



International Conference on Education 2011  
Delhi, 24-25 January

# Assessment for Improved Teaching and Learning

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Australian Council for Educational Research

Traditional approaches to the assessment of student learning have focused on establishing how much of what students have been taught they have successfully learnt.

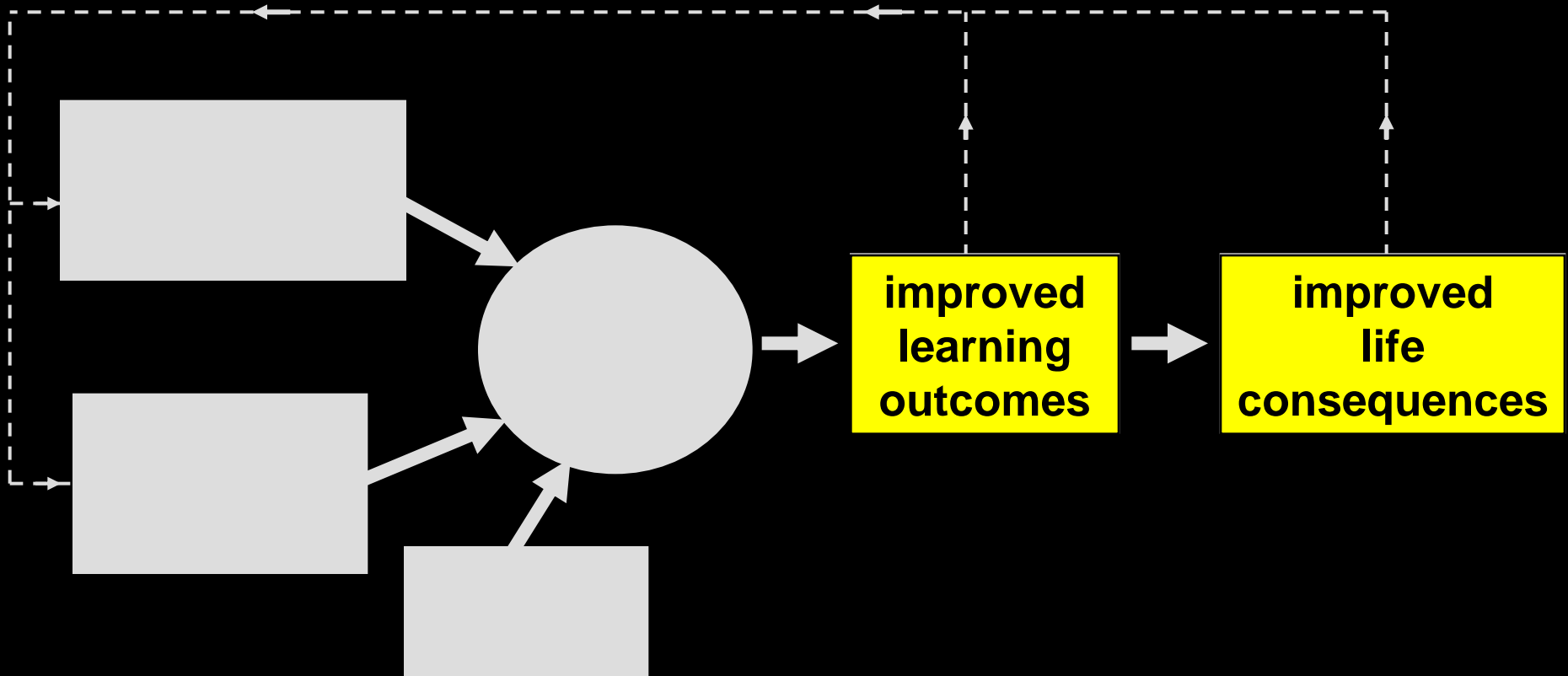
my focus today

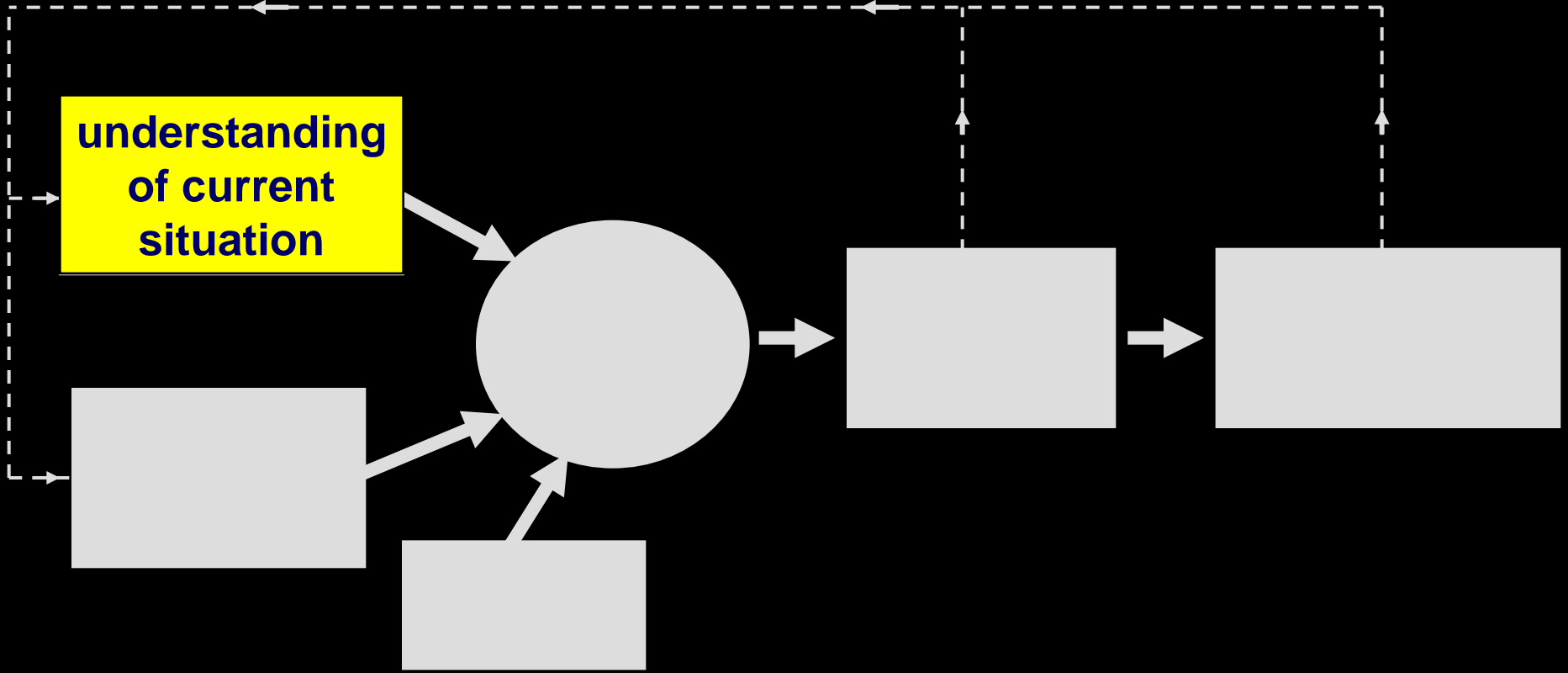


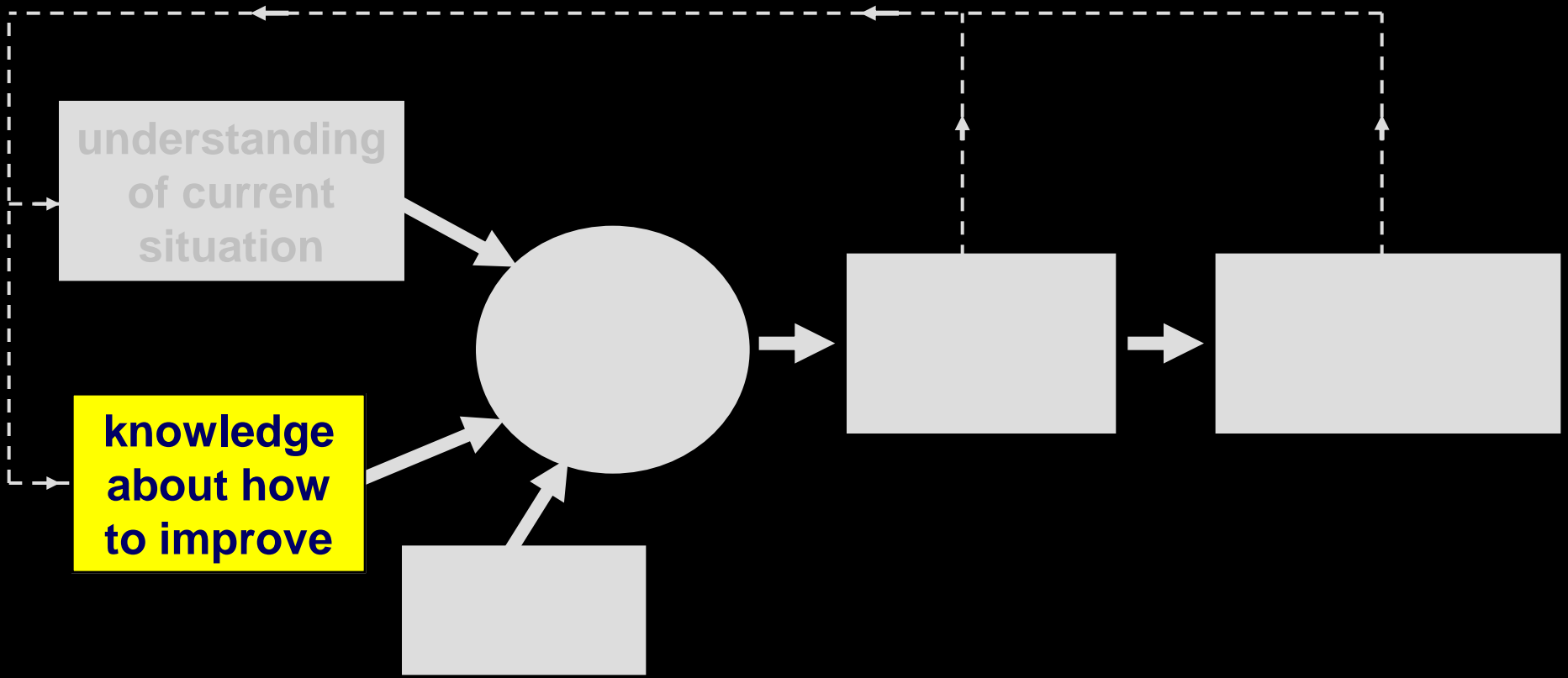
However, assessments can provide crucial information for:

