

Evidence-informed techniques for better learning

Webinar handout

by André Hedlund

Let's bridge the gap between the classroom and what psychologists and cognitive linguists now know about the science of learning. What does their research say about what happens in the brain when we learn effectively? How can these insights impact the classroom?

Activity 1: What is the 'science of learning'?

Fill the gaps with these words: *cognitive – variability – science – multiple*

The Science of Learning draws from _____ disciplines such as neuroscience, psychology, cognitive _____, and even computer science to understand how people learn best. It promotes the idea of designing learning experiences that consider human _____ processes and individual _____.

Activity 2: Match

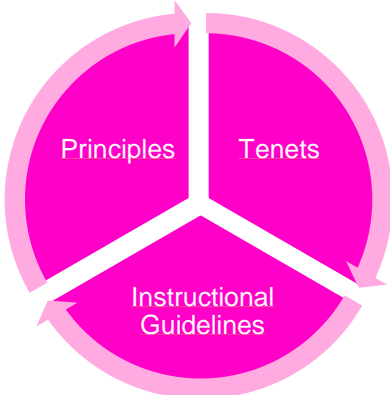
1. Pre-testing	a. The mental effort used when processing new information.
2. Retrieving	b. Taking a test <i>before</i> learning something to activate prior knowledge.
3. Spacing	c. Recalling information from memory to strengthen learning.
4. Cognitive load	d. Leaving time between study sessions to improve long-term retention.

Activity 3: Reflect – what do you understand by this?

"Human brains are as unique as human faces." – Dr. Tracey Tokuhama-Espinosa

Practical strategies and teaching/learning resources

- It can be useful to consider principles, tenets, and instruction guidelines.

	<p>Principles: universal features applied to all brains</p> <p>Tenets: principles that apply to all brains but vary greatly from person to person</p> <p>Instruction guidelines: concepts/ideas based on principles and tenets to structure our lessons</p> <p><i>From: Making Classrooms Better: 50 Practical Applications of Mind, Brain, and Education Science (Tokuhama-Espinosa, 2014)</i></p>
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- A useful framework to structure lessons from the University of Bristol is the **EBC** framework. <https://www.scienceoflearning-ebc.org/>

<u>Engage</u>	<u>Build</u>	<u>Consolidate</u>
Emotional and cognitive processes are important when the brain is engaged	New knowledge needs to respect working memory capacity to be learned effectively	Consolidation takes time and requires application and revisiting

1. To **engage** learners, start the lesson with a quiz. That's pretesting. You can do a grammar auction: <https://www.teachingenglish.org.uk/teaching-resources/teaching-secondary/activities/pre-intermediate-a2/grammar-auction>
2. To help learners **build** knowledge, avoid cognitive overload. Prioritise concrete examples. You can use realia: <https://www.teachingenglish.org.uk/teaching-resources/teaching-secondary/activities/pre-intermediate-a2/realia>
3. For learners to **consolidate** what they have learned, they need to review the content throughout a longer period. You can use this Déjà vu activity: <https://www.teachingenglish.org.uk/teaching-resources/teaching-secondary/activities/intermediate-b1/deja-vu>

Answers: Activity 1: multiple, science, cognitive, variability. Activity 2: 1 – b, 2 – c , 3 – d, 4 – a

A recording of André's webinar can be watched here: <https://www.teachingenglish.org.uk/news-and-events/webinars/webinars-teachers/understanding-your-learners-webinars>