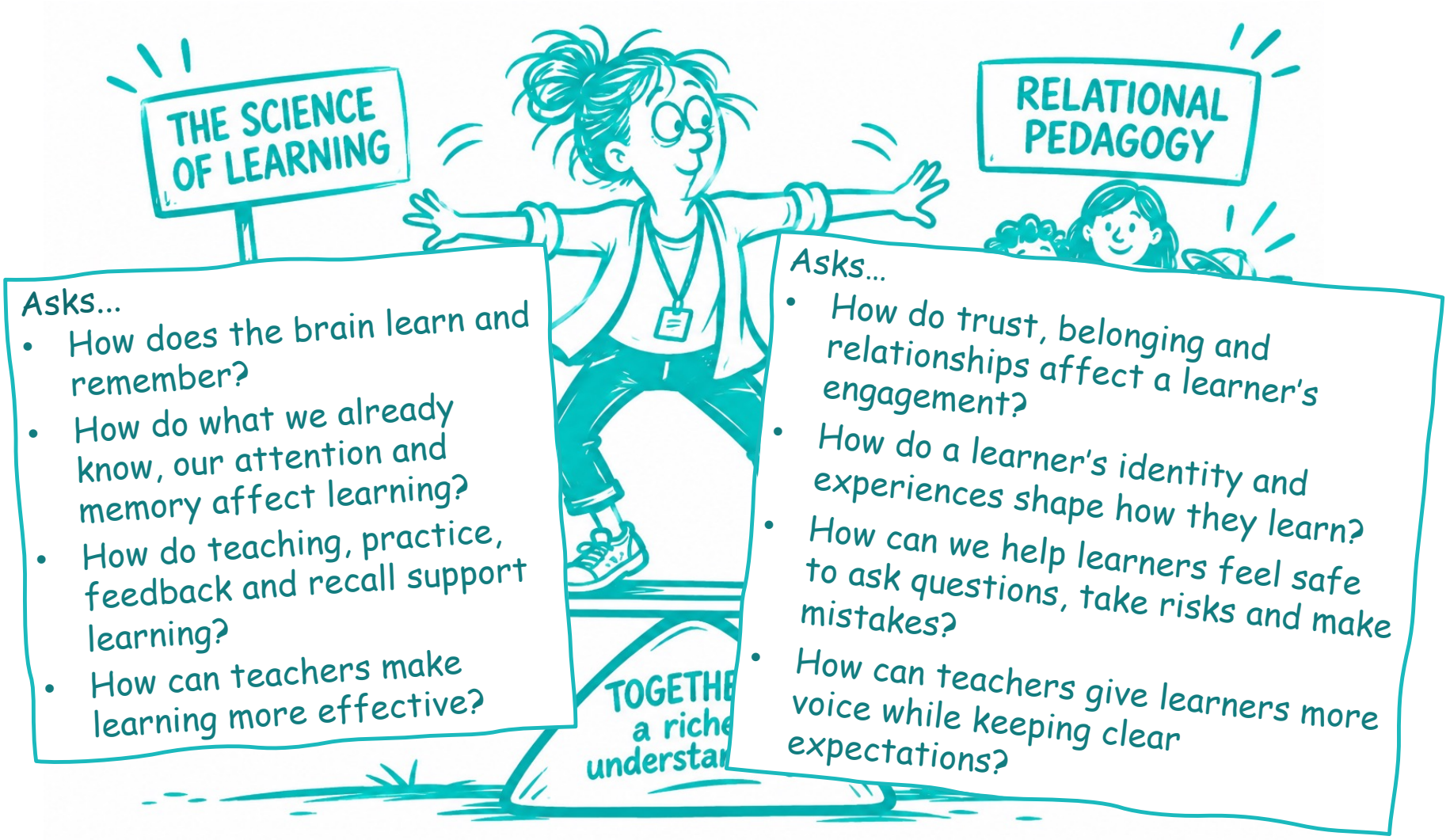
- Strong relationships do not automatically produce effective teaching. Belonging alone cannot substitute for access to knowledge, expert instruction or purposeful practice.
- Nor should we use neuroscience to dress up the argument that relationships matter. Teachers have long understood their importance through experience, observation and educational theory.
- The value of bringing these traditions together is not that one finally validates the other.
- It is that **each gives us a different but complementary way of understanding the complexity of teaching and learning**.



2

How do we find the balance?




THE SCIENCE OF LEARNING
Asks...
• How does the brain learn and remember?
• How do what we already know, our attention and memory affect learning?
• How do teaching, practice, feedback and recall support learning?
• How can teachers make learning more effective?
RELATIONAL PEDAGOGY
Asks...
• How do trust, belonging and relationships affect a learner's engagement?
• How do a learner's identity and experiences shape how they learn?
• How can we help learners feel safe to ask questions, take risks and make mistakes?
• How can teachers give learners more voice while keeping clear expectations?

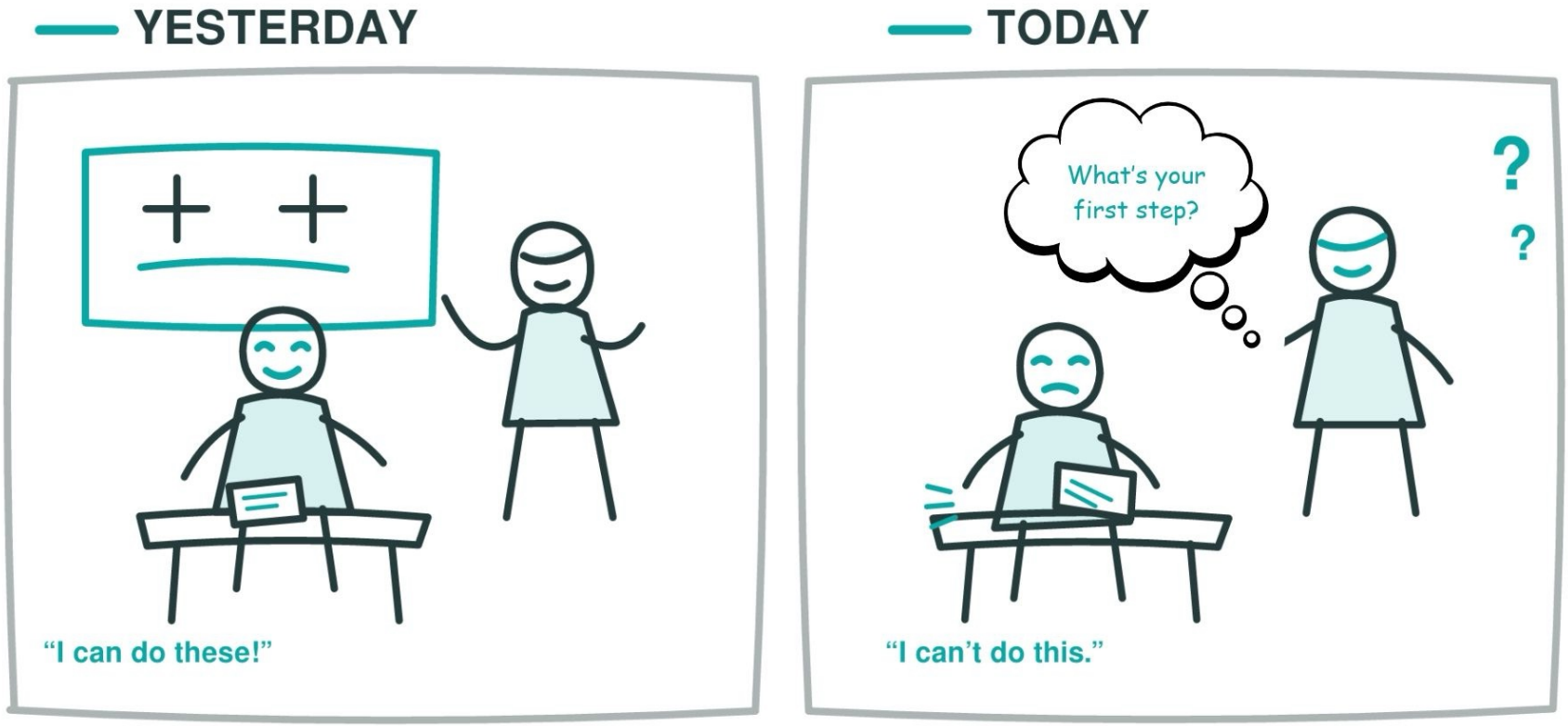
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Making it real...