- improving the effectiveness of classroom teaching and learning
- monitoring student progress across the years of school

# an improvement cycle

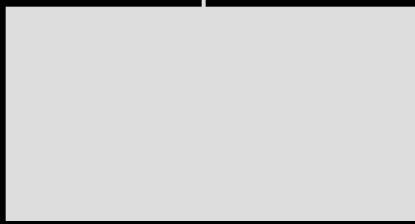
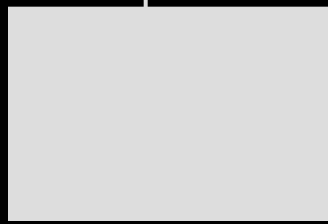
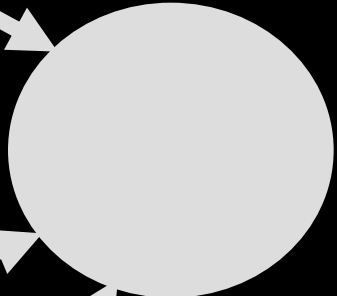


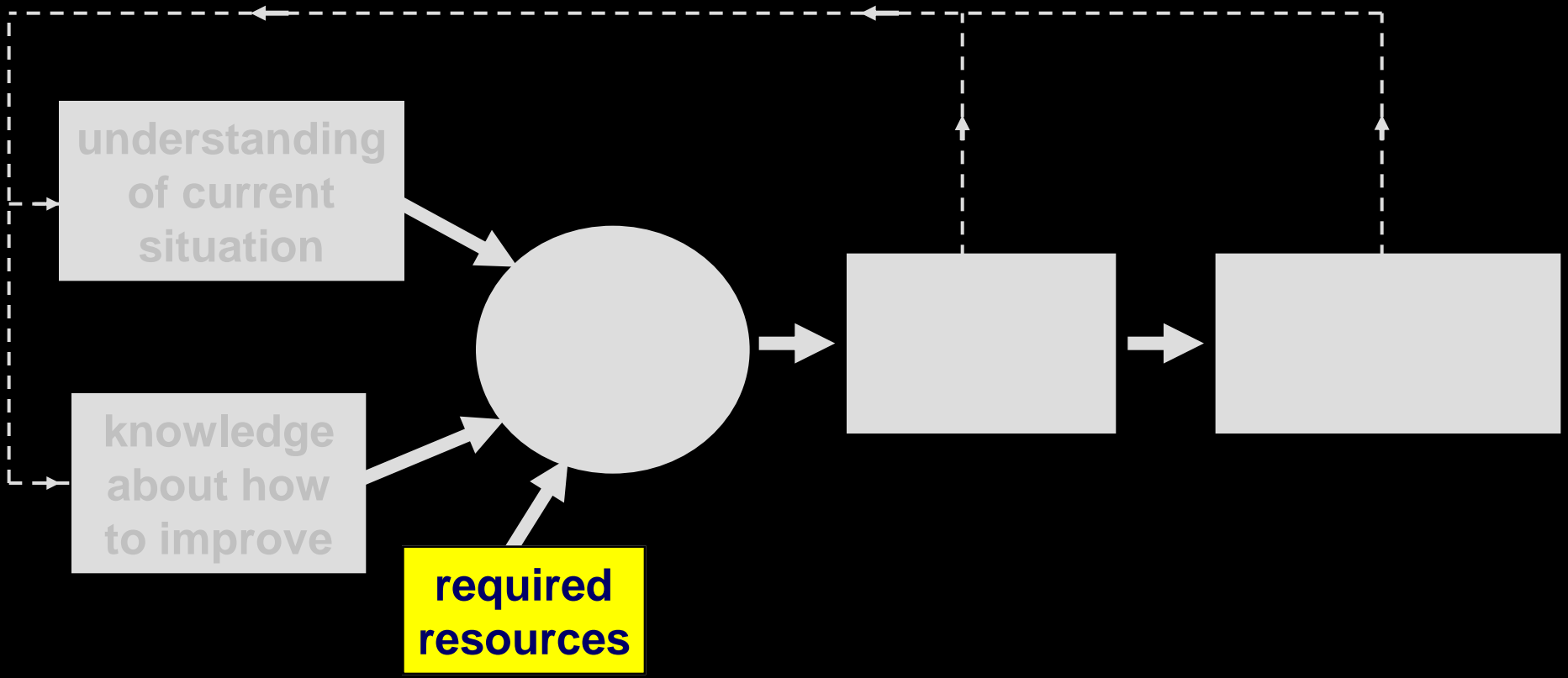


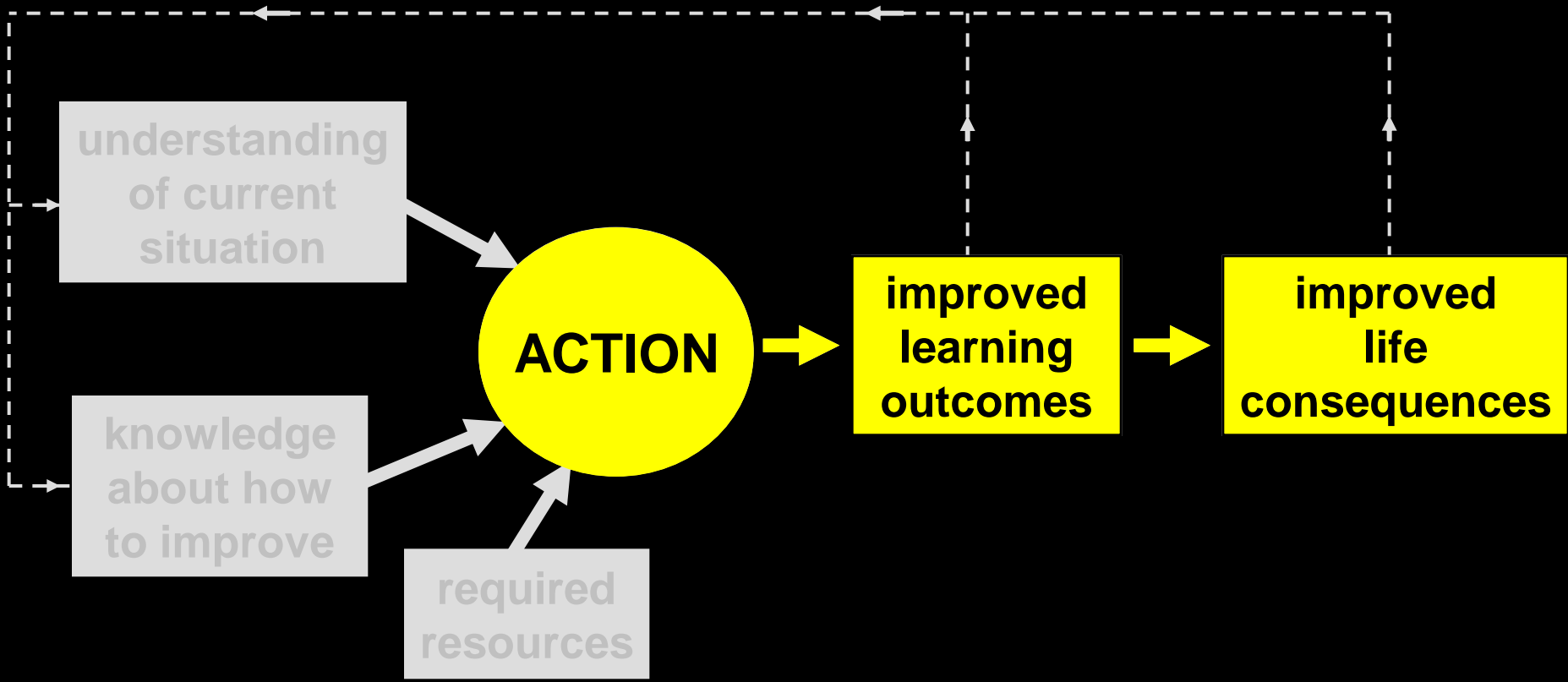


understanding  
of current  
situation

knowledge  
about how  
to improve







understanding  
of current  
situation

**ACTION**

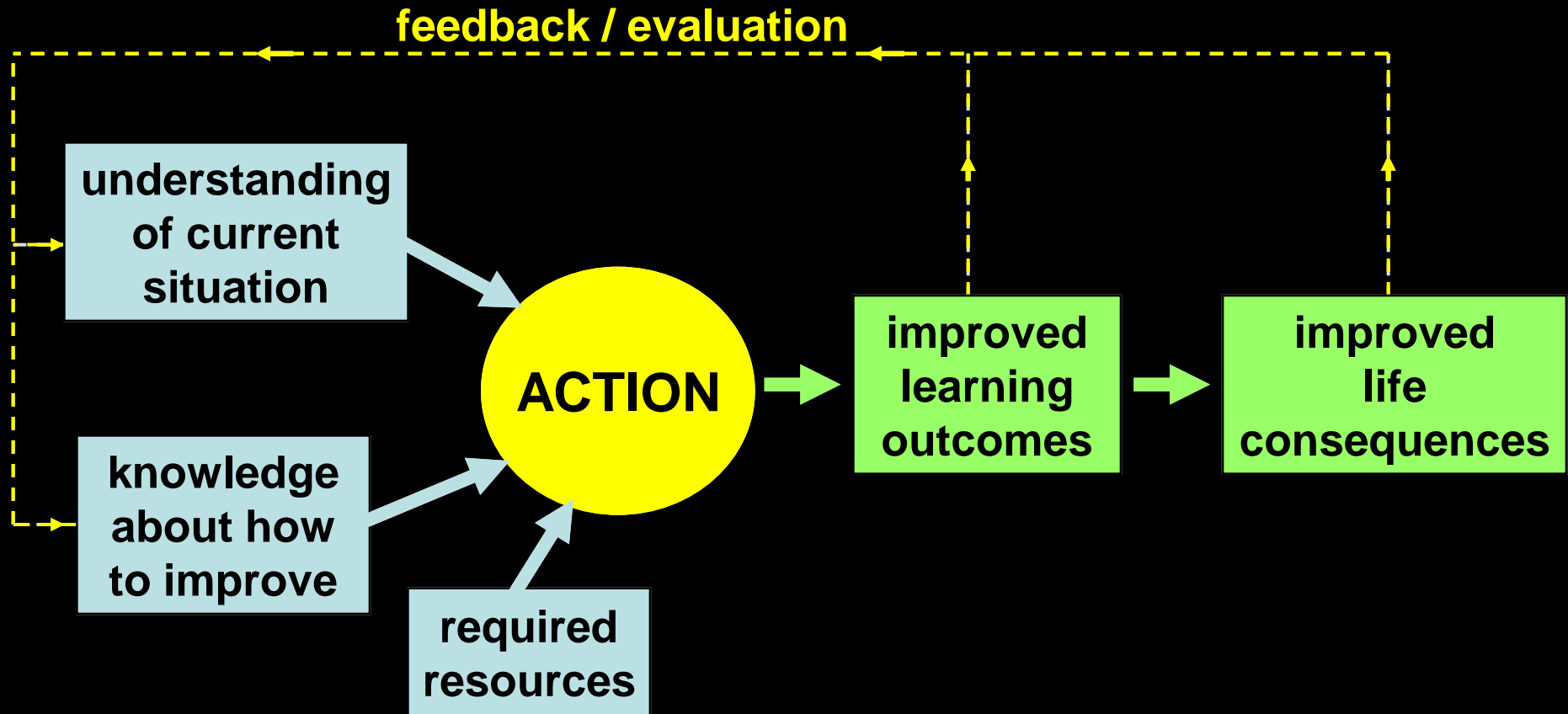
improved  
learning  
outcomes

improved  
life  
consequences

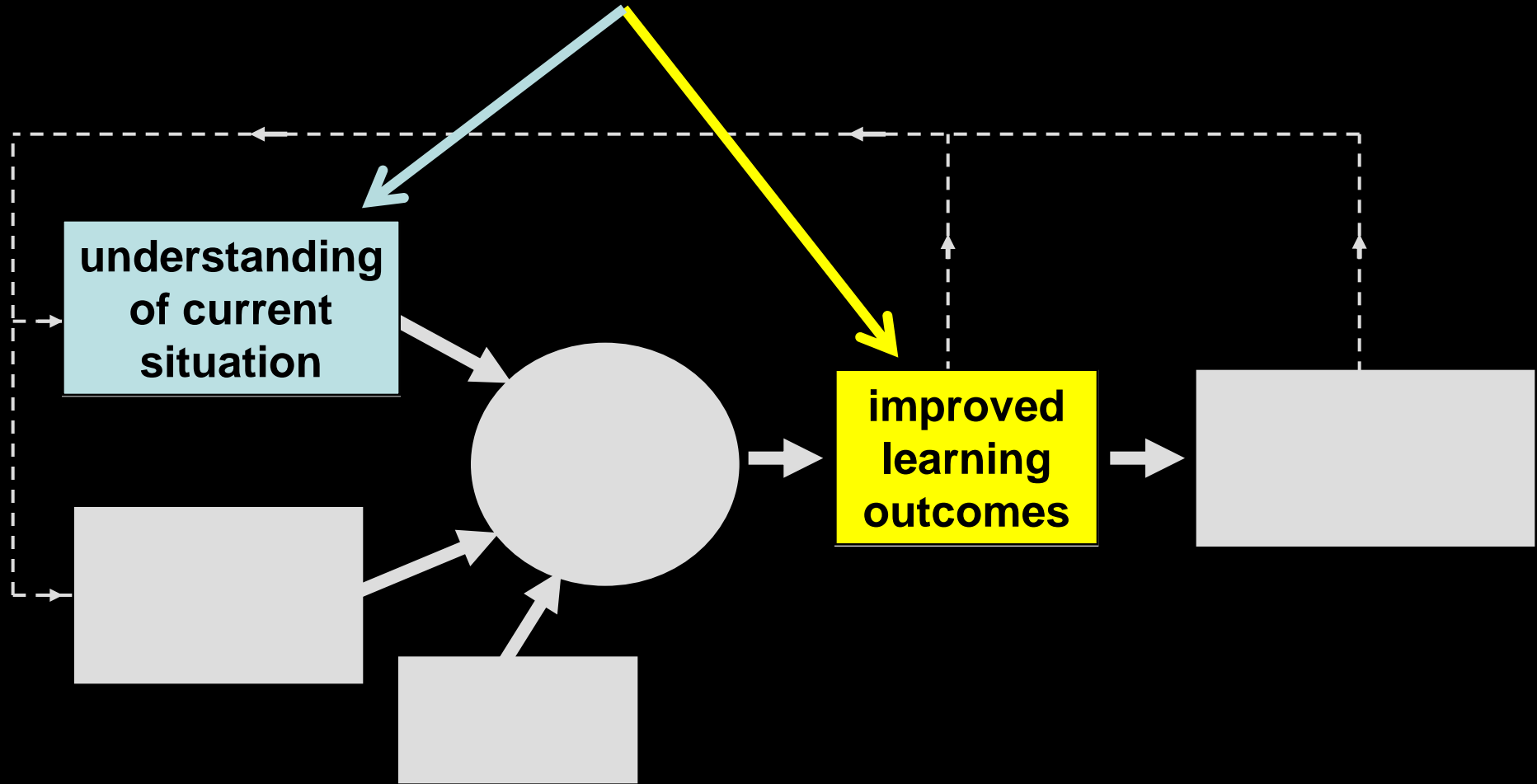
knowledge  
about how  
to improve

required  
resources

# assessment



# assessment



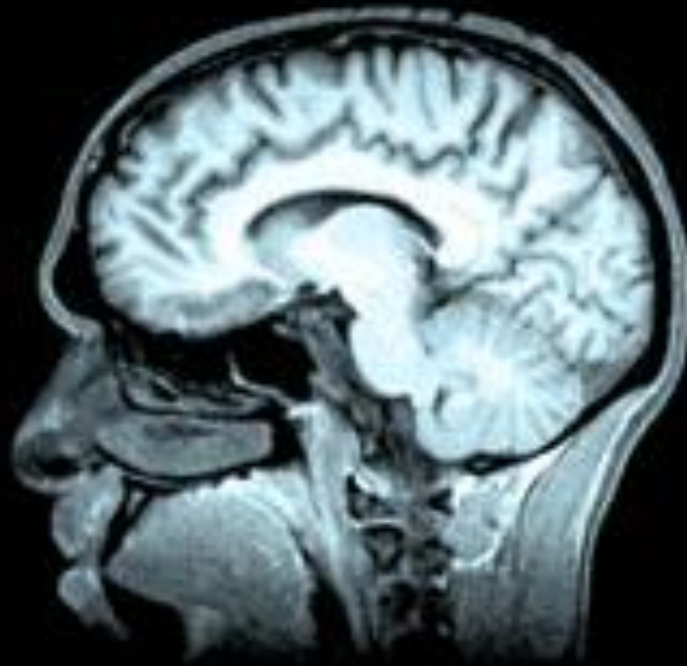
Used in this way, assessment is part of an ongoing monitoring and improvement cycle:

- Where is the student currently up to in his or her learning?
  - What can be done to promote further learning?
- Where is the student now up to in his or her learning?  
(What progress have they made?)
  - What can be done to promote further learning?
    - etc.

The introduction of **Continuous and Comprehensive Evaluation** provides an opportunity to improve the ongoing monitoring of each student's progress and to provide feedback to continually improve classroom teaching and learning.

If teachers are to use assessments to improve teaching and learning, then they first require a sound understanding of how students learn (processes of learning and conditions that support learning).

