Effective Instruction and the Science of Learning

Drawing on the findings of cognitive science, **Goodwin, Gibson, Lewis, and Rouleau (2018)** outline three distinct mental operations that must take place for deep learning to occur:

Attention

Making the initial connection

Concentration

Working with and actively processing learning

Consolidation

Practicing, elaborating, and making learning personally meaningful

The **Five Episodes of Effective Instruction** makes it easy for teachers to design and deliver instruction based on the science of learning. It also synthesizes a wide body of research on instructional design, derived from the most highly regarded instructional frameworks (**Hunter, 1984; Wiggins & McTighe, 2005; Marzano, 2007; Dean, Hubbell, Pitler, & Stone, 2012**).

The Five Episodes of Effective Instruction

Each episode is based on what cognitive science teaches us about the learning process.

Preparing Students for New Learning

Learning begins with attention.

Therefore, during this episode, teachers capture students' attention and direct that attention to upcoming learning by establishing learning targets.

Each episode is driven by a clear instructional purpose.

Each episode clarifies how teachers help students advance their learning.

Deepening and Reinforcing Learning

Learners need opportunities to consolidate learning.

Therefore, during this episode, teachers engage students in strategic practice to help them solidify their understanding of content and master key skills.

Presenting New Learning

Learning requires concentration.

Therefore, during this episode, teachers do more than present content; they help students make meaning of the content and assemble information into big ideas and important details.

Reflecting on and Celebrating Learning

The entire process is enhanced through active reflection.

Therefore, during this episode, teachers help students look back on, learn from, and celebrate their learning—and their learning process.

NEW ONLINE & ON-DEMAND LEARNING SUITE
The Five Episodes of Effective Instruction

featuring Dr. Harvey Silver

Better Design = Deeper Learning Use the tools and strategies in this suite to meet key goals, address common design challenges, and create powerful lessons and units.

LEARN MORE > thoughtfulclassroom.com/ the-five-episodes-of-effective-instruction/

Applying and Demonstrating Learning

Learners further consolidate and extend learning by applying it.

Therefore, during this episode, teachers challenge students to demonstrate, synthesize, and transfer their learning.



TOOLS to Put Research into Practice

Each episode is rooted in research on learning and principles of instructional design. More important, we help teachers answer the question, "How do I turn the research into practice?" by providing a set of classroom-ready instructional **TOOLS** that make it easy to put the research to work.

RESEARCH BASE

Preparing Students For New Learning



TOOLS THAT HELP

Creating conditions that engage curiosity

Goodwin, 2018; Loewenstein, 1994

Activating prior knowledge

National Research Council, 2000; Spires & Donley, 1998

Establishing clear learning targets/Posing essential questions

Chappuis & Stiggins, 2016; Hattie, 2012; McTighe & Wiggins, 2013

Pre-assessment/Goal setting

Richland, Kornell, & Kao 2009; Midwest Comprehensive Center, 2018

★ Hooks and Bridges/Curiosity Catalysts

★ K-W-L Jump-Start/What Comes to Mind?

★ Power Previewing

★ Vocabulary Knowledge Rating (VKR)

★ Student-Friendly Learning Targets

★ Post-Discuss-Reference

★ Essential Questions

★ Goal Cards/In My GRASP

RESEARCH BASE

Presenting **New Learning**



TOOLS THAT HELP

Active meaning making

McTighe & Silver, 2020; Willingham, 2021

Building conceptual understanding/How experts organize knowledge

Ational Research Council, 2000; Erickson, Lanning, & French, 2017

Dual coding/Linguistic and nonlinguistic representation

Clark & Paivio, 1991: Dean, et al., 2012

★ Reading for Meaning

★ S-O-S Graphic Organizers

★ Concept Attainment/Procedural PRO

★ Jigsaw/Think-Pair-Share

★ Inductive Learning/Mystery

★ Window Notes/Interactive Note Making

★ Don't Just Say It, Display It

RESEARCH BASE

Deepening and **Reinforcing Learning**



TOOLS THAT HELP

Interleaving/Distributing practice over time

Dunlosky, et al., 2013; Rohrer, 2012

Elaborative rehearsal

Khalil & Elkhider, 2016; Goodwin, et al., 2018

Formative assessment/Effective feedback/Growth mindset

Wiliam, 2018; Dweck, 2016; Hattie & Clarke, 2019

- * Repetition, Variation, Depth of Thought (RVD)
- ★ Graduated Difficulty
- ★ Questioning in Style/Comprehension Menus
- ★ Forced Choice/Because
- **★** 4-2-1 Summarize
- ★ Personal Best
- ★ Fine-Tune Your Feedback/Glow & Grow

RESEARCH BASE

Applying Learning



TOOLS THAT HELP

Learning and transfer

National Research Council, 2000, 2012

Authentic assessment/Real-world thinking skills

Wiggins & McTighe, 2005; Silver, Boutz, & McTighe, 2022

Writing for college and career readiness/The writing process

Conley, 2007; Graves, 2003

- - ★ GRASPS/Guiding & Grading Rubrics
 - **★** From Challenges to Controversies **☆** Task Rotation/Assessment Menus

 - ★ The Write Way to Motivate
 - ★ Arguments: A TREAT to Write
 - ★ PEERS/Writer's Club
 - ★ Knee-to-Knee Conference

RESEARCH BASE

Reflecting on and **Celebrating Learning**



TOOLS THAT HELP

Reflection

Helyer, 2015; Larsen, London, & Emke, 2016

Celebrating learning

Berger, Rugen, & Woodfin, 2014; Farr, 2003

🛄 Costa & Kallick, 2008; Cambridge International (UCLES), 2019

★ What? So What? Now What?

★ Reflection Stems

★ A Job Well Done

* Portfolios to Be Proud Of

★ Test Feedback

★ Effort Tracker

For the full references of all cited works, visit: www.ThoughtfulClassroom.com/5-episodes-research