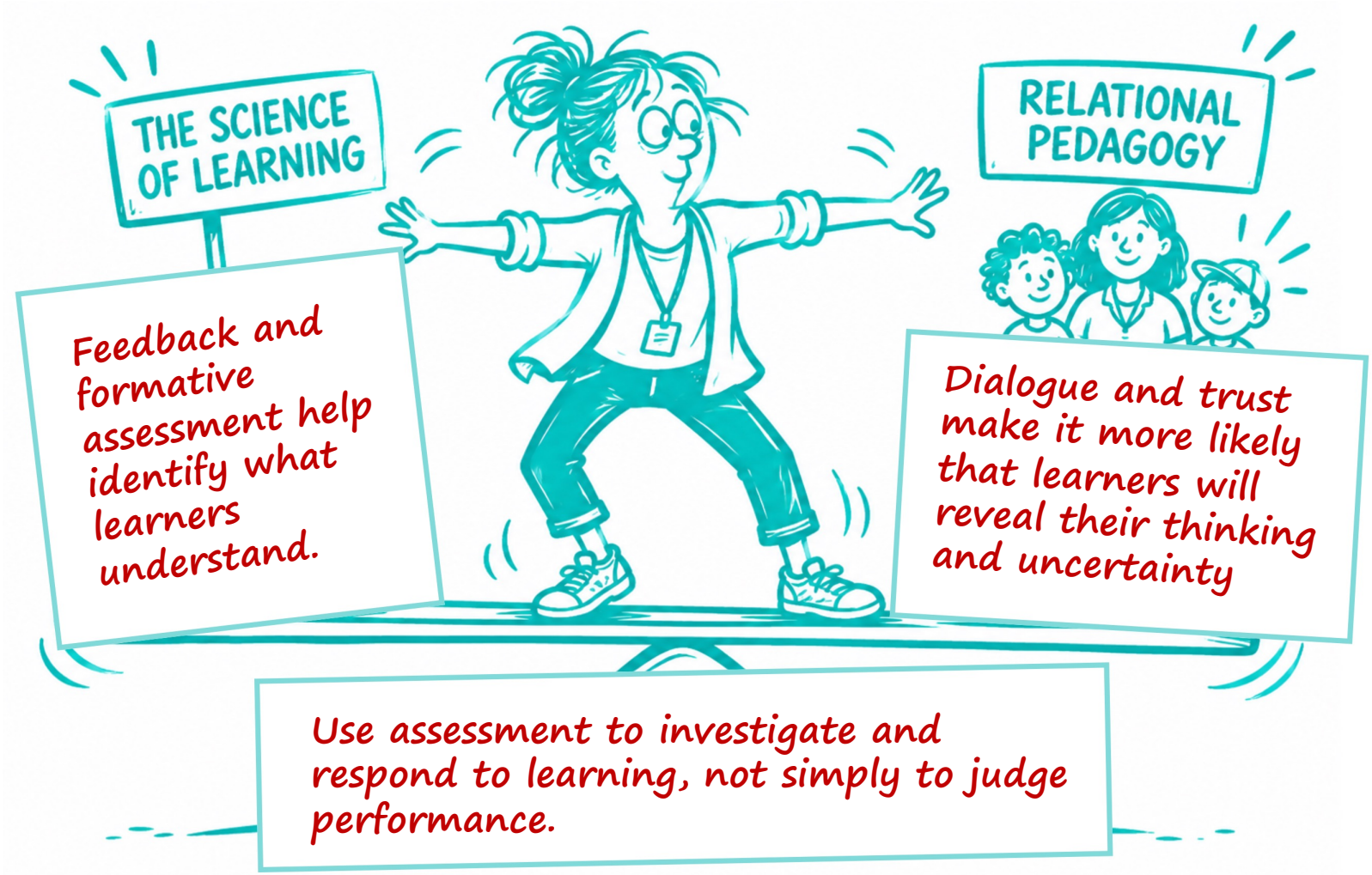
Using classroom stories:

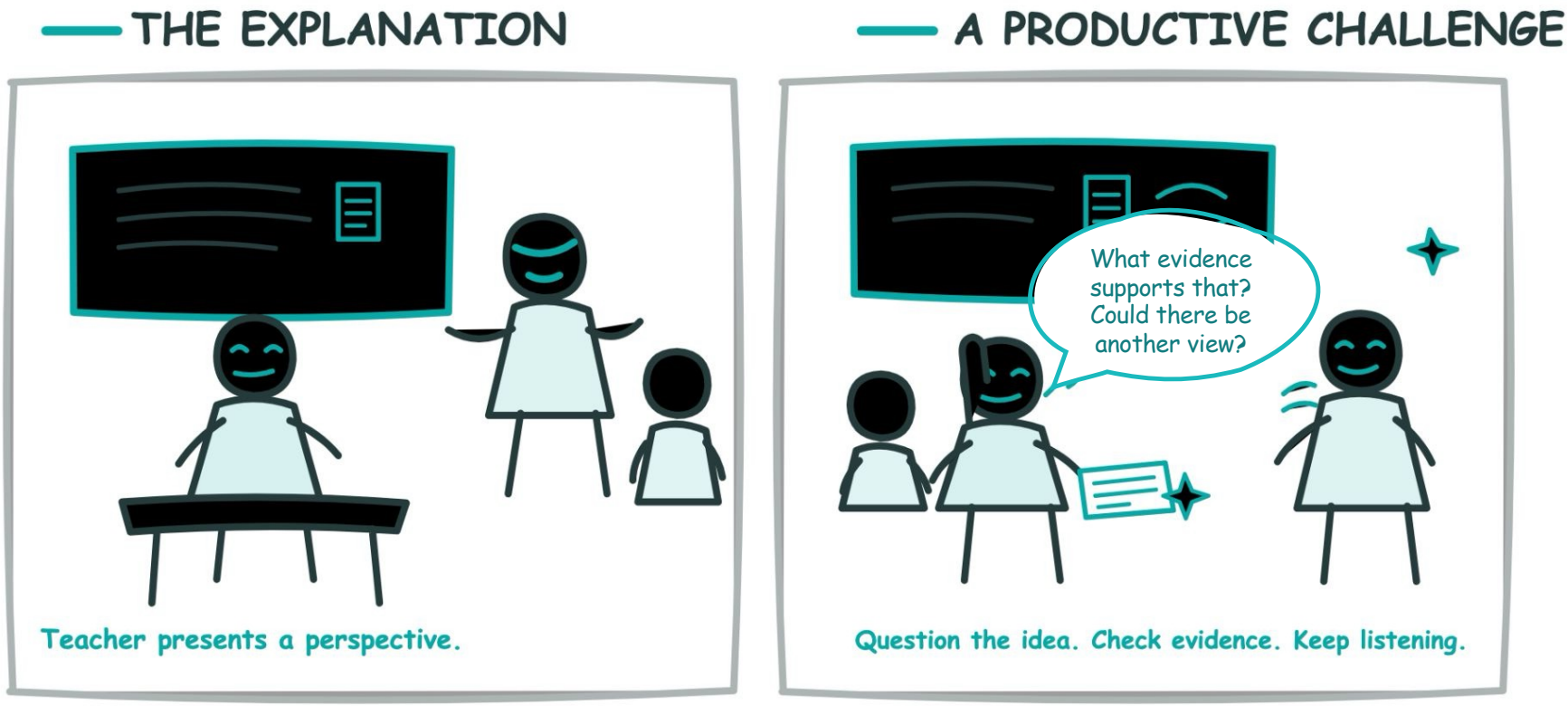
1. The moment
2. The familiar interpretation
3. The science of learning
4. The relational perspective
5. The teaching response