neuroscience



*Each brain is unique.*



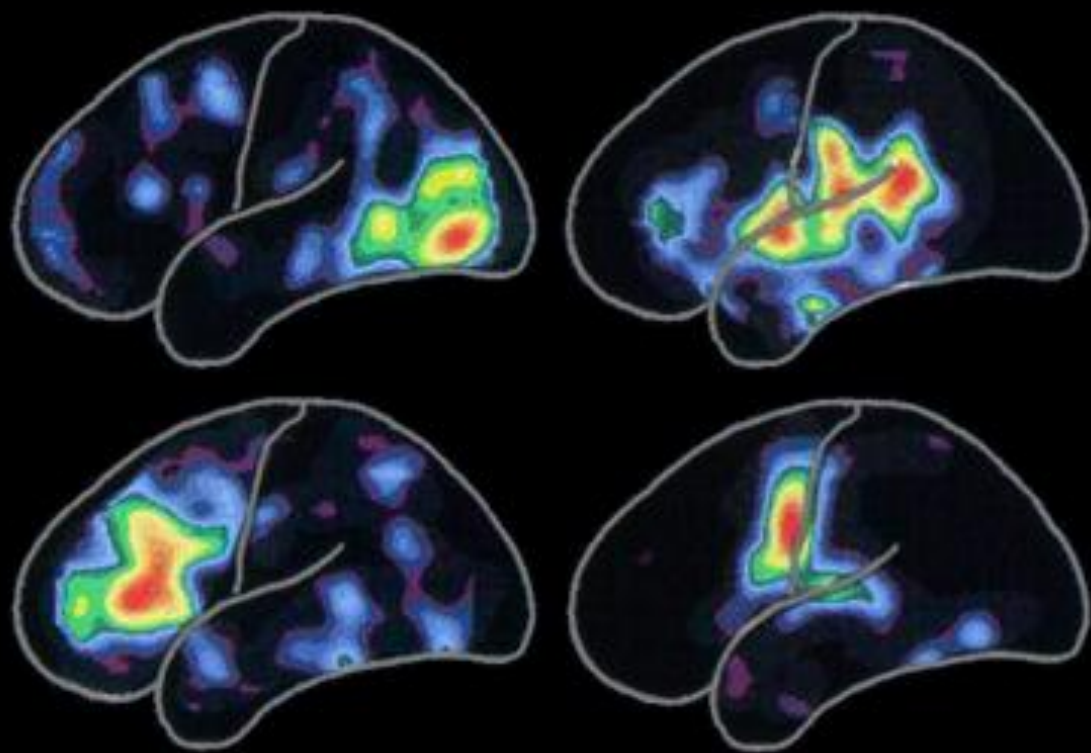


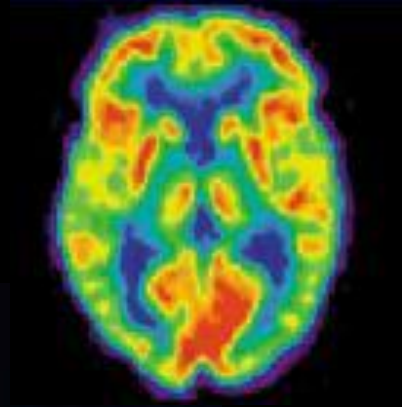


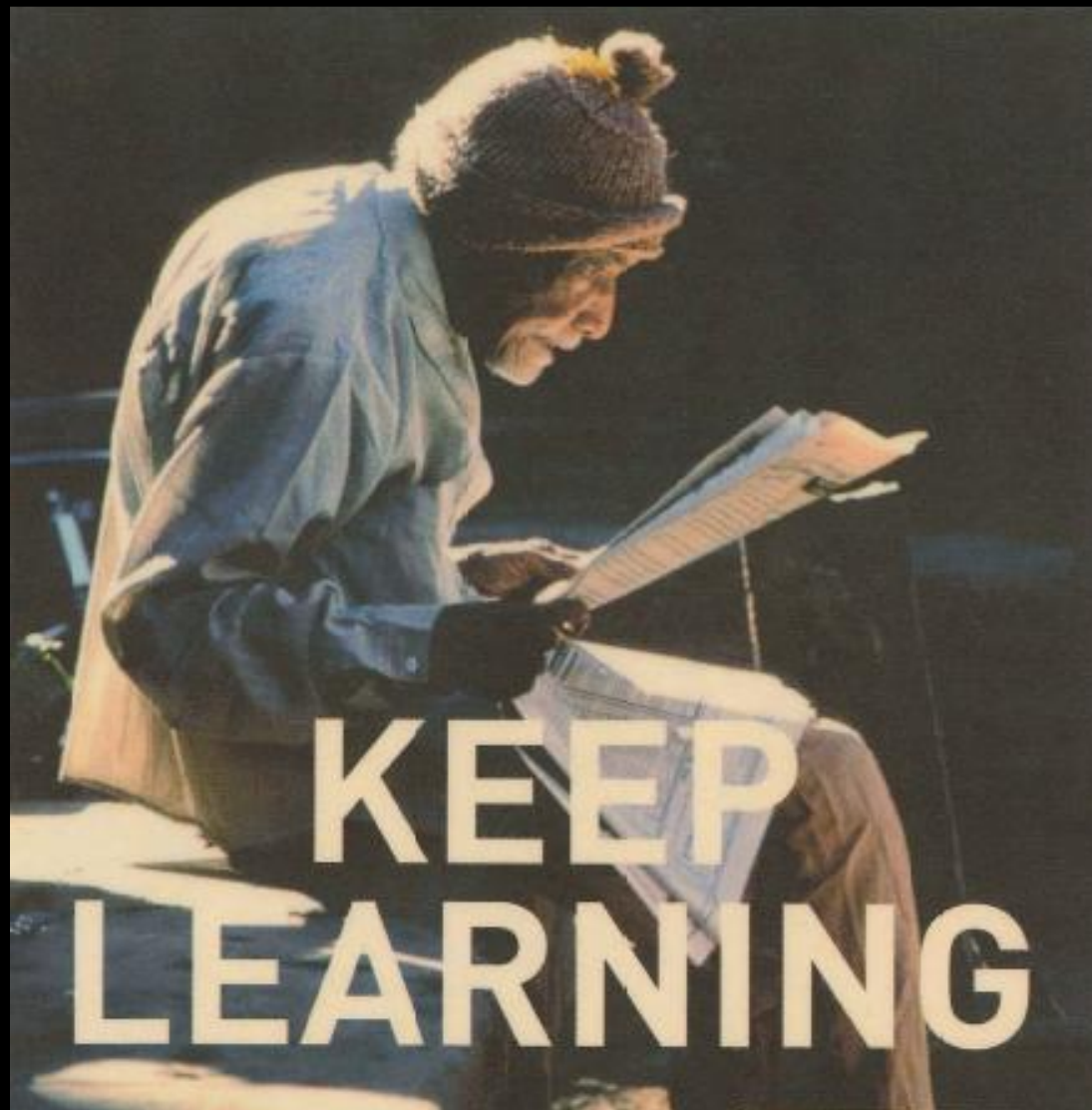


*The brain goes on being shaped  
by experience.*



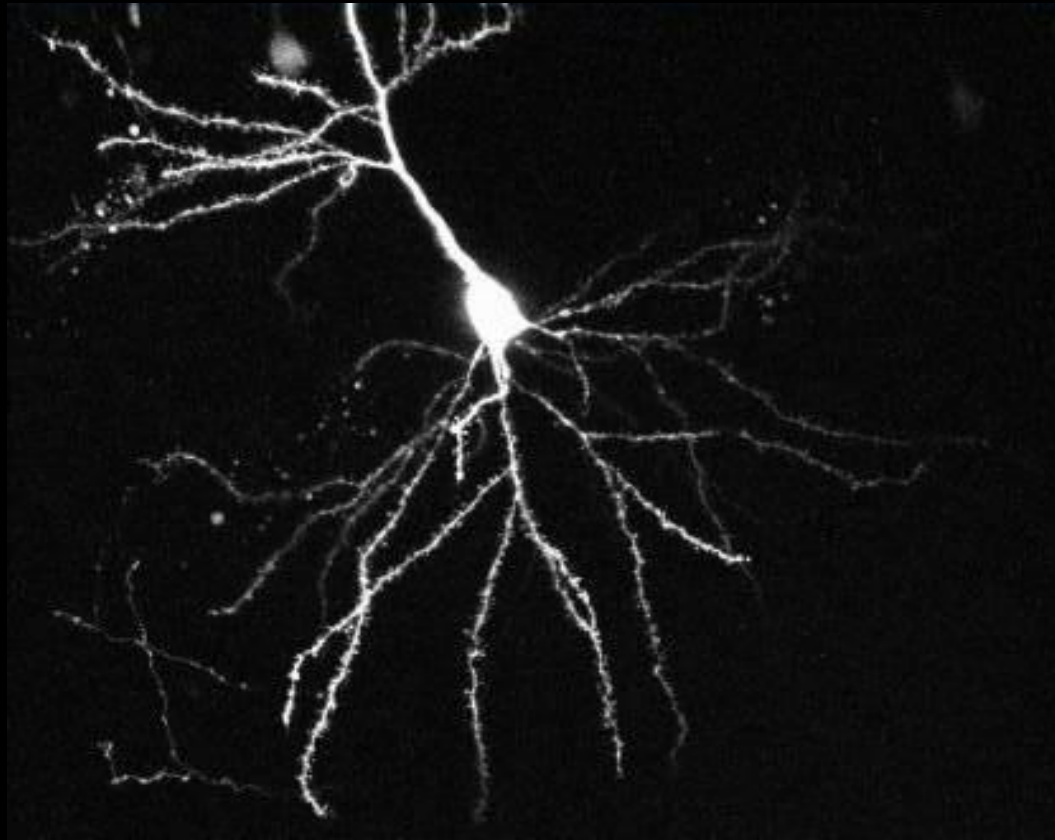


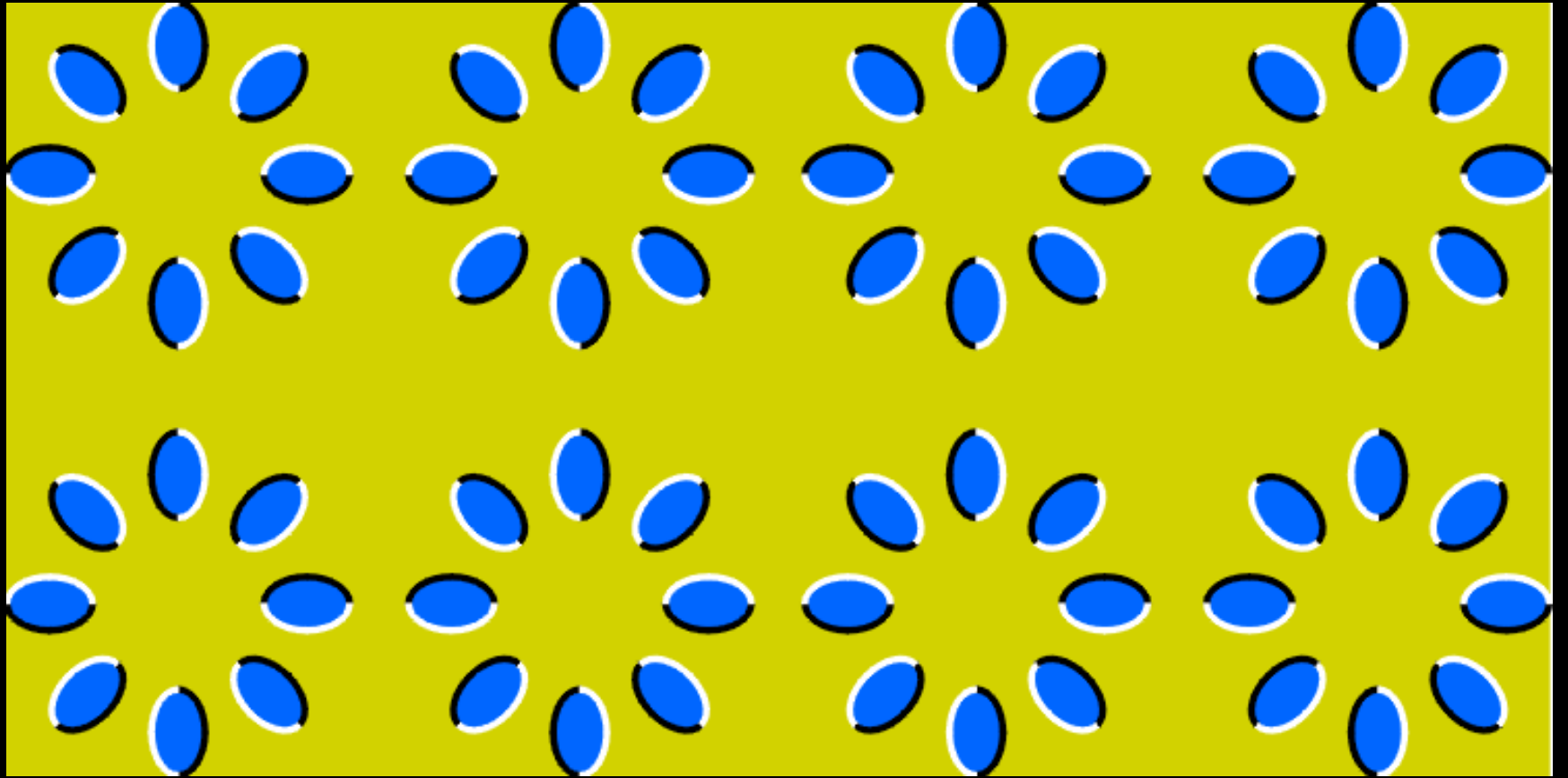


