

# Evidence and Judgement

## Purpose

By the end of the session you should have developed and clarified the following:

- The relationship between interpretation and judgement
- The impact that changing power relationships can have on reflection
- How a critical examination of collaborative pedagogies can impact reflective activities
- Why understanding the complex interrelationships between self-reflection and reflection produce different interpretations and how these can support deeper critical reflection
- Case studies of knowledge in Education: *Social Factors; Inclusive Education.*

# What evidence-based research said?

## **Flipped learning**

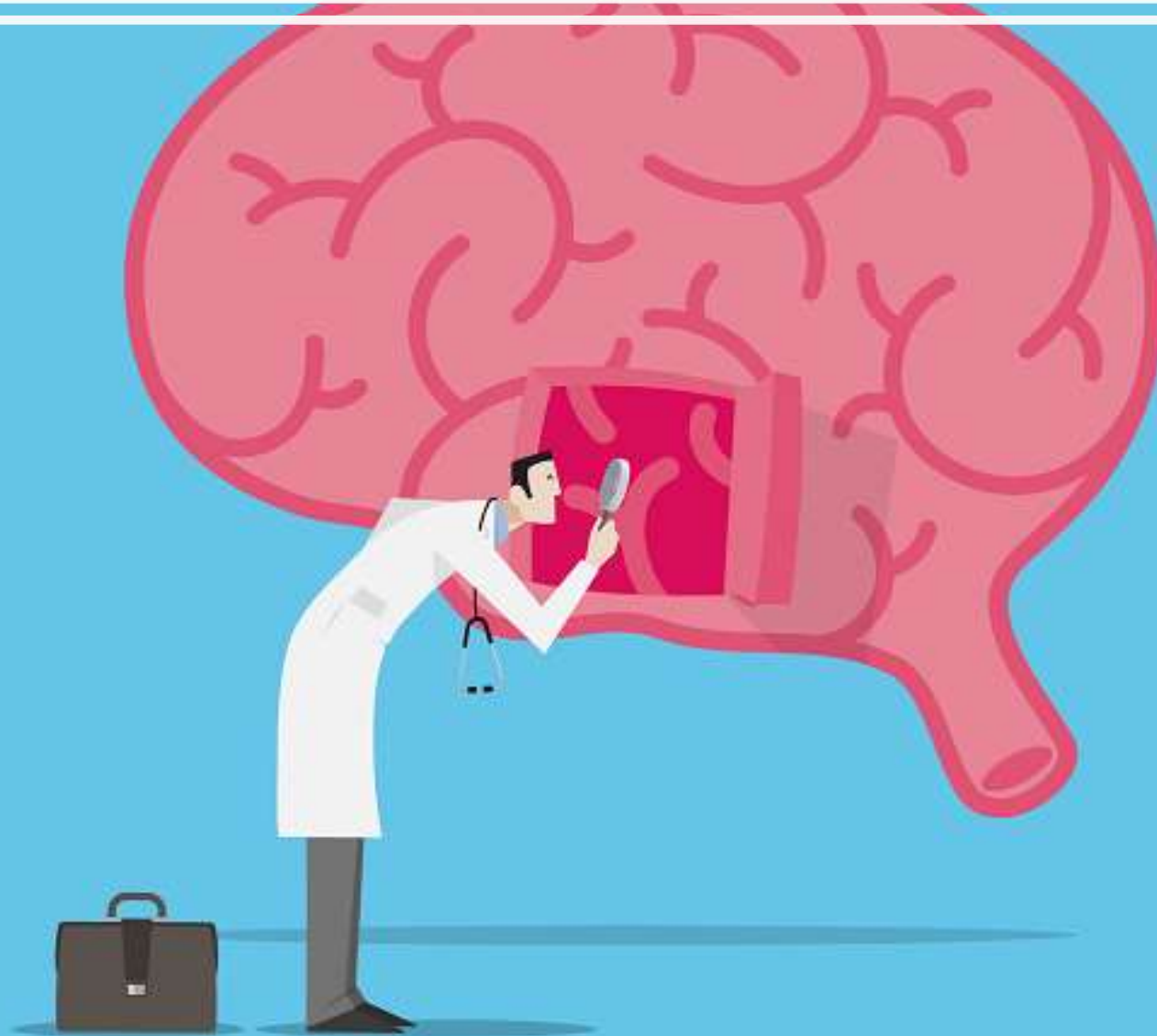
<https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/flipped-learning/>