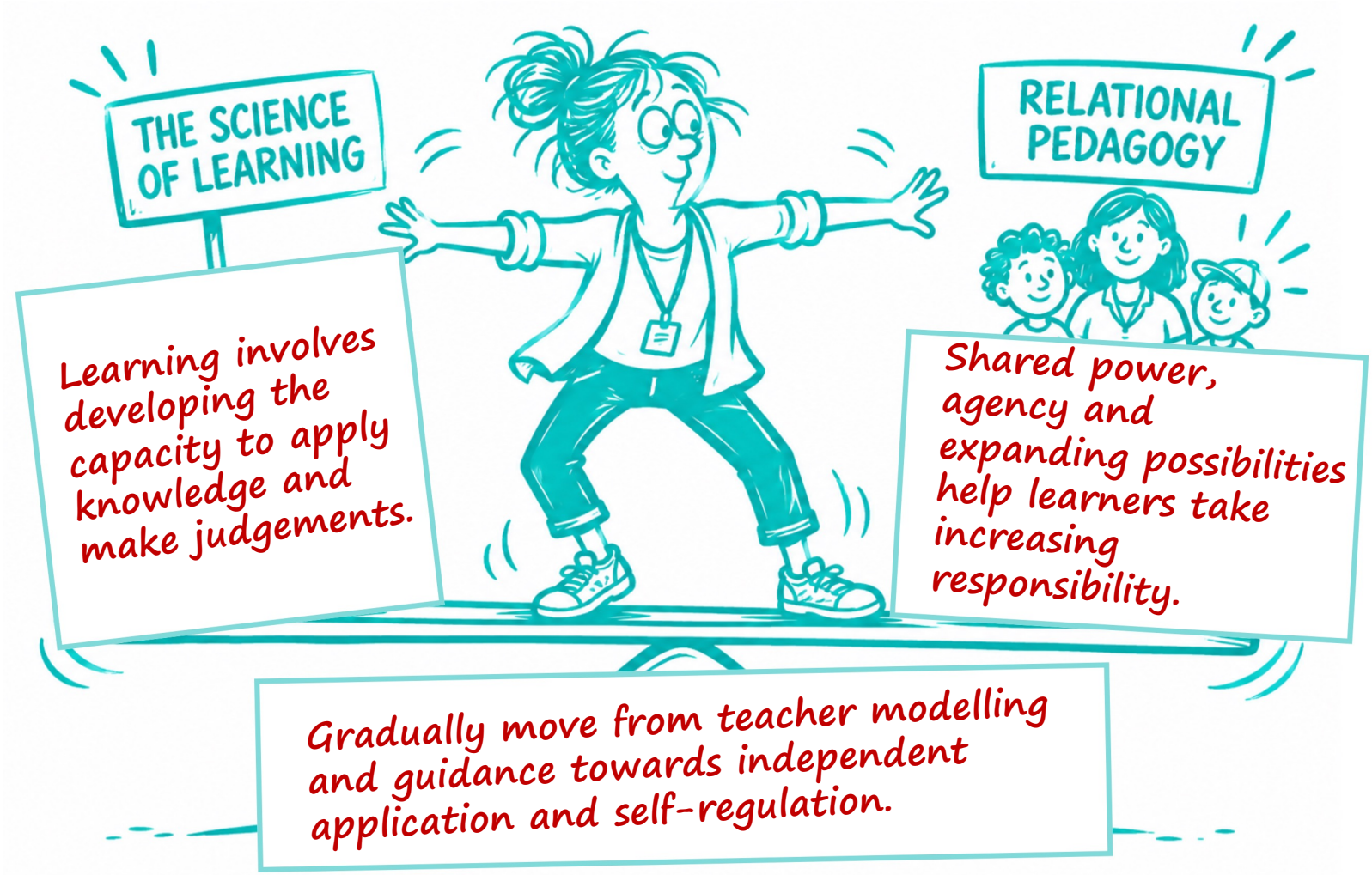


Do our learners experience mistakes as evidence of failure, or as information that helps us work out what needs to happen next?


THE SCIENCE OF LEARNING
RELATIONAL PEDAGOGY
Feedback and formative assessment help identify what learners understand.
Dialogue and trust make it more likely that learners will reveal their thinking and uncertainty
Use assessment to investigate and respond to learning, not simply to judge performance.



How do we maintain the intellectual rigour of our classrooms while making room for learners to exercise genuine agency?

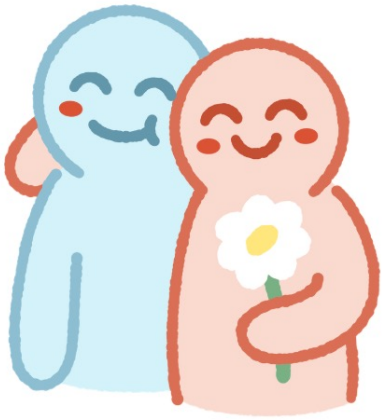

THE SCIENCE OF LEARNING
RELATIONAL PEDAGOGY
Learning involves developing the capacity to apply knowledge and make judgements.
Shared power, agency and expanding possibilities help learners take increasing responsibility.
Gradually move from teacher modelling and guidance towards independent application and self-regulation.

4

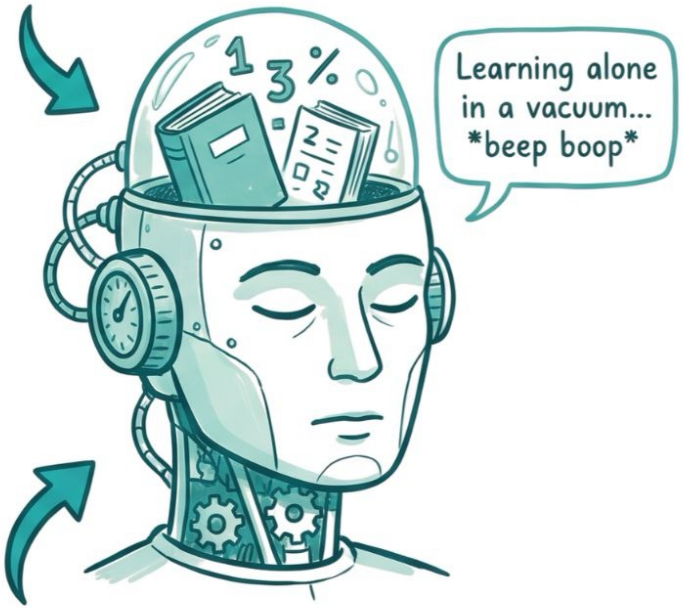
A deeper theoretical argument...



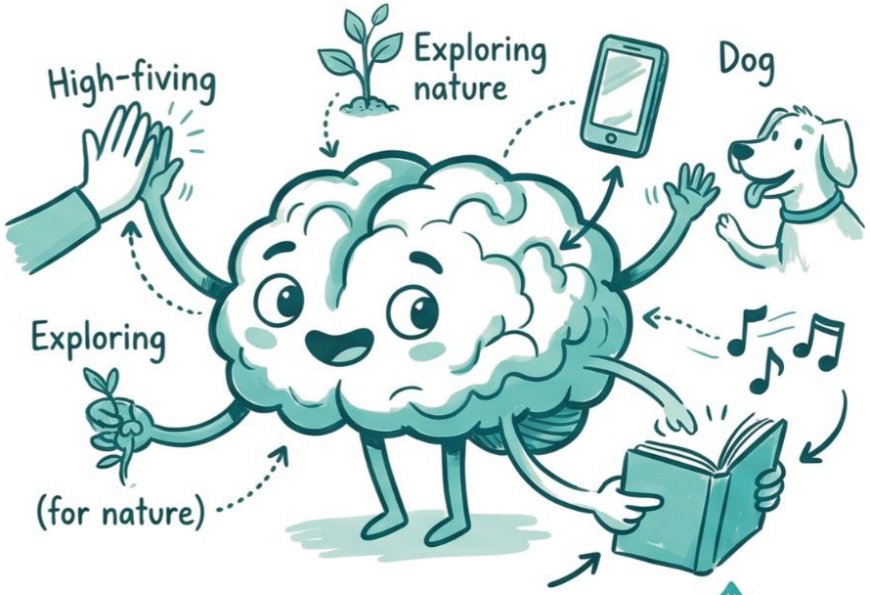
Neither brains or relationships operate in isolation



THE BRAIN IS NOT A MACHINE THAT LEARNS INDEPENDENTLY OF THE WORLD!