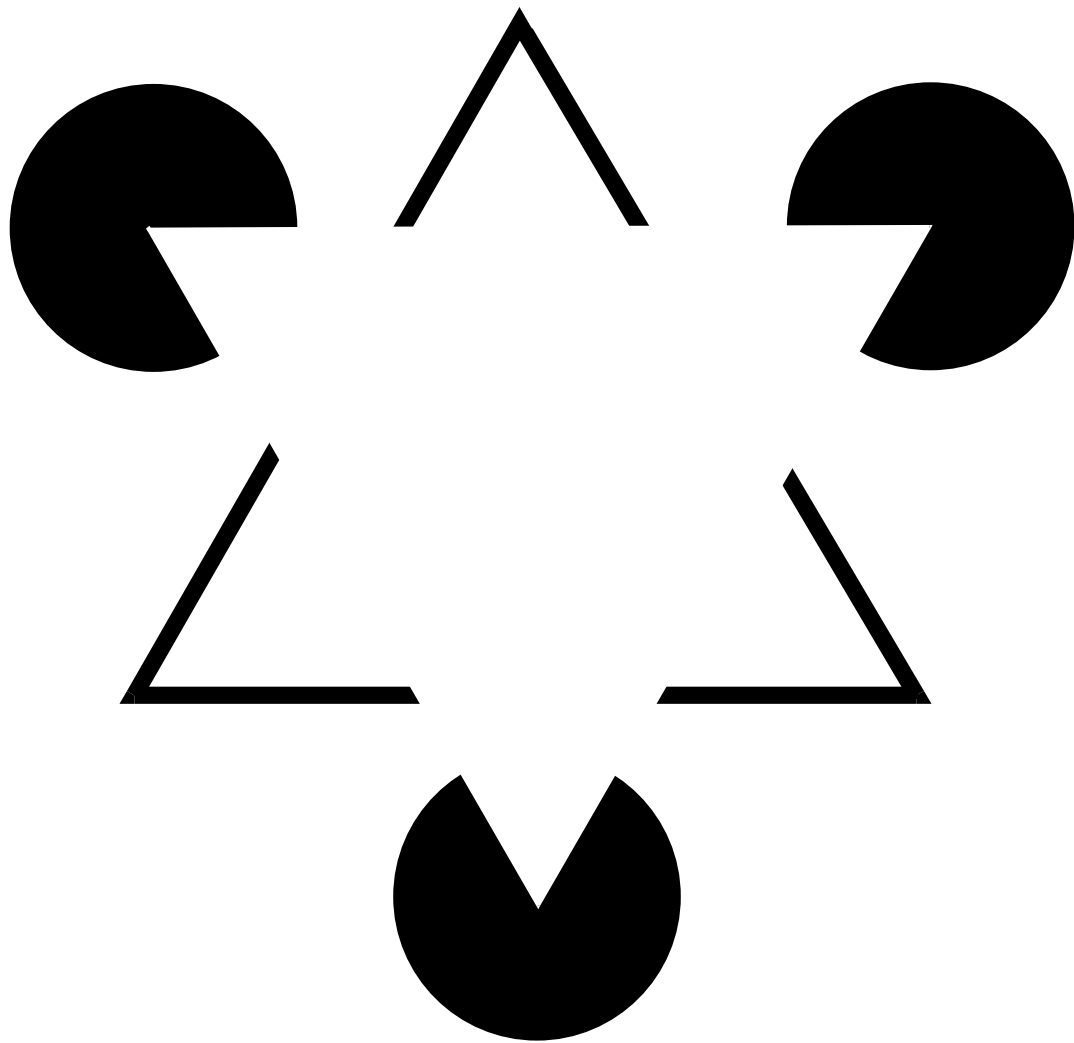


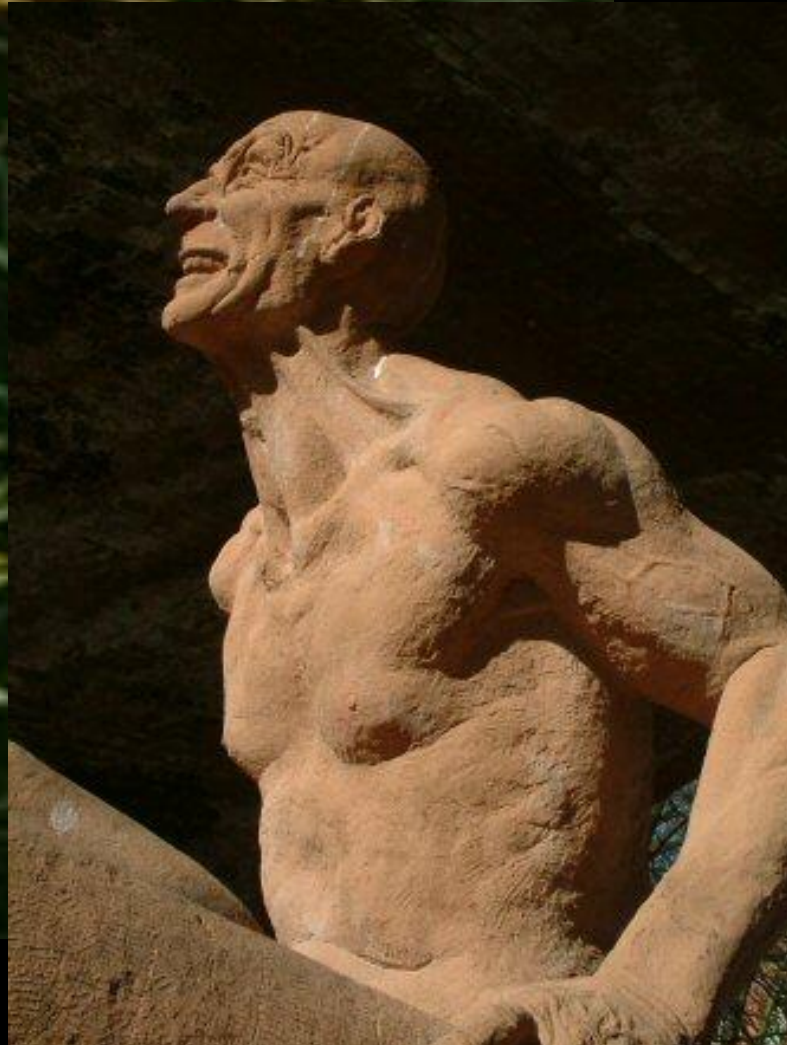
**KEEP  
LEARNING**

*The brain tries to make sense of incoming information.*









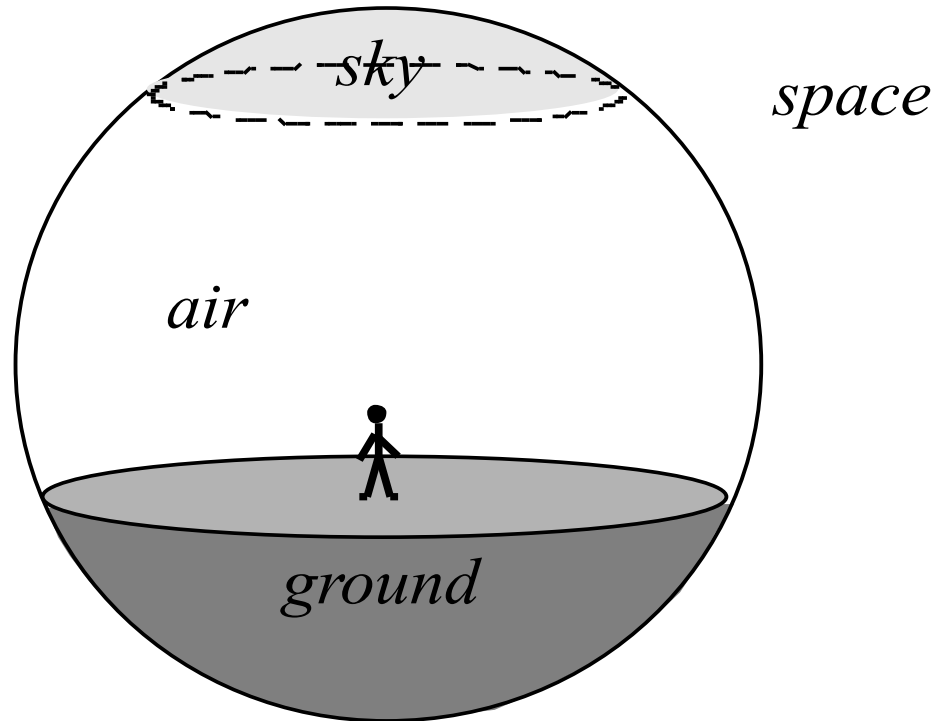
*Physical and emotional states influence brain development.*



