

## UTILIZATION OF MULTIPLE TEACHING STRATEGIES

### *Educational Design and Delivery Domain*

One of the most rewarding roles for a volunteer is that of a teacher or educator. As a volunteer, you can guide youth as they learn new information and shape the way they see and engage with the world around them. Luckily this awesome responsibility can be guided by the science of learning.

Over the past 20 years, there have been substantial findings in cognitive psychology and strategies for effective learning. The following proven and tested strategies promote deeper, long-term learning<sup>1,2</sup>.

Before digging into the specific strategies, it is important to note that learning is not always easy. Research consistently shows that struggling with difficult learning tasks can be a good thing, as the strategies that may seem easy do not promote long-term learning. Think about cramming before a test; you may be able to remember the information in the short term, but probably will not retain much to apply and use later. As a 4-H volunteer, you seek to achieve a balance between a high enough level of difficulty to engage and challenge youth without creating too much frustration that results in the youth giving up.

#### **Spacing – Spread out learning over time**

Youth learn and retain more if they study or work with something multiple times over a course of time rather than one longer in-depth session. Think of this in terms of project learning. The repetition over the course of the project involvement helps

youth to build understanding they are then able to apply to real-life situations.

#### **Interleaving – Switch between topics**

By switching between different types of information and problems, youth practice critical thinking and are better equipped to solve real-life problems. This could be as simple as alternating between reading through a written example and then practicing what they learned. This creates more long-term understanding than if information is blocked where information of the same type is more concentrated.

#### **Retrieval Practice – Bring information to mind from memory**

Give youth the opportunity to practice retrieval to strengthen memory. A quiz bowl practice or skill-a-thon would be a good retrieval practice strategy in 4-H. The act of bringing up information from memory strengthens the learning and makes it easier to apply to new contexts or situations in the future.

#### **Elaboration – Ask and explore how and why things work**

The “reflect” and “apply” components of the experiential learning process are examples of elaboration. Ask youth to dig deeper into the content. This helps them connect newly learned information and relate it to their lives. Provide the space for youth to explore what they are learning. Comparing and contrasting different ideas is key to long-term learning.

### **Concrete Examples – Use specific tangible examples**

Providing supporting examples can dramatically increase learning of key ideas and concepts, especially for abstract ideas. People like to learn through stories. Providing multiple, tangible examples to illustrate a concept will help a learner not only learn the idea, but it will also help them determine how to apply the information. Providing more than one concrete example helps the learner remember the concept, not just the example. For example, you may give an illustration about scarcity and seats on a bus. You want them to remember scarcity, not the bus, so relating the concept to the limited supply of water as another example helps deepen the learning.

### **References:**

- <sup>1</sup>Weinstein, Y., Madan, C. R., & Sumeracki, M. A. (2018). Teaching the science of learning. *Cognitive Research: Principles and Implications*, 3, 2.  
<https://cognitiveresearchjournal.springeropen.com/articles/10.1186/s41235-017-0087-y>
- <sup>2</sup>Weinstein, Y, Sumeracki, M & Caviglioli, O (2019) *Understanding how we learn: A visual guide*. Routledge, Abingdon, Oxon, UK.

*The original resource 4-H Educational Design and Delivery: Utilization of Multiple Teaching Strategies (VRKC: Volunteer Research, Knowledge, & Competency Taxonomy) was developed by Rene Mehlberg.*

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### **Dual Coding – Combine words with visuals**

Youth learn best when information is presented in several formats where they can read or hear information and then connect it with a picture or diagram. The visual picture is often easier to remember and can help connect to the rest of the written and verbal content.

With all learning strategies, it is important to understand there is no magic bullet that will work in all situations or solve all problems. These strategies are flexible and designed to help teach using the science of how people learn. Take these ideas and concepts and make them your own.