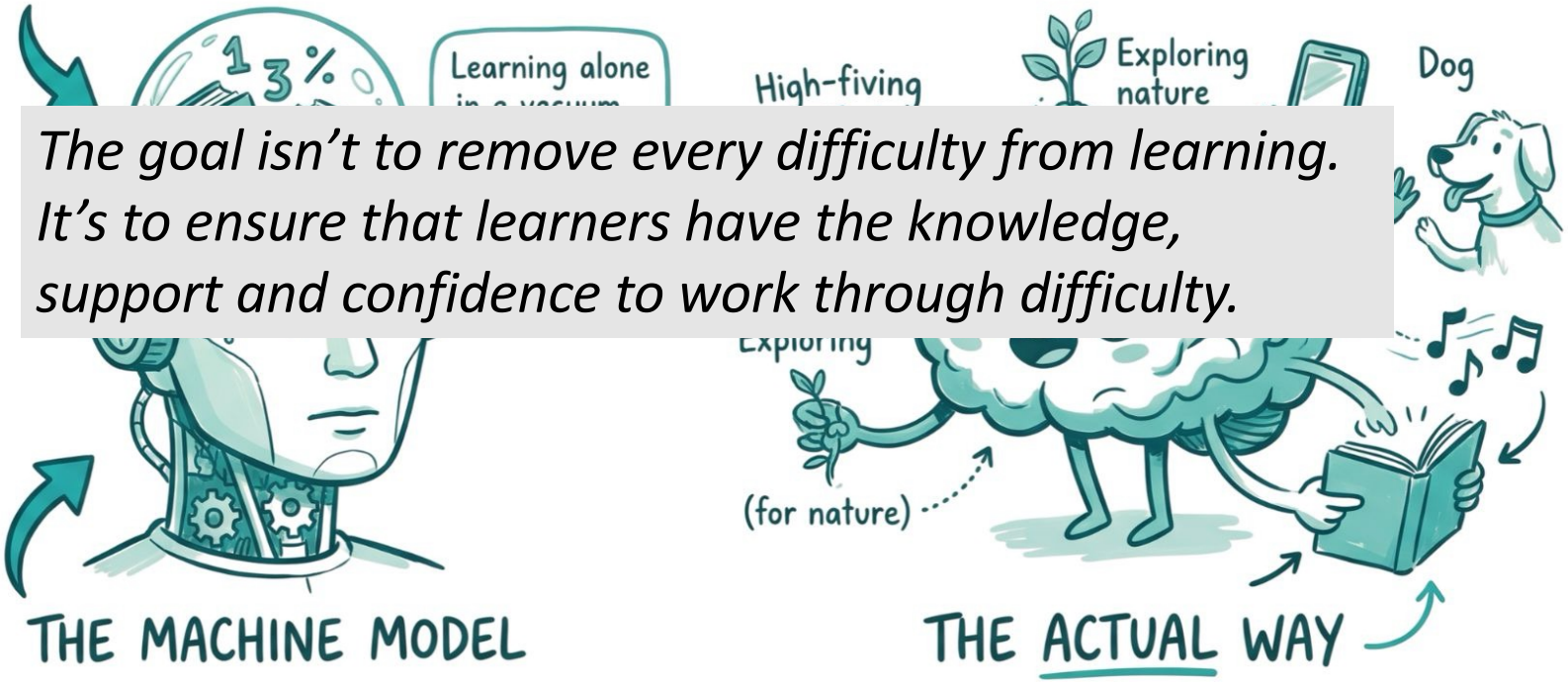


THE MACHINE MODEL



THE ACTUAL WAY

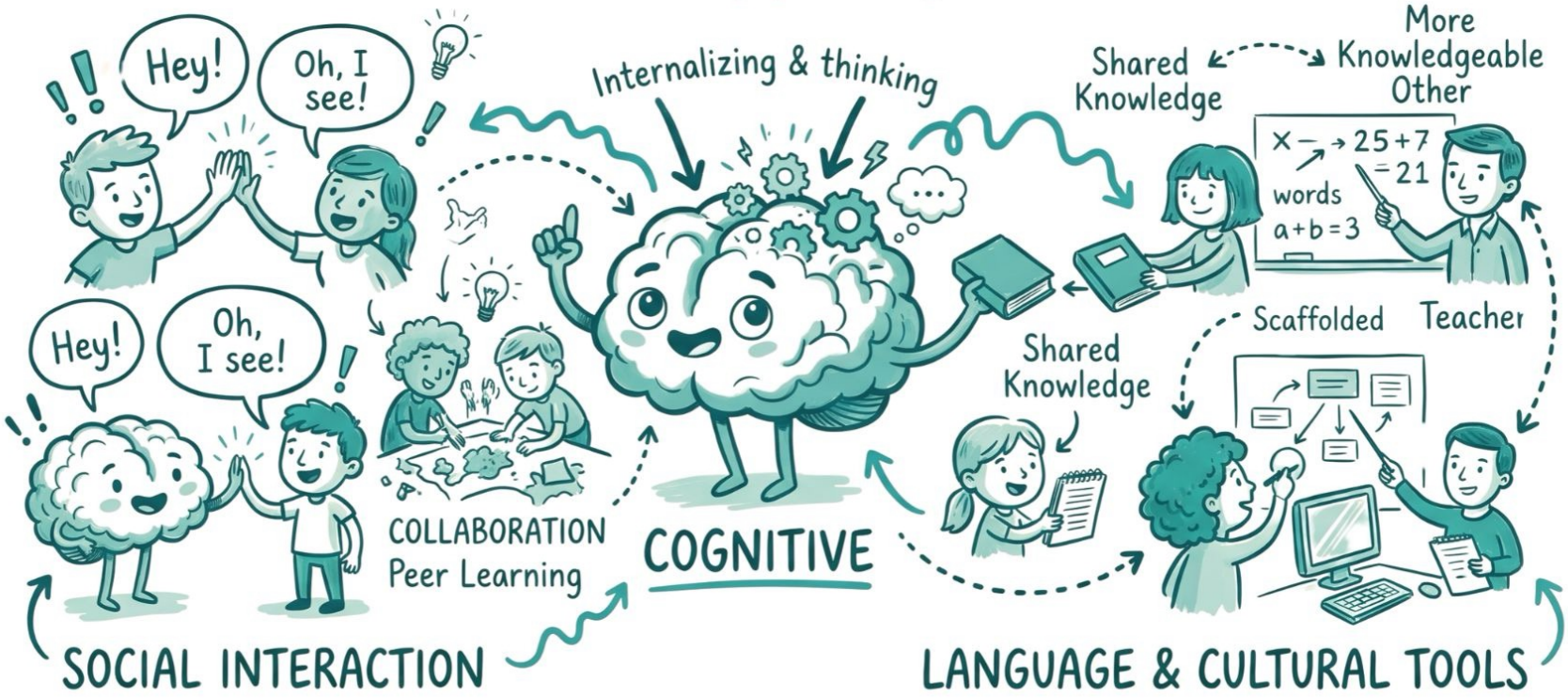
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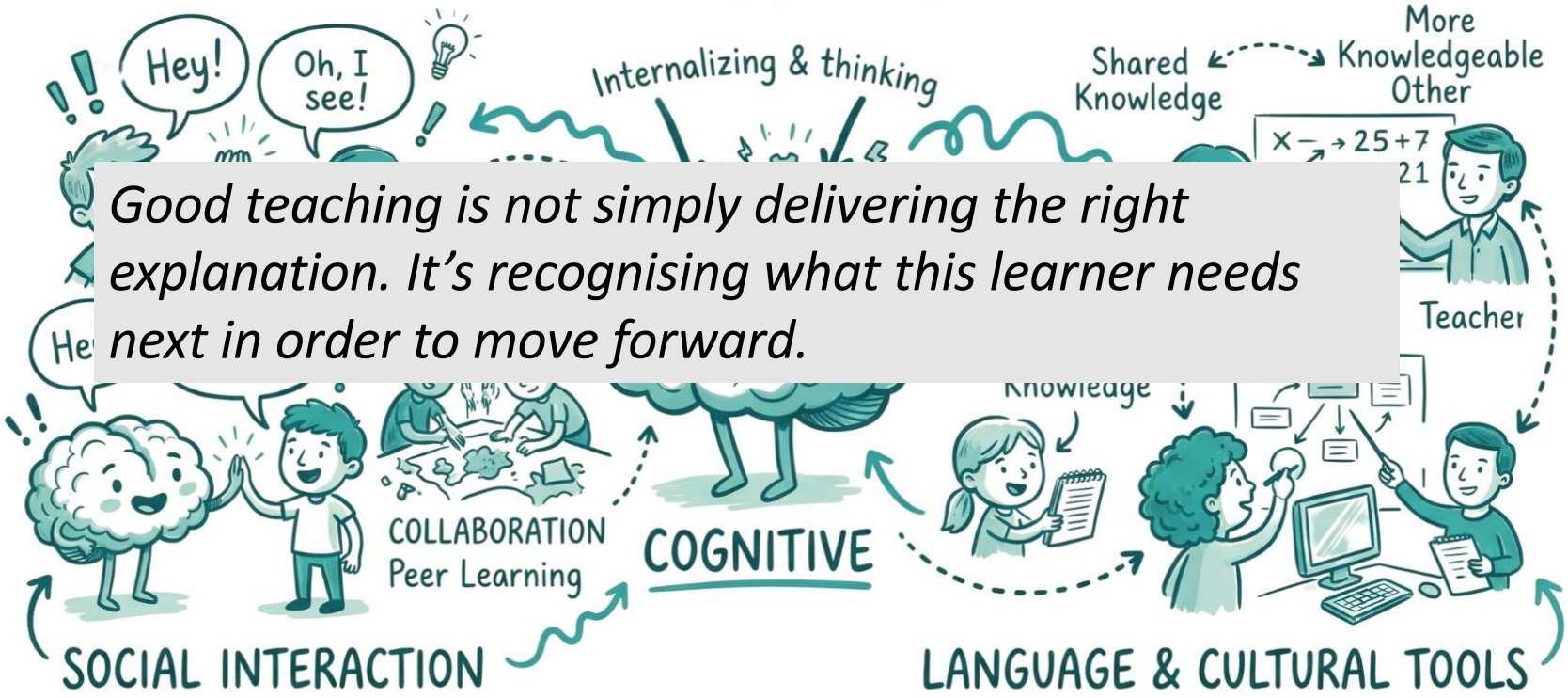
The goal isn't to remove every difficulty from learning. It's to ensure that learners have the knowledge, support and confidence to work through difficulty.