learning research

*Learning is a personal journey.*



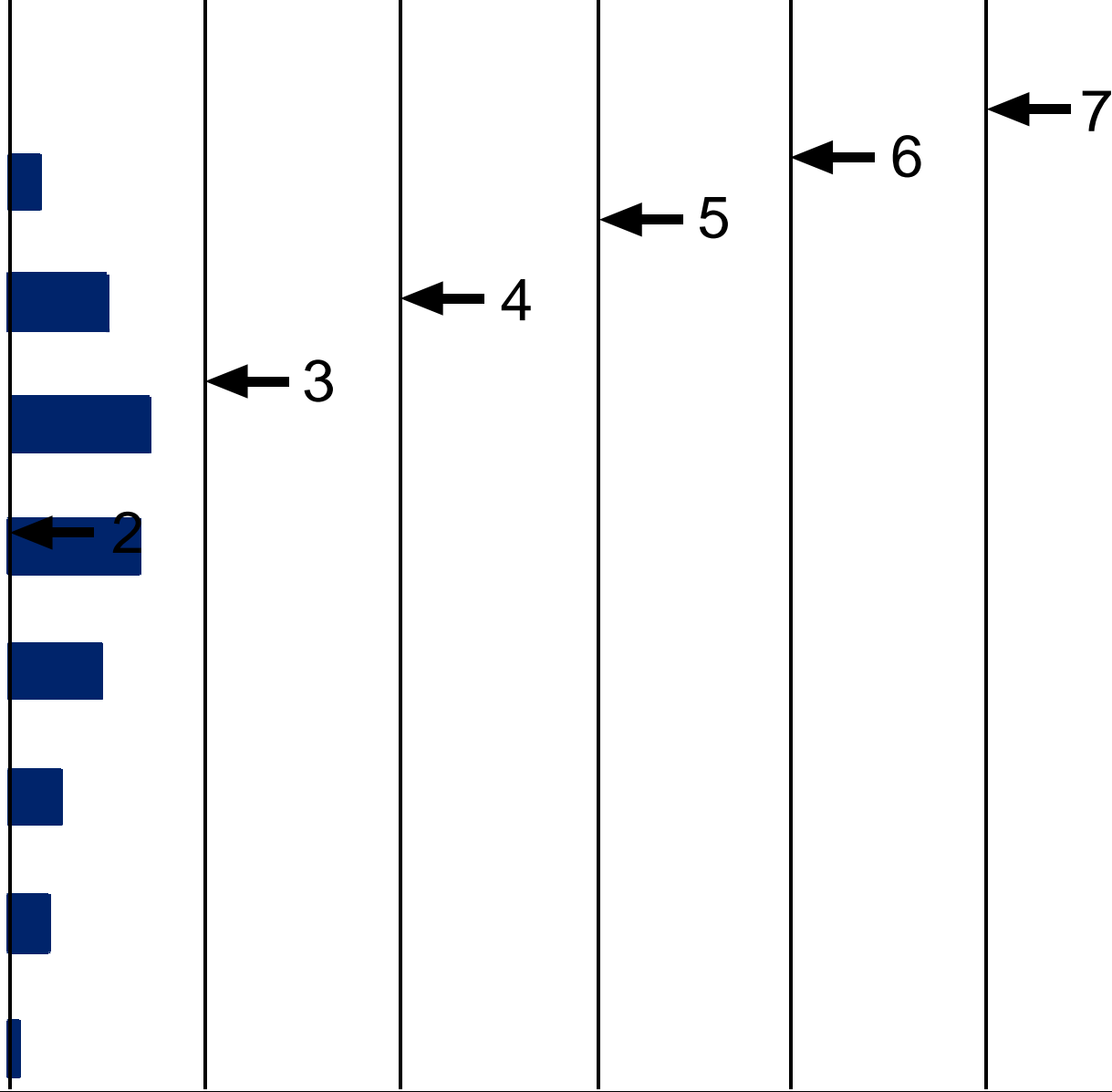


(Nussbaum, 1979)

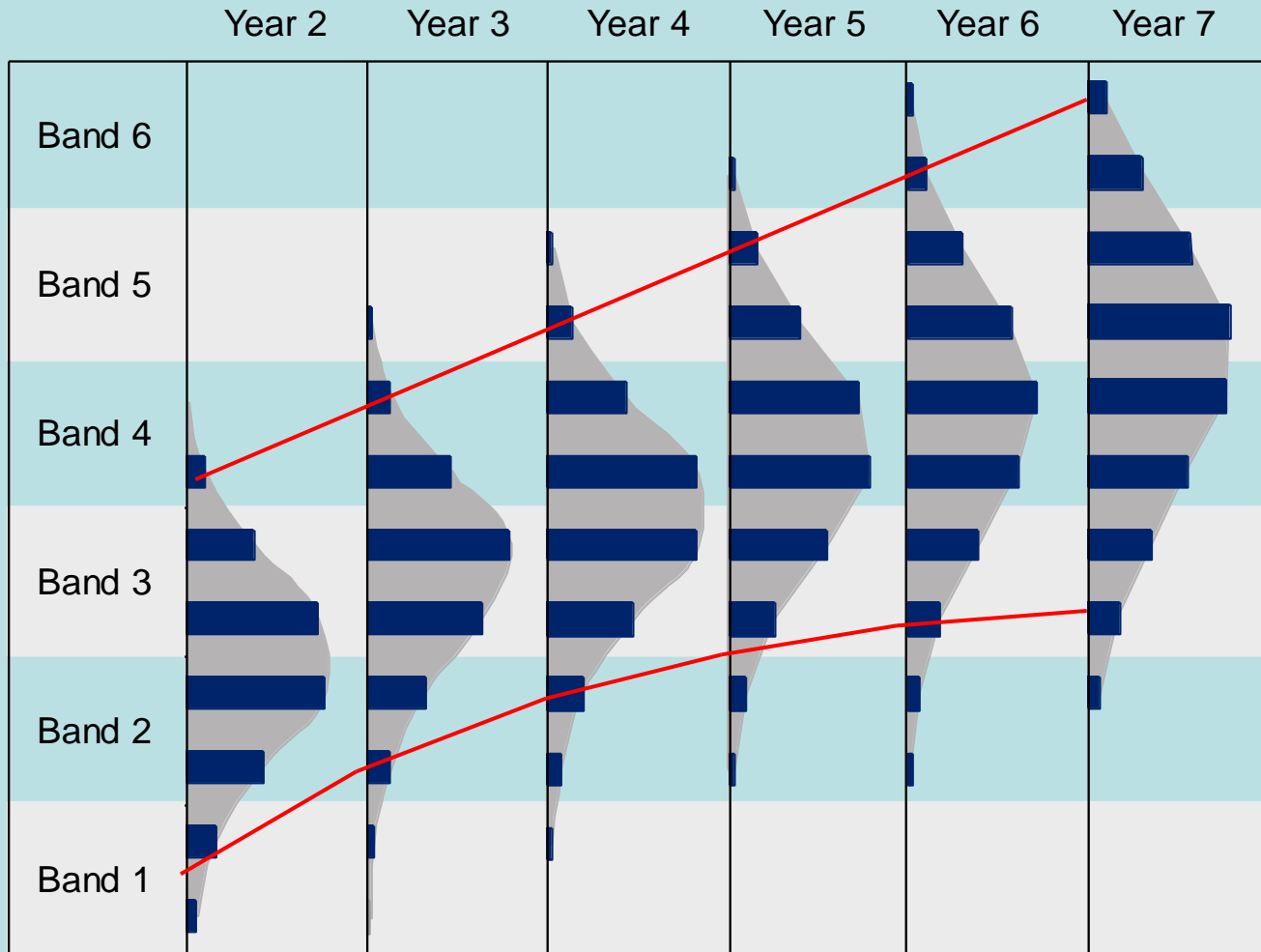
*Students are at very different stages of development and attainment.*