## Success for all (SfA)

<https://files.eric.ed.gov/fulltext/ED581417.pdf>

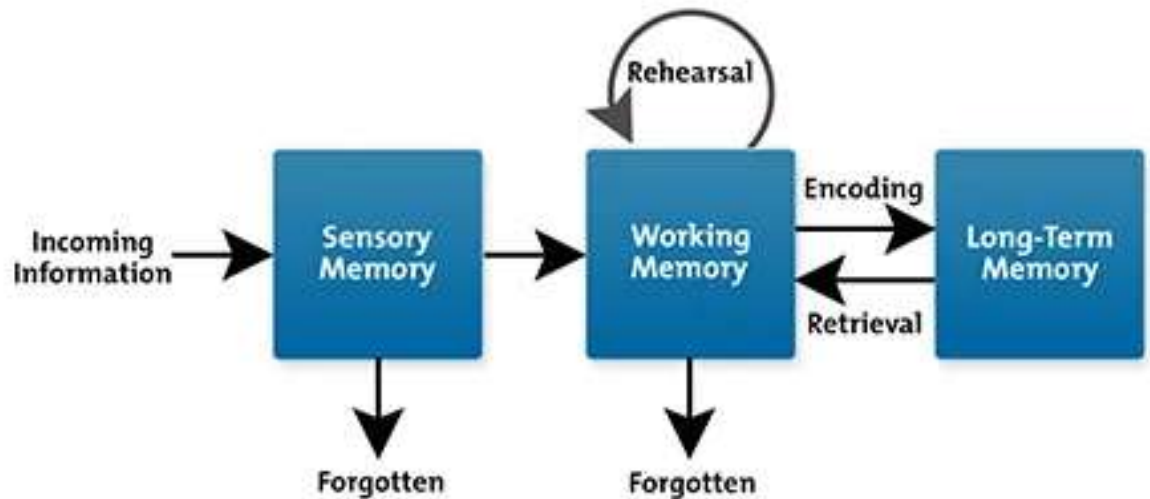
- Programmes
- Research
- Randomised Control Trials
- Evidence base in education...

# Understanding the Nature of Learning



# Cognition

## Load Theory



Adapted from Atkinson, R.C. and Shiffrin, R.M. (1968). 'Human memory: A Proposed System and its Control Processes'. In Spence, K.W. and Spence, J.T. The psychology of learning and motivation, (Volume 2). New York: Academic Press. pp. 89–195.

# Interleaving

- <https://www.sec-ed.co.uk/best-practice/revision-techniques-interleaving-and-spacing/>

“The two concepts are similar but essentially [spacing](#) is [revision](#) throughout the course, whereas [interleaving](#) is switching between ideas while you study. Although interleaving and spacing are different interventions, the two are linked because interleaving inherently introduces spacing.

Although cramming the night before a test can yield some positive results in the short-term, the material is more easily forgotten. Spacing (also known as distributed practice) boosts both retrieval and storage strength and is a far better revision strategy for terminal exams.

Many of us will be used to teaching one concept at a time – known as blocking. Most textbooks are also organised in this way. A chapter on one idea is usually followed by a series of questions on that idea. However, there is some research (mainly focusing on sports coaching or maths teaching) in support of interleaved teaching (Hall et al, 1994).

According to Rohrer (2012), interleaving can help you see the links, similarities and differences between ideas more easily. When students encounter a set of concepts (terms or principles) that are similar in some way, they might mistake one word for another word with a similar spelling (e.g. mitosis v meiosis). It is reported that these kinds of errors occur more frequently when all exposures to one of the concepts are grouped together. For example, when all the questions in an assignment or a lesson are devoted to one concept.”