LEARNING IS BOTH COGNITIVE & SOCIAL!

(Lev Vygotsky)



LEARNING IS BOTH COGNITIVE & SOCIAL!
(Lev Vygotsky)



Good teaching is not simply delivering the right explanation. It's recognising what this learner needs next in order to move forward.

LEARNING IS EMBODIED IN RELATIONSHIPS, BUT RELATIONSHIPS NEED SUBSTANCE

(John Dewey)



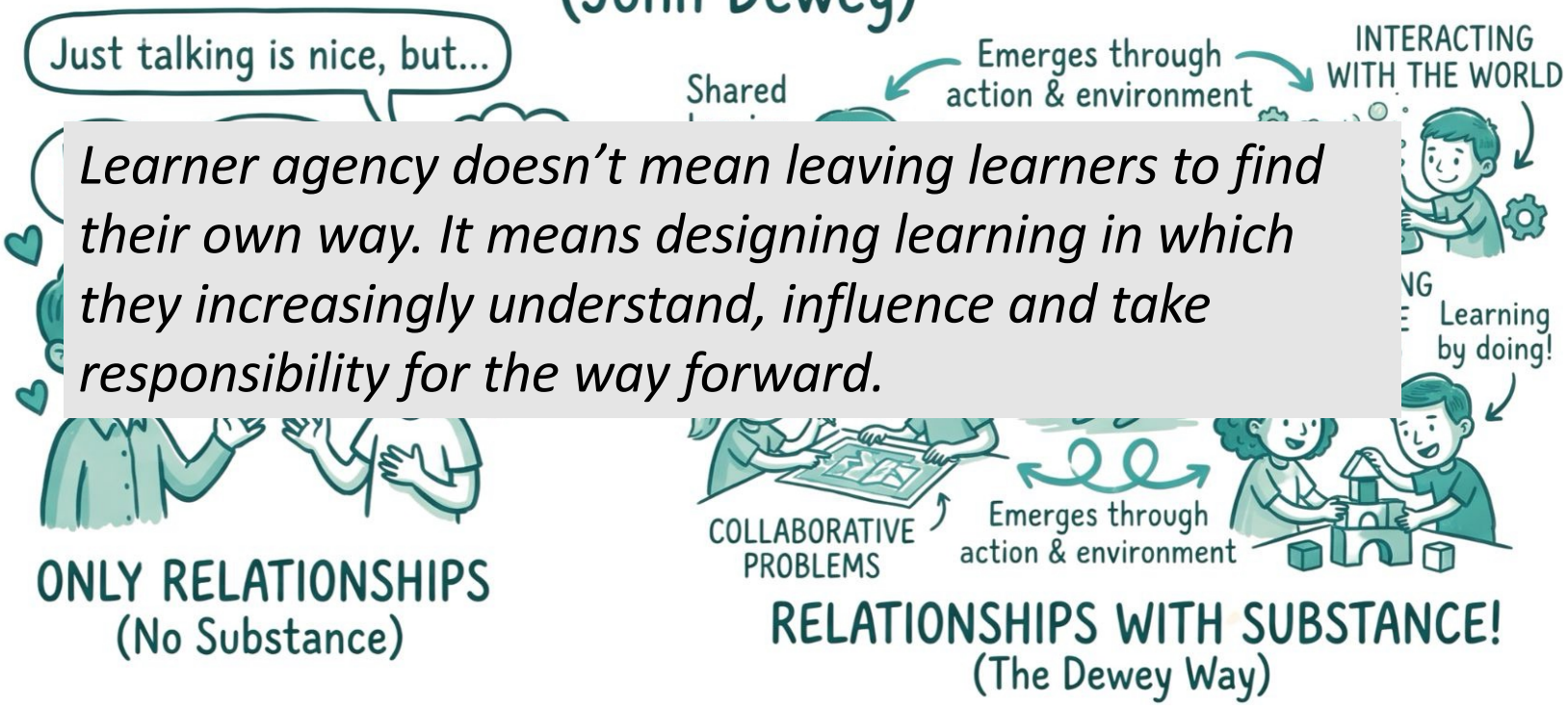
ONLY RELATIONSHIPS
(No Substance)



RELATIONSHIPS WITH SUBSTANCE!
(The Dewey Way)

LEARNING IS EMBODIED IN RELATIONSHIPS, BUT RELATIONSHIPS NEED SUBSTANCE

(John Dewey)



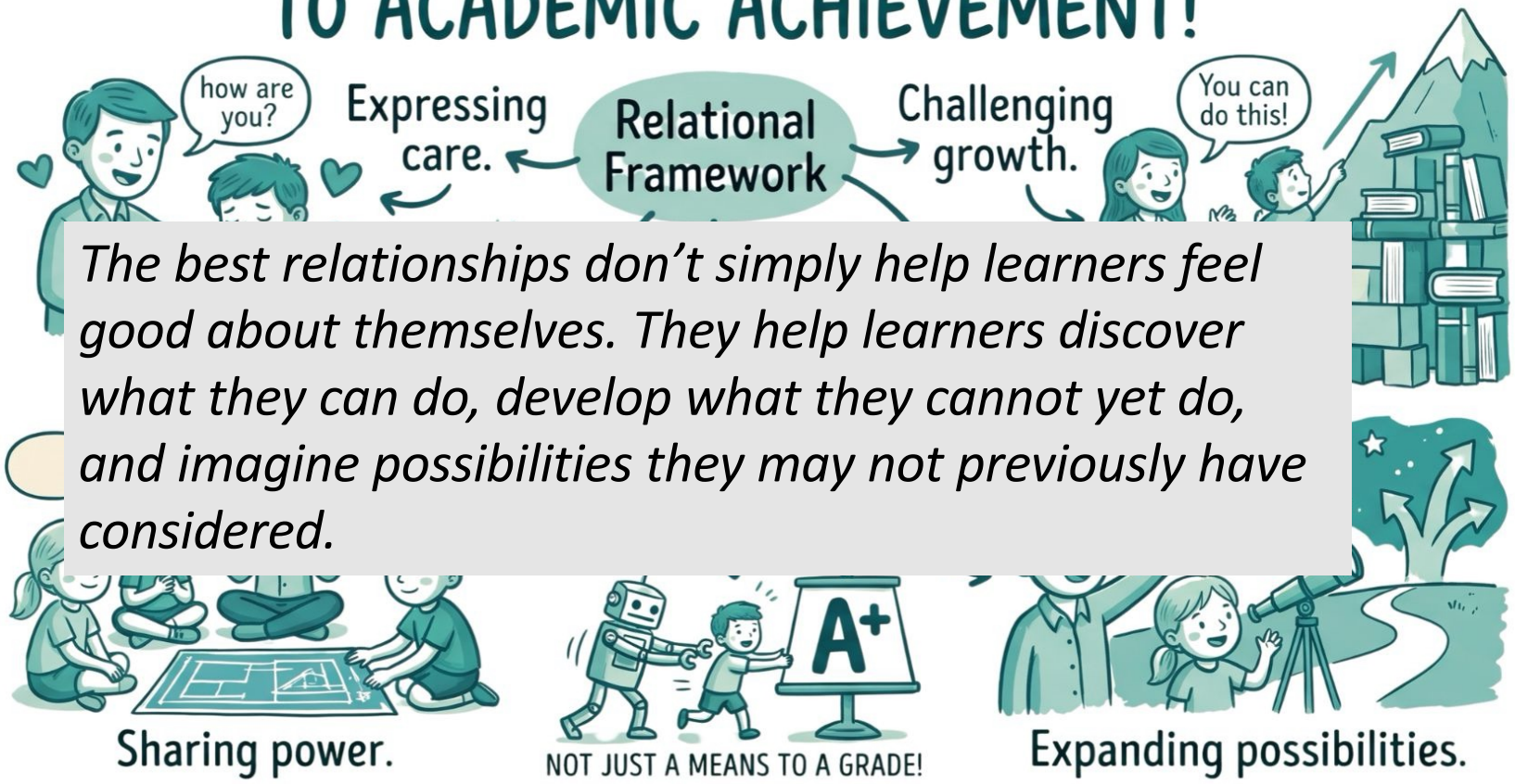
Learner agency doesn't mean leaving learners to find their own way. It means designing learning in which they increasingly understand, influence and take responsibility for the way forward.

RELATIONSHIPS ARE NOT MERELY A MEANS TO ACADEMIC ACHIEVEMENT!



https://searchinstitute.org/resources-hub/developmental-relationships-framework

RELATIONSHIPS ARE NOT MERELY A MEANS TO ACADEMIC ACHIEVEMENT!