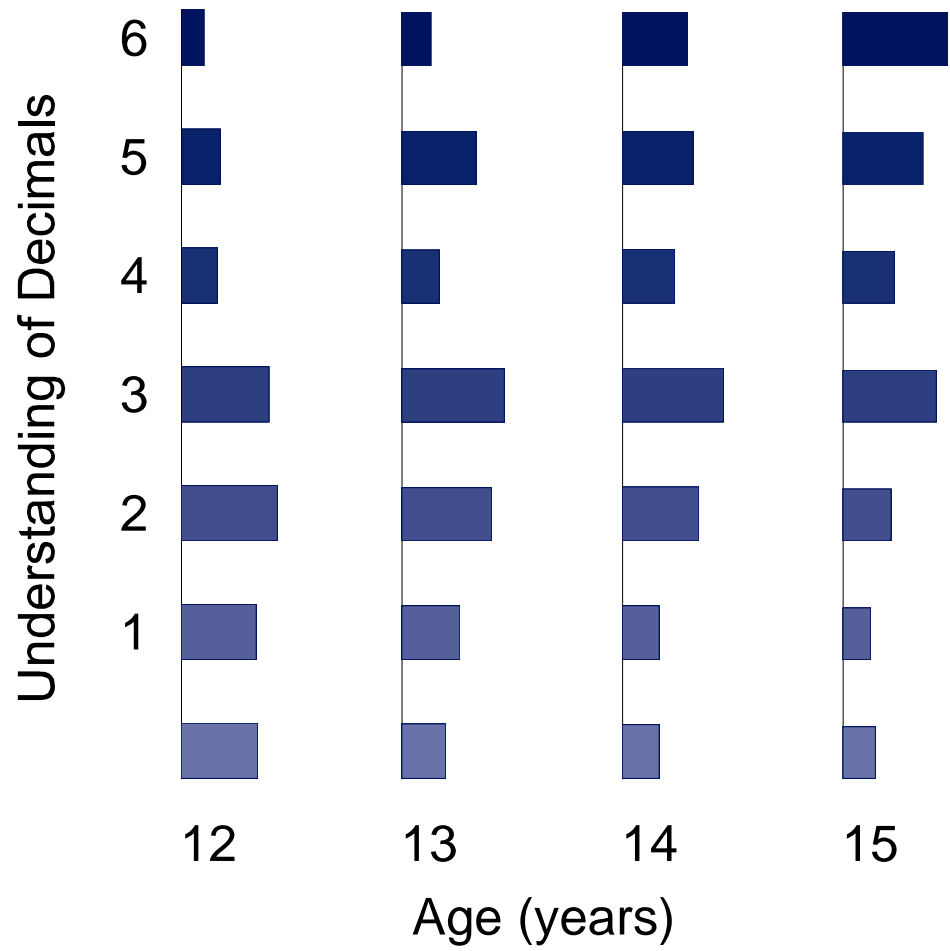


# Reading Achievement



Mathematics Achievement





“Attainment is only loosely related to age.”

Dylan Wiliam (2007)

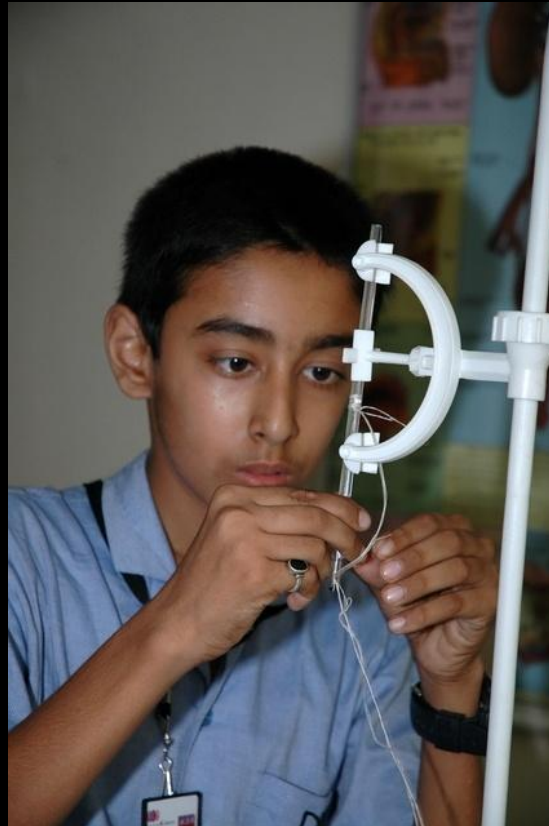
*Deep learning requires a  
framework of concepts.*

“Experts in a domain have a sensitivity to patterns of meaningful information.”

Bransford, Brown and Cocking (2000)



*Feedback and self-monitoring  
are essential to learning.*



If teachers are to use assessments to improve teaching and learning, then they first require a sound understanding of how students learn (processes of learning and conditions that support learning).

## some conclusions about learning

Learning is a continuous – ongoing and potentially lifelong – process.

## some conclusions about learning

Every learner is capable of further progress if motivated and if given access to appropriate learning opportunities.

## some conclusions about learning

Successful learning is more likely when learning opportunities are targeted on a student's readiness and learning needs (not too easy; not too difficult).

## some conclusions about learning

Although there are common paths of learning and development, learning is a personal process shaped by an individual's environment.

## some conclusions about learning

Because learning is a personal process, learners can be at very different points in their learning.

## some conclusions about learning

Learners try to make sense of incoming information by connecting it to what they already know.

This is an active, constructive process through which learners create their own understandings of the world.

## some conclusions about learning

Powerful forms of learning occur when learners grasp underlying principles, relationships and unifying ideas.

Deep learning enables transfer of learning to unseen problems and contexts.

## some conclusions about learning

Learning depends on a belief in one's own ability to learn and feedback to guide further learning.

some shortcomings of common  
approaches to assessment

- designed only to test how much of the taught content a student has learnt  
(not to establish starting points for teaching and learning)

- not designed to explore how students are thinking (misunderstandings, errors)

- address only factual and procedural knowledge (not deeper conceptual understandings)

- focus only on mastery of specific unit/course content  
(do not provide a basis for monitoring progress over extended time periods)

- are reported in ways that do not show progress and that may lower self-confidence in learning ability

What would assessments for improved teaching and learning look like?



1. They would explicitly recognise that learning is an ongoing process.  
(In other words, that progress in an area of learning usually occurs across the years of school.)



## **Independent Spelling**

In this phase writers have become aware of the many patterns and rules that are characteristic of the English spelling system. When spelling a new word they use a multi-strategy approach. They have the ability to recognise when a word doesn't look right and to think of alternative spellings. Spellers in this phase will have accumulated a large bank of known words that they can automatically recall. Independent spellers continue to use personal constructions when spelling unfamiliar words in draft writing. Independent spellers realise the importance of proof reading.

## **Transitional Spelling**

In this phase writers are moving away from a heavy reliance on the phonetic strategy towards the use of visual and meaning-based strategies. They may still have difficulty recognising if a word "looks right" but should be able to proof their known bank of words. Writing will show evidence of an increasing bank of words. This is a critical phase in the development of spelling. It often takes writers a long time to move through it.

## **Preliminary Spelling**

In this phase children become aware that print carries a message. They experiment with writing-like symbols as they try to represent written language. Their writing is not readable by others as understandings of sound-symbol relationships have yet to develop. Children are fascinated by print and are constantly trying to explore the relationships between written and spoken words and between letters and sounds through emulating adults in role play of reading and writing.

## **Semi-Phonetic Spelling**

In this phase children show developing understanding of sound-symbol relationships. Their spelling attempts show some evidence of sound-symbol correspondence. They may represent a whole word with one, two or three letters. In this, as in all phases of development, children will be copying, recalling and inventing words. Children at this phase are able to copy letter by letter.

## **Phonetic Spelling**

In this phase writers are able to provide an almost perfect match between letters and sounds. Letters are chosen on the basis of sound often without regard for conventional letter patterns. Spelling attempts are meaningful and becoming more like standard spelling. There is often evidence of self-constructed rules that may not conform to adult rules. Writers copy, recall and construct words according to their current understandings. They use rote recall for an increasing number of words

2. They would have as their fundamental purpose establishing where individual learners are up to in their learning.

“The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly.”

Ausubel (1968)

“In an ideal world, the teacher would have precise and current knowledge of each student’s starting points and also of what assistance each student requires to move to the next level.”

Fullan, *et al* (2006)