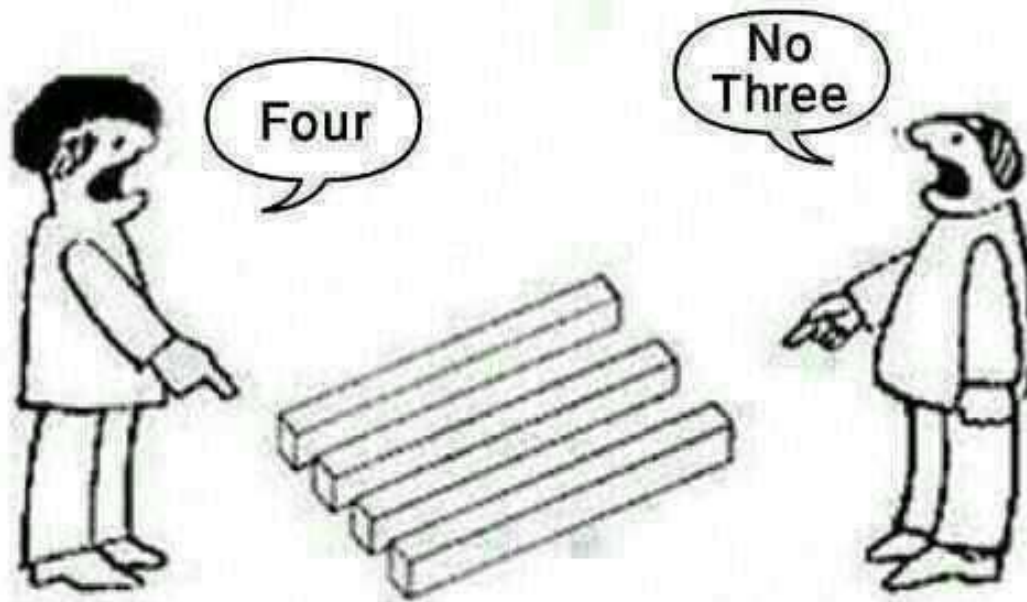
## **Meta- cognition**

- Practice testing: Self-testing or taking practice tests on material to be learned.
- Distributed or “spaced” practice: Implementing a schedule of practice that spreads out activities over time.
- Elaborative interrogation: Generating an explanation for why an explicitly stated fact or concept is true.
- Self-explanation: Explaining how new information is related to known information, or explaining steps taken during problem-solving.
- Interleaved practice: Implementing a schedule of practice that mixes different kinds of problems, or a schedule of study that mixes different kinds of material, within a single study session.

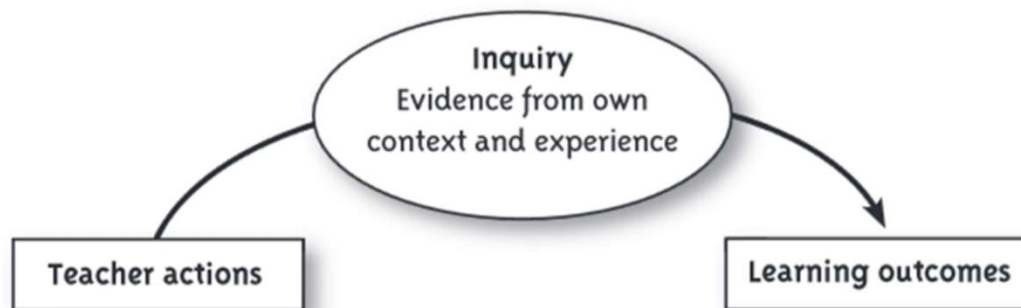
# Barak Rosenshine Principles of Instruction

- Begin a lesson with a short review of previous learning
- Present new material in small steps with student practice after each step
- Ask a large number of questions and check the responses of all students
- Provide models
- Guide student practice
- Check for student understanding
- Obtain a high success rate
- Provide scaffolds for difficult tasks
- Require and monitor independent practice
- Engage students in weekly and monthly review.

**It is really confusing!!!**







The *Teacher Professional Learning and Development BES* has the potential to help teachers complete the loop by showing them how to effectively access and use new pedagogical understandings in their daily practice:

