

# Solution Tree | Press

## **Stick the Learning: Brain-Based Teaching**

### **Techniques to Increase Retention, Application, and Transfer**

*By Eric Saunders*

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#### **Study Guide**

This study guide is a companion to the book *Stick the Learning: Brain-Based Teaching Techniques to Increase Retention, Application, and Transfer* by Eric Saunders. *Stick the Learning* provides a framework for understanding the evidence-based instruction techniques of spaced repetition, interleaving, and retrieval.

This guide is arranged by chapter, enabling readers to either work their way through the entire book or focus on the specific topics addressed in a particular chapter. It can be used by individuals, small groups, or an entire team to identify key points, raise questions for consideration, assess conditions in a particular school or district, and suggest steps that might be taken to promote a healthy school culture.

We thank you for your interest in this book, and we hope this guide is a useful tool in your efforts to create a healthy culture in your school or district.

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## **Chapter 1**

### **An Overview of the SIR Techniques**

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1. What are the SIR techniques? Describe each in your own words.
2. How can desirable difficulties improve student performance?
3. Consider the *Tetris* study as performed by Richard J. Haier and colleagues (1992). How can the principles of automaticity apply to students' classroom learning?
4. Consider your experiences in the classroom. Have you ever utilized the SIR techniques in your classroom? If so, describe an instance where they were particularly effective. If not, contemplate one way you believe the SIR techniques could assist your students' success.

## **Chapter 2**

### **Spaced Repetition**

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1. What is spaced repetition? Describe the differences between the two-day method and four-day method.
2. Consider figure 2.3's graph illustrating the Bowing Effect. What does the Bowing Effect indicate about lesson duration and effectiveness?
3. The author writes on page 29 that “students need a brain break” during instructional periods. Outline the five suggestions for brain breaks offered on pages 30 and 31 and recount a type of brain break you have found effective in your classroom.
4. Figure 2.11 (page 34) demonstrates incorporating spaced repetition over multiple units. Why would Week 3's assessment include learning target B?

## **Chapter 3**

### **Interleaving**

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1. Describe the difference between blocking and interleaving. How does interleaving promote both short-term and long-term learning?
2. Consider figures 3.5 and 3.6 on pages 55 and 56. How can the interleaved assessment example improve student long-term memory?
3. In what ways does interleaving affect both traditional and flipped classrooms? What role can homework play in acclimating students to interleaving?
4. Contemplate your experiences in the classroom. Have you incorporated interleaving into your teaching model? If so, describe one success you have witnessed from it. If not, briefly outline how you can apply interleaving in your lessons.

## **Chapter 4**

### **Retrieval**

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1. What are formative and summative assessments? Describe each in your own words.
2. Consider figure 4.1 on page 65. How can incorporating retrieval by assessment improve students' ability to remember content long-term?
3. Have you used bell ringers or exit slips in your classroom? What is one way each can impact classroom learning?
4. List the four key ideas for using in-class questioning and describe a way to implement each.

## **Chapter 5**

### **The SIR Quick Start Guide**

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1. Reread the refresher on key ideas of the SIR techniques on pages 79 and 80. Once you have done so, close your book and write down as many as you can from memory.
2. Outline each of the steps for maximizing daily retrieval questions. What is the difference between “Who remembers what we did yesterday?” and “What did we do yesterday?”, and how does the distinction affect student learning?
3. Define CIAs and their role within a classroom. How do frequent CIAs incorporate all three SIR techniques?
4. Consider the author’s example of Florida International University College of Law’s success in implementing the SIR techniques. What are some lessons you could apply from the case study to your school or district?