The best relationships don't simply help learners feel good about themselves. They help learners discover what they can do, develop what they cannot yet do, and imagine possibilities they may not previously have considered.

https://searchinstitute.org/resources-hub/developmental-relationships-framework

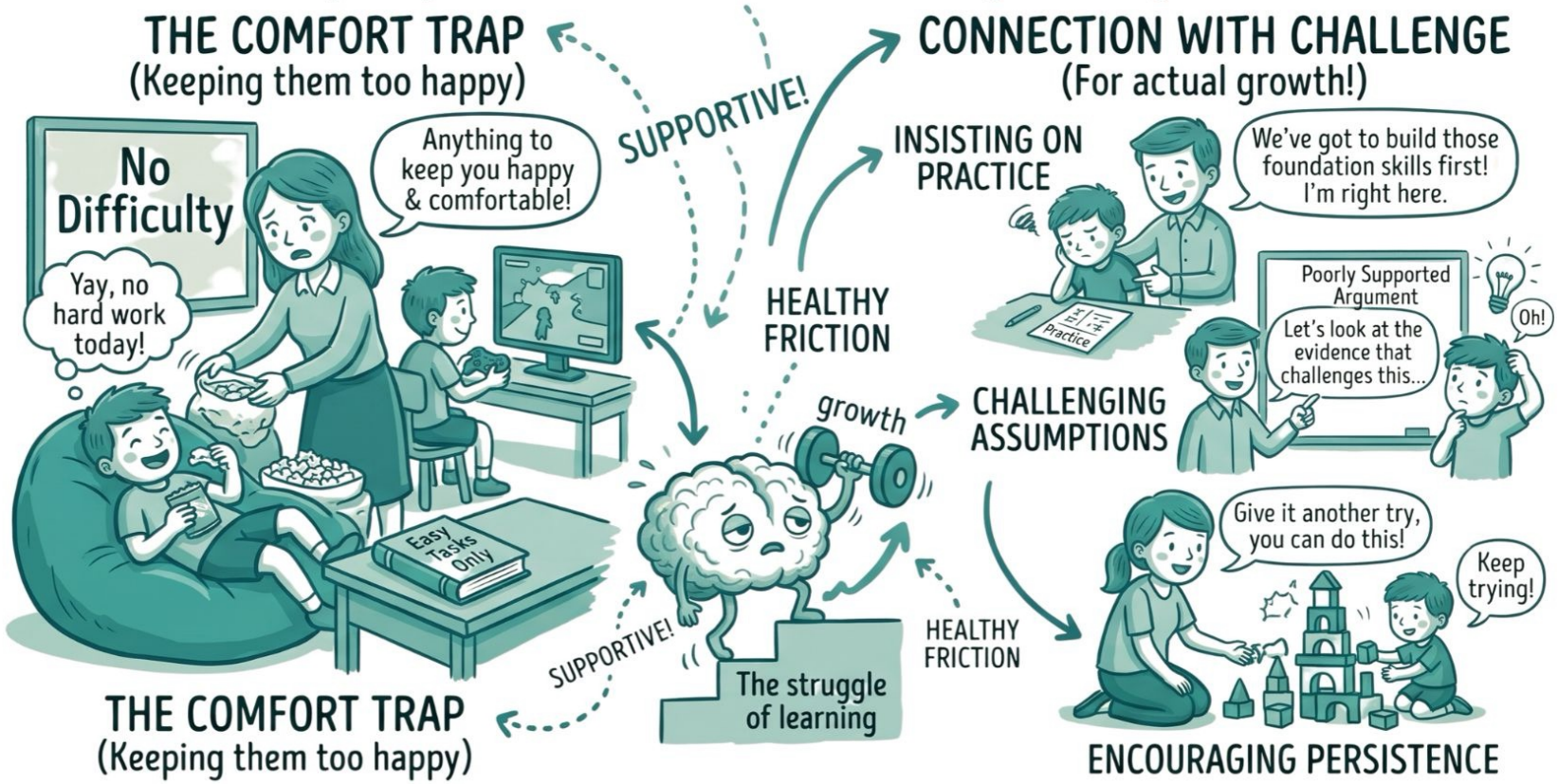


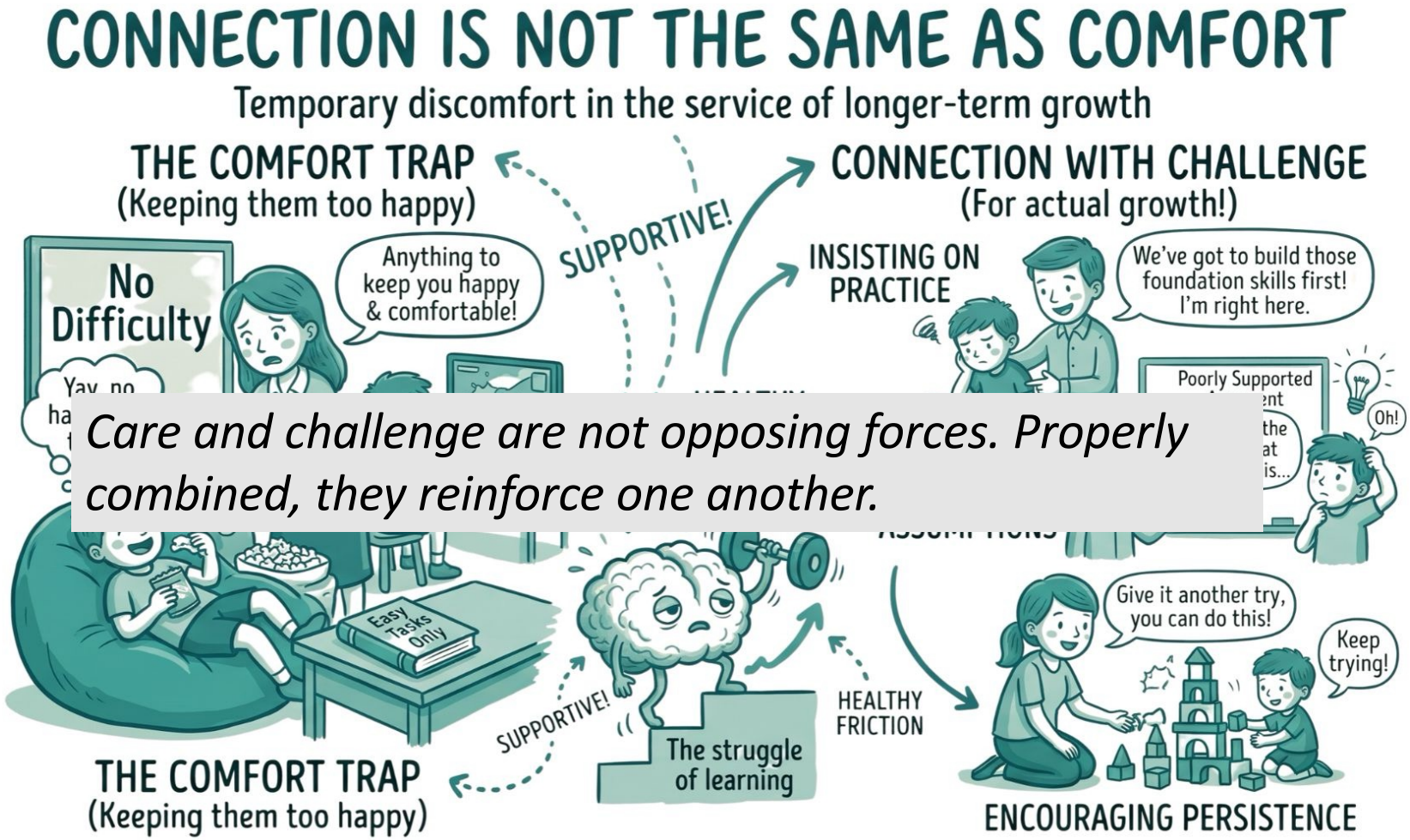
Expressing care communicates that the learner matters.
Challenging growth communicates that the learner is capable of more.
Providing support communicates that the learner doesn't have to succeed alone.
Sharing power communicates that the learner's voice and perspective matter.
Expanding possibilities communicates that the learner's future is not confined by their current performance or circumstances.

https://searchinstitute.org/resources-hub/developmental-relationships-framework

CONNECTION IS NOT THE SAME AS COMFORT

Temporary discomfort in the service of longer-term growth





Care and challenge are not opposing forces. Properly combined, they reinforce one another.

