

## **Teaching Strategies**

- Innovative teaching strategies are helpful to cement learning and improve knowledge retention.
- Most program directors enter their position with only superficial knowledge of how to teach. It is valuable to learn and implement novel strategies and also model these for co-faculty.

Here are some general concepts and resources to look into for those with further interest:

<b>Learning Concept</b>	<b>Definition</b>	<b>Example</b>
<i>Retrieval Practice</i>	Asking learners to recall/report/demonstrate material learned in a prior session	Instead of “recapping” key aspects of the previous lecture on antigen presentation, ask learners to describe two important learning points from the prior lecture
<i>Spaced Learning</i>	Shorter learning segments spaced over a longer interval. Spacing of information improves retention in contrast to cramming	Cover primary IEI and secondary immunodeficiencies (including the role of immunosuppressive medications), over the course of several weeks or months
<i>Interleaving</i>	Multiple different concepts are reviewed/learned intermixed instead of in a block.	Discuss B cell development, receptors and function during discussions of antibody development, VJ rearrangement and receptor signaling
<i>Elaboration</i>	Encouraging learners to explain and describe ideas in detail	Learners are asked to explain the differences between Type 1 and Type 2 responses
<i>Dual Coding</i>	Combining verbal information with visual elements for better understanding	Use diagrams and charts alongside explanations of T cell signaling to enhance comprehension.
<i>Concrete Examples</i>	Providing specific instances or cases to illustrate abstract concepts	In an immunology lecture, use applied examples such as specific diseases or vaccine development to illustrate principles.

<i>Metacognition</i>	Encouraging learners to reflect on and monitor their own thinking processes	Prompt learners to reflect on their thought processes, identifying strategies that help comprehension.
<i>Flipped Classroom</i>	Moving from lecture-based knowledge transfer to higher order discussions or interactive sessions during classroom time	Providing pre-reading on complement pathways followed by case-based problem solving of complement disorders in groups during learning sessions

\*White A, Saff R, Scherzer R, and Khoury P. Beyond the textbook: The challenges of learning (and teaching) basic immunology in allergy-immunology teaching programs. *Ann Allergy Asthma Immunol* 2024

- Other books to review:

**Powerful Teaching: Unleash the Science of Learning** - Pooja K. Agarwal and Patrice M. Bain

**Make it Stick: The Science of Successful Learning** - Peter C. Brown, Henry L Roediger III and Mark A. McDaniel

### **Suggestions:**

- Each year attempt to incorporate at least one new strategy and assess whether it adds value and the trainees find it useful