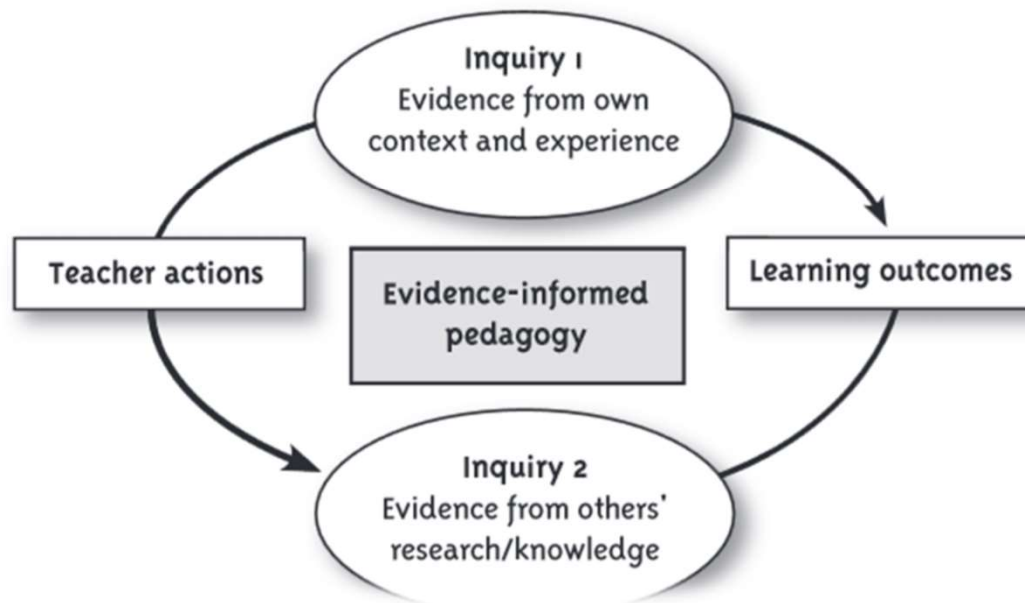
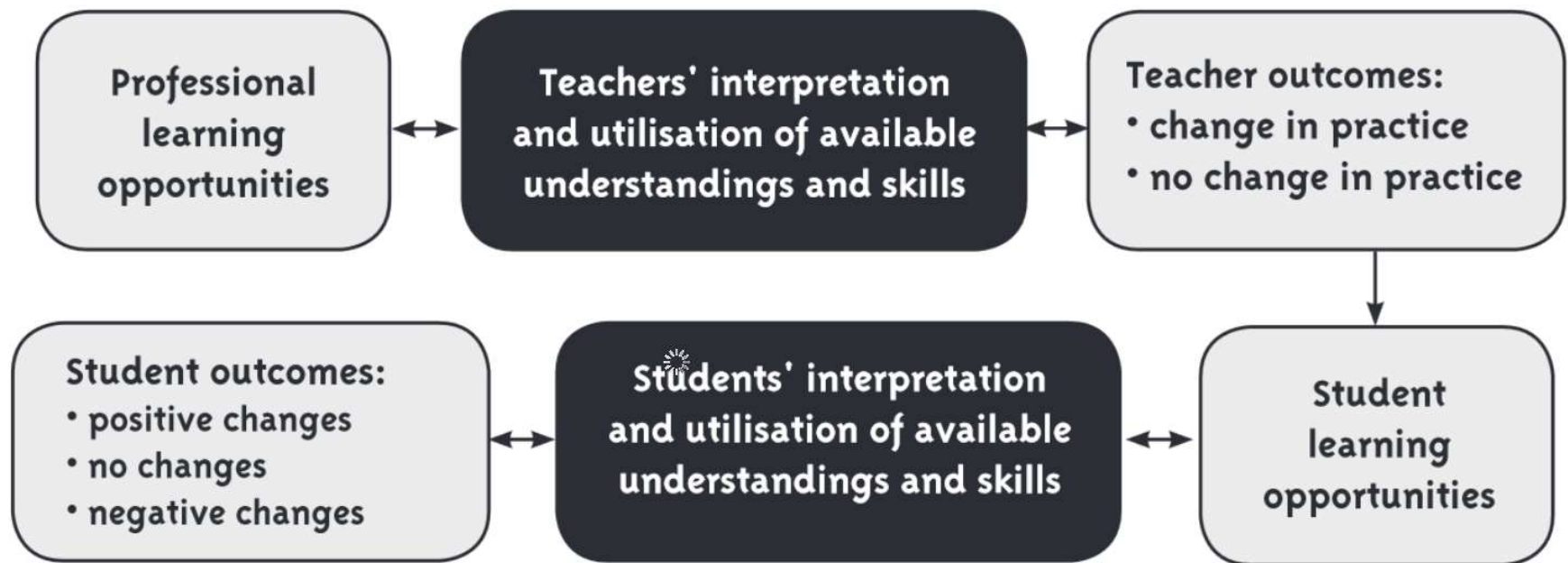