5

Agency and engagement



Resisters



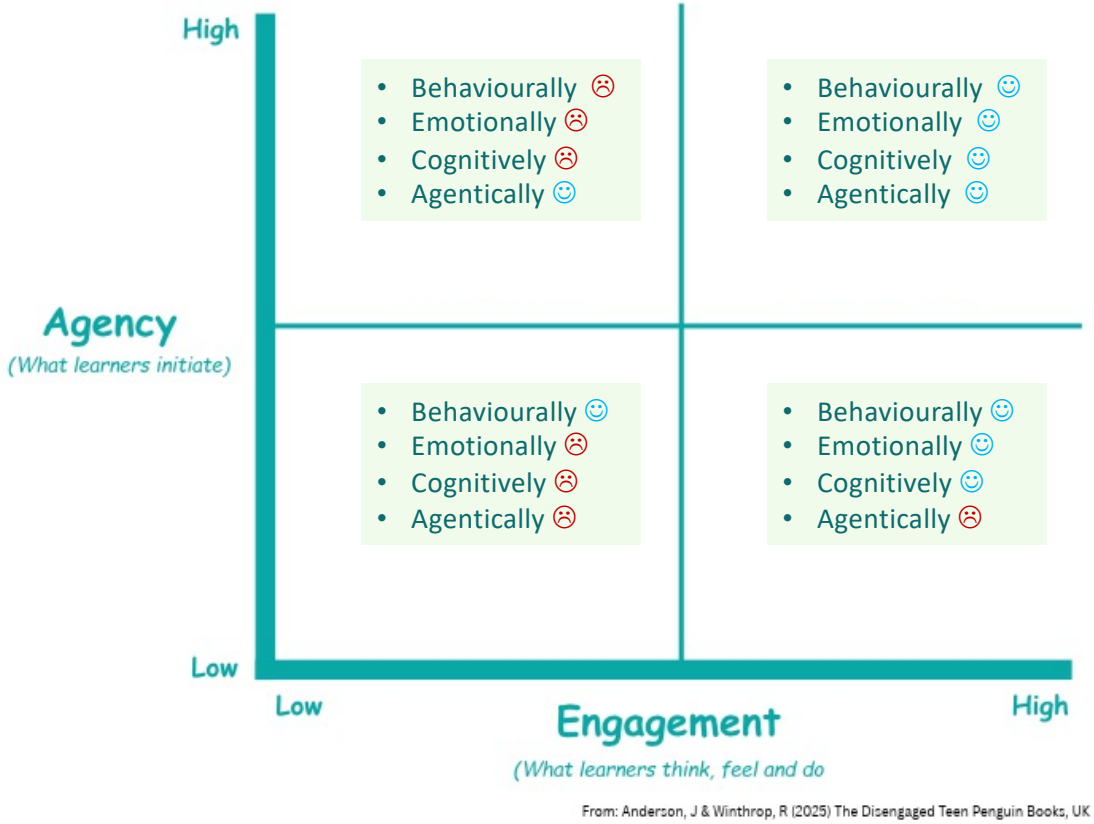
Explorers



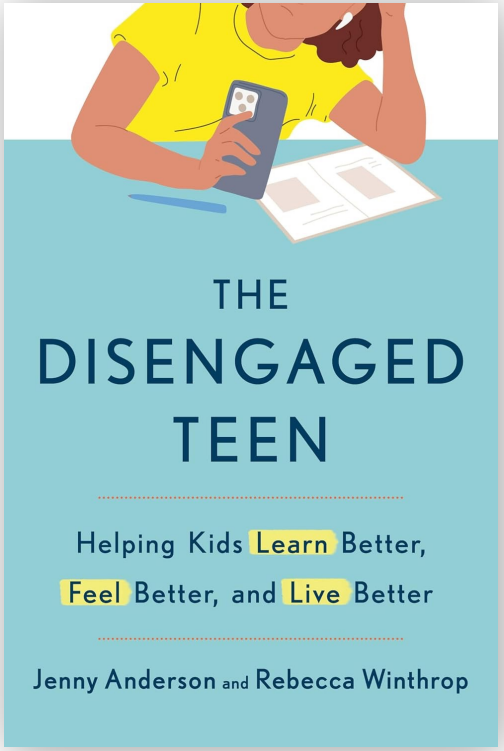
Passengers



Achievers



From: Anderson, J & Winthrop, R (2025) The Disengaged Teen Penguin Books, UK



https://www.brookings.edu/books/the-disengaged-teen

Agency by Design:
An educator's playbook

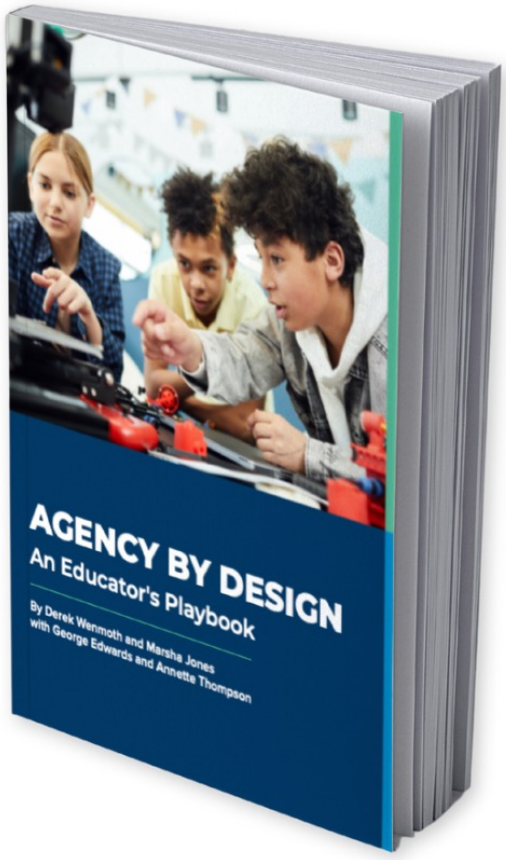
Conditions Created By Teachers

- Motivation and engagement
- Support and Supervision
- Measuring Success
- Learning Environment
- Curriculum
- Acts of Teaching
- Design of Learning



Characteristics observed in learners

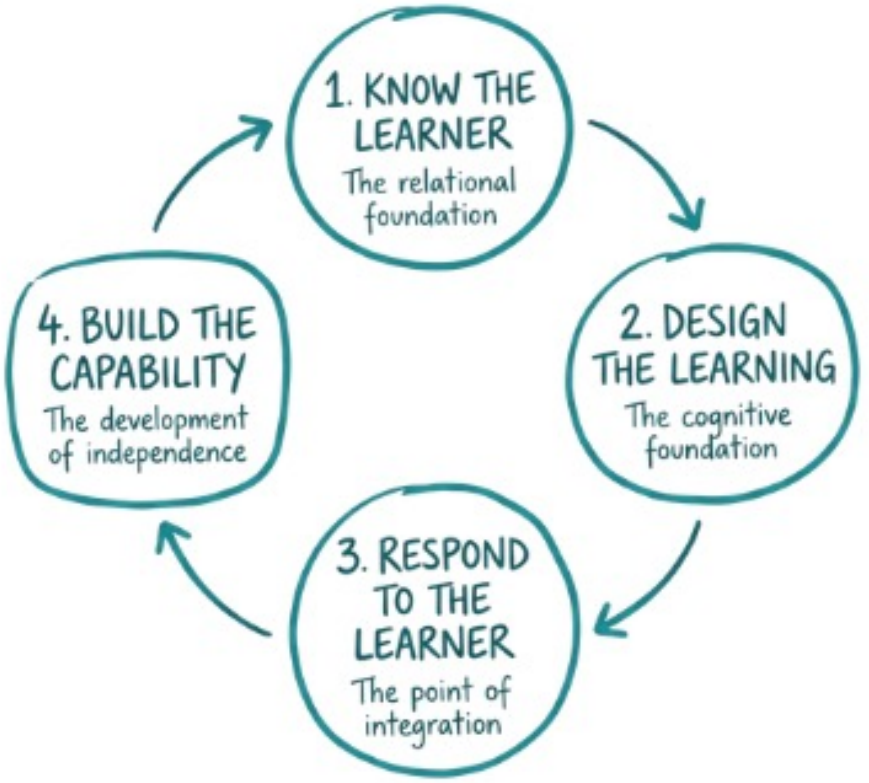
- Collaboration
- Digital Literacy
- Assessment for Learning
- Learners as Leaders
- Competencies for Life
- Learner-driven Learning
- Assessment Capability