3. They would assist teachers to identify starting points for teaching.



4. They would sometimes require 'drill-down' assessments to diagnose individual difficulties or errors.

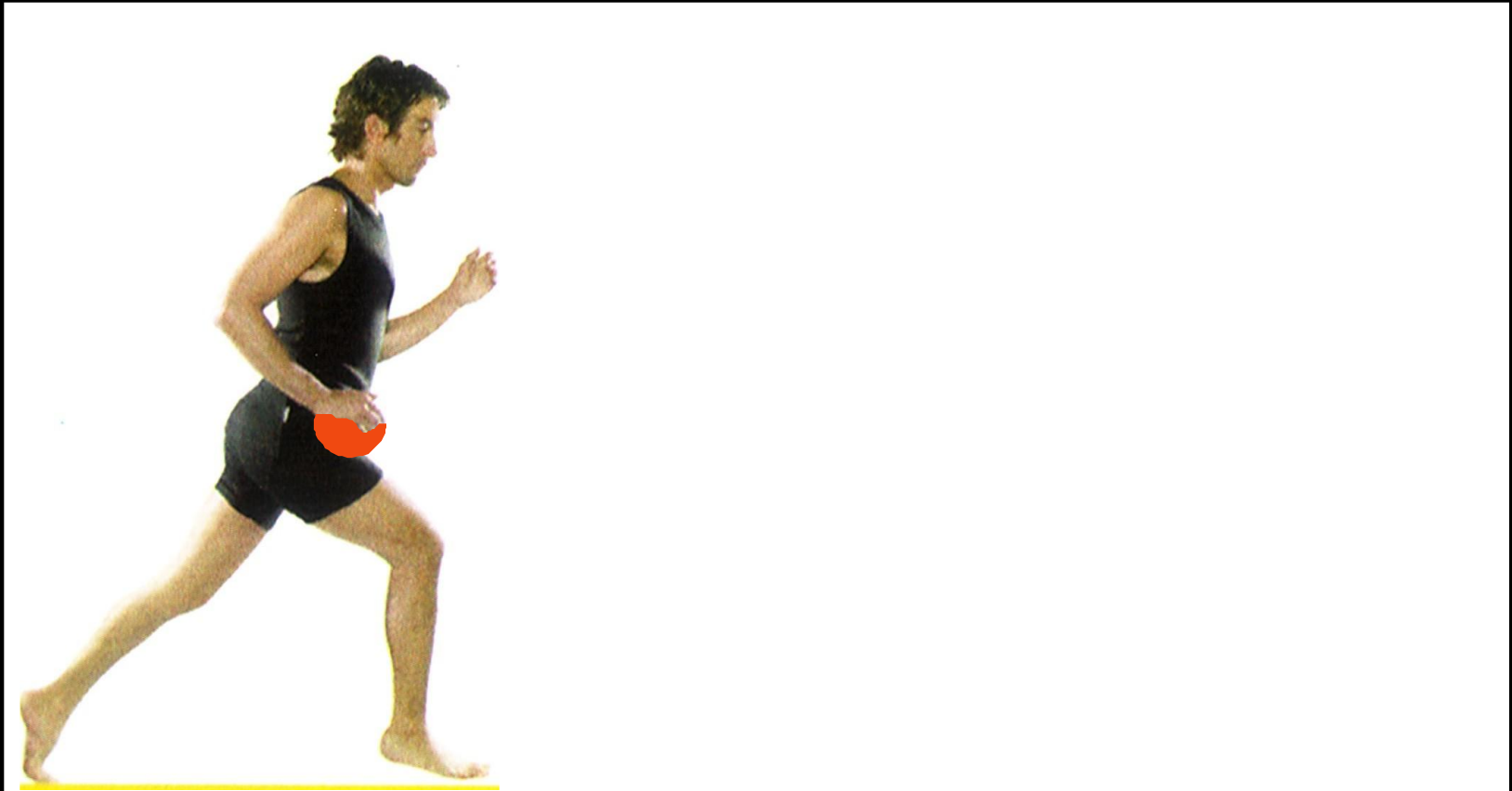


$$\frac{4}{16} - \frac{1}{8} = \frac{3}{8}$$

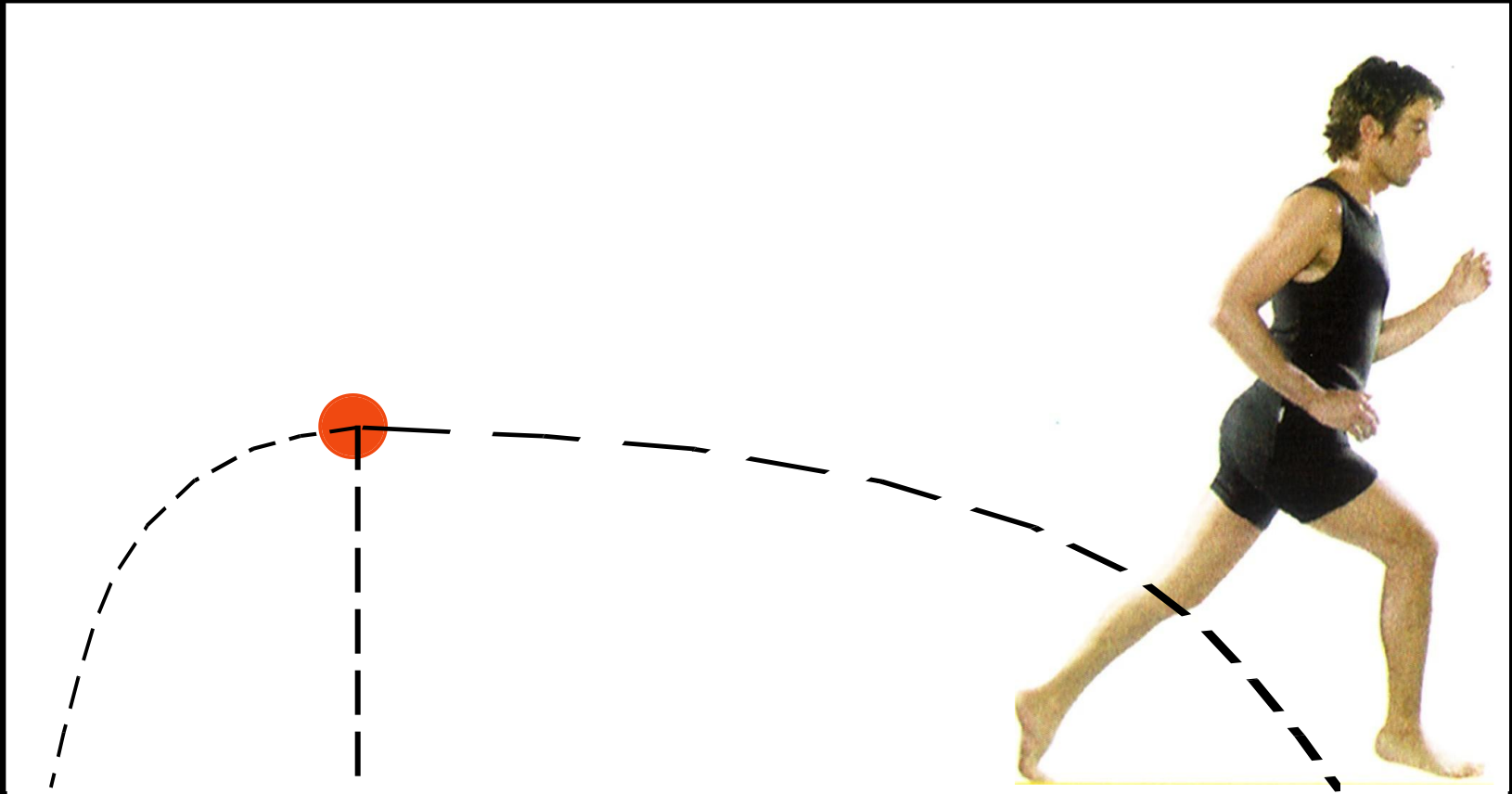
$$\frac{5}{9} - \frac{1}{2} = \frac{4}{7}$$

$$\frac{6}{11} - \frac{1}{5} =$$

5. They also may require innovative strategies for probing students' understandings of key concepts, underlying principles or big ideas.



**A man holding a heavy ball runs at a constant velocity past a camera on a tripod fixed on the ground. Snapshot A shows the man releasing the ball.**



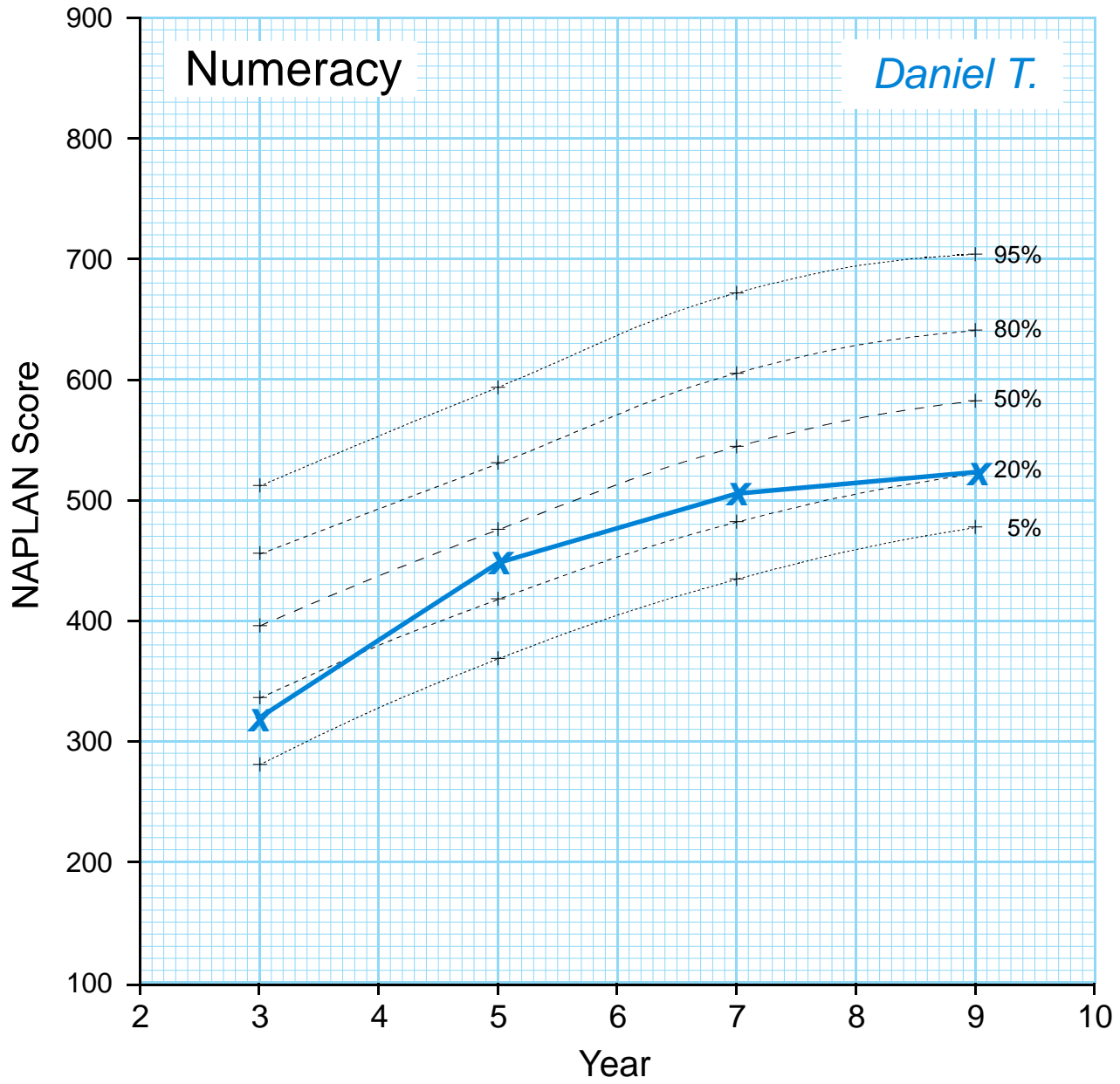
**Snapshot B. Sketch as accurately as you can the path of the falling ball as seen by the photographer standing on the ground.**

6. They would provide a way of monitoring individual progress over time.



# Numeracy

*Daniel T.*



7. By assisting students to see the progress they are making over time, they would build self-confidence.



8. By enabling students to see where they are up to on an explicit path of learning, they would assist students to identify actions they could take next to advance their learning.



in summary...

**Thank You**