Figure 2.1. The black boxes of teacher and student learning





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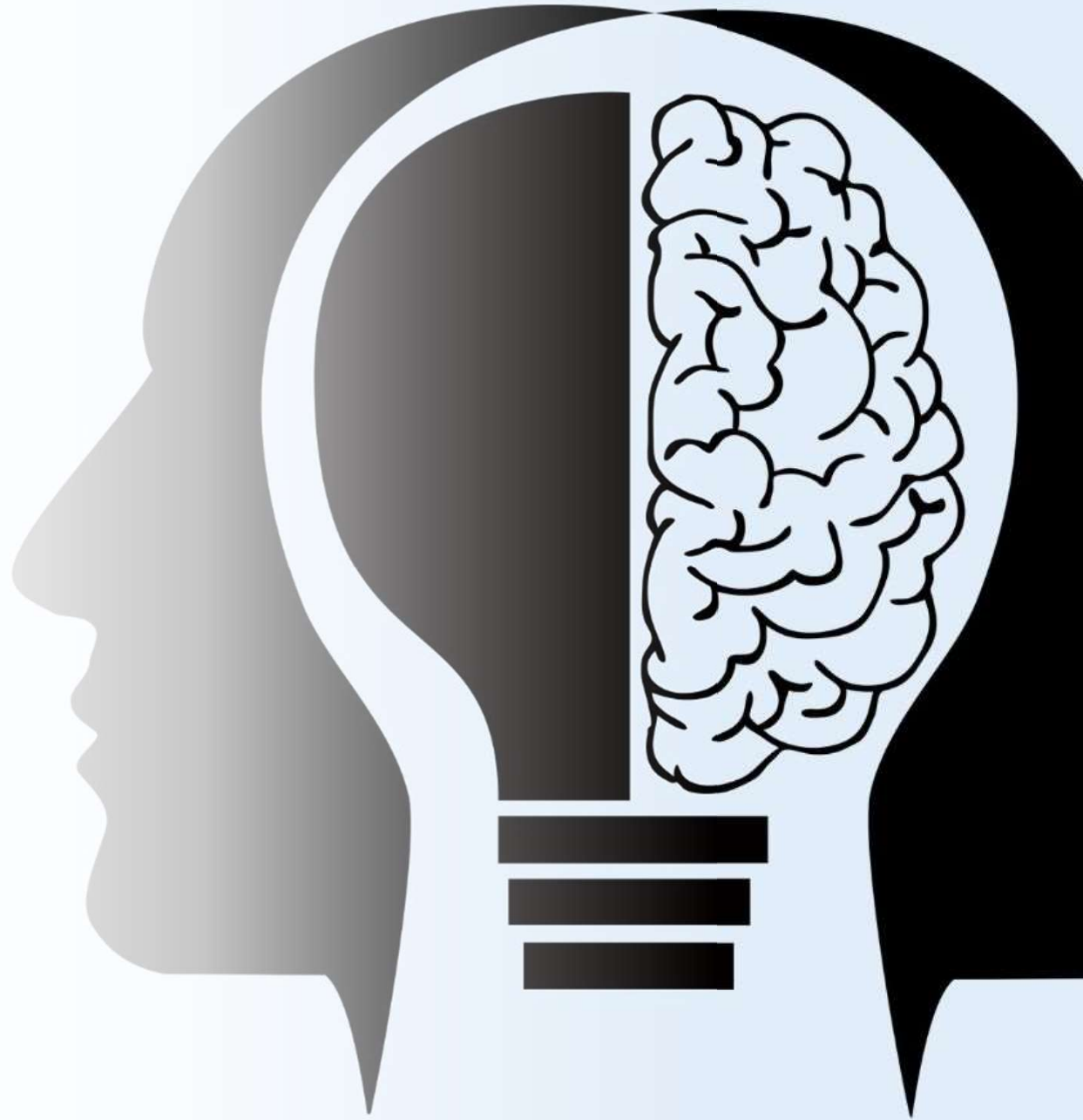
# Knowledge:

## A discussion

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There are many 'definitions' of knowledge. A dictionary definition is 'the facts, feelings or experiences known by a person or group of people' Collins English Dictionary.

Knowledge is derived from information, but it is richer and more meaningful than information. It includes familiarity, awareness and understanding gained through experience or study and results from making comparisons, identifying consequences and making connections. Some experts include wisdom and insight in their definitions of knowledge.



Information becomes knowledge when it is shaped, organised and embedded in some context that has a purpose, that leads one to understand something about the world

Stoll, Fink and Earl, 2003: 6

An individual educator's knowledge is made up of the understandings that inform his or her practice, helping the educator to solve problems and make decisions. As it is accumulated, this professional knowledge becomes part of his or her 'knowledge base' for practice.

Timperley et al 2008: 96

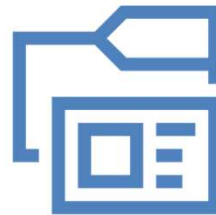
Knowledge is not static; it grows and evolves as those who create and use it sift through new information to identify what is useful.

Timperley et al 2008: 96

# Seminar group discussion: Knowledge and Evidence of Practice



What kinds of evidence  
are relevant to teachers  
in reflecting on their  
practice?



Is teacher's knowledge  
powerful and actionable?



What approaches to  
knowledge do teachers  
need to have?