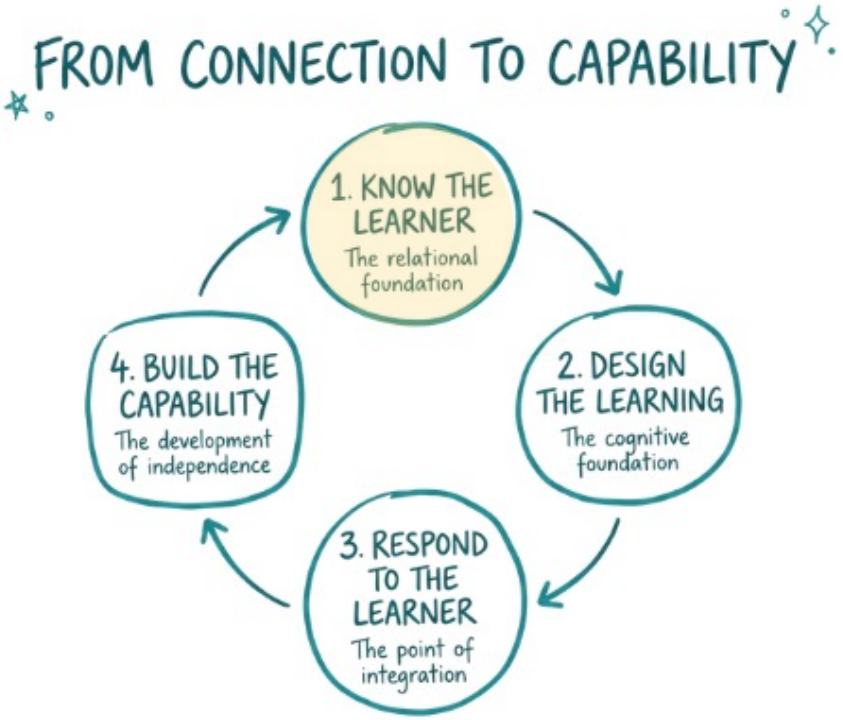


https://futuremakers.nz/agency-by-design/

6

From Connection to capability

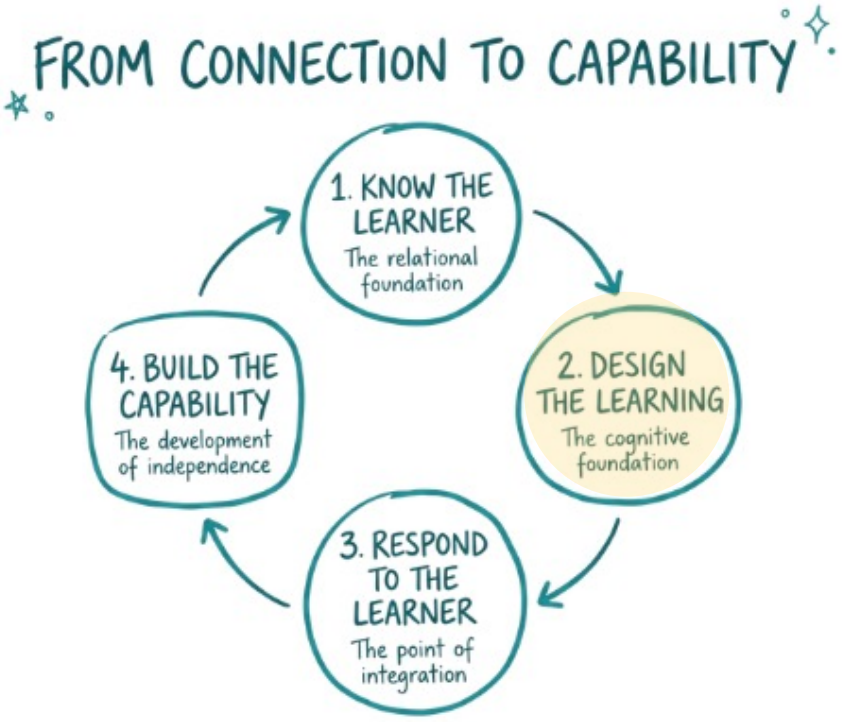




Know the learner

The ***relational*** foundation

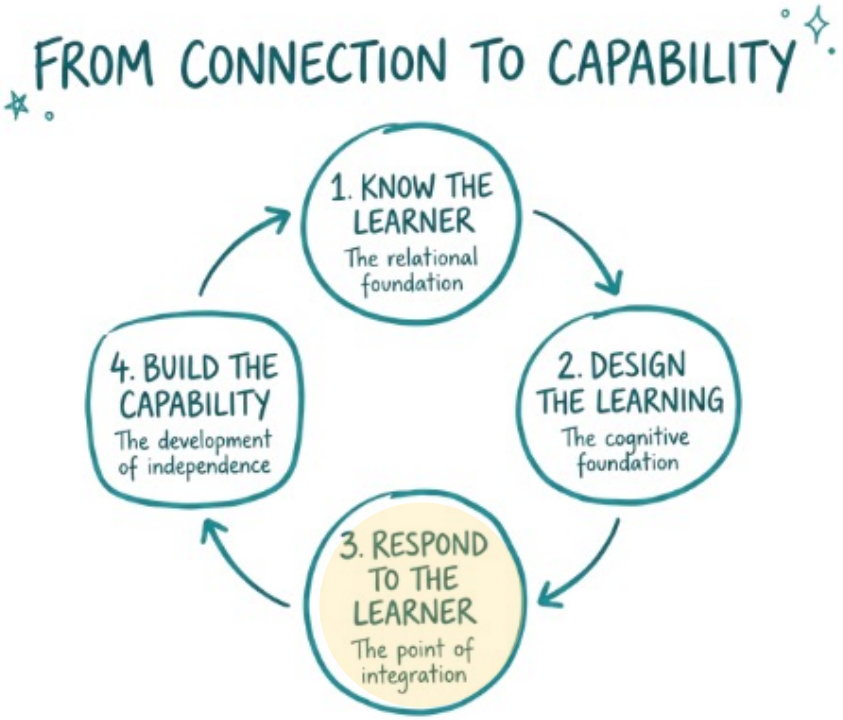
- What does this learner already know?
- What matters to them?
- What might be getting in the way?
- What helps them feel able to participate and contribute?



Design the learning

The ***cognitive*** foundation:

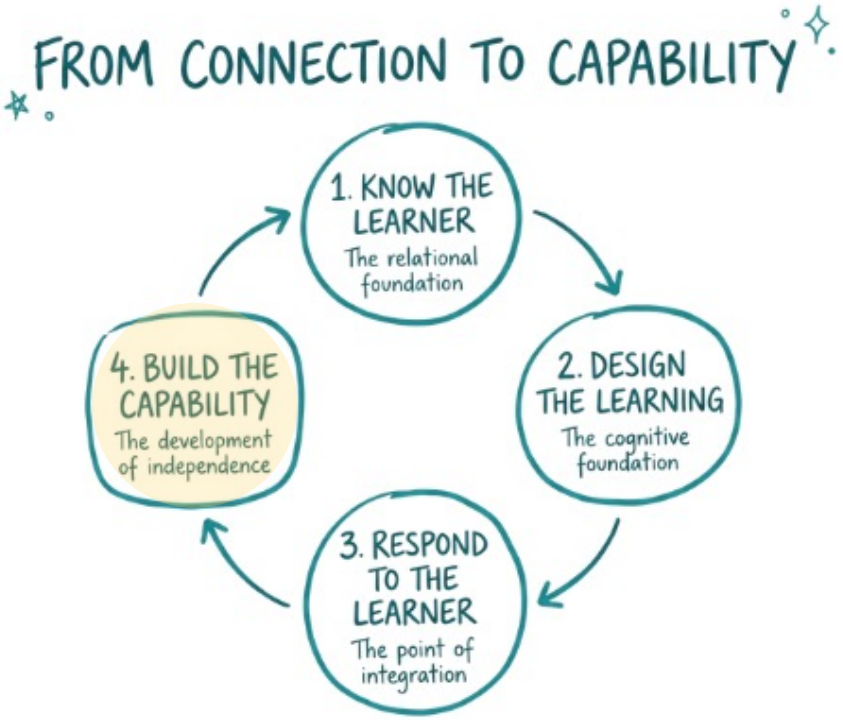
- What knowledge and understanding do learners need to develop?
- What needs to be explicitly taught?
- What opportunities will they have to practise and apply their learning?
- What evidence will help me know whether learning is occurring?



Respond to the learner

The point of ***integration:***

- What is the learner's thinking telling me?
- Is the challenge appropriately demanding?
- What support or feedback is needed now?
- How can I respond without unnecessarily taking over the learning?



Build the capability

The intended ***outcome***:

- Can the learner explain what they are learning and why?
- Can they recognise when they need help?
- Can they make informed choices about how to proceed?
- Can they apply their learning in unfamiliar situations?
- Are they becoming more capable of directing and evaluating their own learning?

7

An apparent contradiction?

The challenge is not to choose between relationships and rigorous teaching.

It is to understand how each enables the other.



It's all in the mix!



- No single ingredient makes the meal
- More isn't necessarily better
- The recipe isn't fixed

Move from..

Which ingredient should we be using more of?

To...

What is the right mix of ingredients to create the conditions for great learning?

Concluding thoughts…

- We don’t build relationships instead of teaching well. We build relationships as part of teaching well.
- And we teach well not simply to help learners know more, but to help them become more capable, confident and independent in how they use what they know.
- *How do we create learning environments in which the quality of our teaching and the quality of our relationships work together to help every learner thrive?*





Thank You

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