Research Friday: When is Difficulty Desirable? Evaluating Evidence

Objective: This week, you will explore the idea that difficulty can improve learning, but only under the right conditions. You will find and evaluate two pieces of scientific evidence:

1. A peer-reviewed journal article that supports the use of desirable difficulties in learning.
2. A second source (another research article, a meta-analysis, a critique, or a real-world example) that either challenges or complicates this perspective.

Research Question of the Week: Under what conditions does difficulty improve learning, and when might it backfire? How should educators or trainers balance cognitive challenge with effectiveness?

Step 1: Identify a Learning Context
Choose one context where desirable difficulties may be useful—but also might pose risks if not applied correctly. Some examples include:

- Sports Training
- Medical Education
- Language Learning
- Music Instruction
- Art or Creative Skills
- Military Training

Step 2: Conduct Your Research
Using the library's databases, locate a peer-reviewed empirical study that provides evidence for the benefits of a desirable difficulty (e.g., retrieval practice, interleaving, spacing, effortful learning).
Write down the following details:

Authors	
Year of publication	
Title of article	
Journal title	
Volume	
Issue	

Your second source should offer **a counterpoint** or **a more nuanced view** of desirable difficulties. This could be:

- A **research article** showing cases where difficulty hinders learning.
- A **meta-analysis** weighing both benefits and drawbacks.
- A **real-world case study** (e.g., an article on student resistance, cognitive overload, or practical challenges of implementing difficult learning strategies).

Write down the following details:

Authors	
Year of publication	
Title of article	
Journal title	
Volume	
Issue	

Step 3: Summarize and Compare
Using information from *Make It Stick*, explain how the concepts of spaced or interleaved practice are reflected in your selected source.

	Source 1	**Source 2**
What was the main prediction or argument? (1-2 sentences)		
What methods did the authors use? (1-2 sentences)		
What were the main findings? (1-2 sentences)		

Compare the two perspectives:

In what ways do these two sources agree?	
Where do they contradict each other?	
What do they suggest about the limits of desirable difficulties?	

Step 4: Apply and Evaluate
Based on your research, answer the following questions.

Under what conditions do desirable difficulties improve learning?	
When might they backfire or be ineffective?	
If you were designing a training program or a classroom lesson, how would you balance making learning difficult enough to be beneficial but not	

too difficult to be discouraging?	