



Silver Strong & Associates

Thoughtful Education Press

DEEPER LEARNING ACADEMY

Kickoff Session

Presented by
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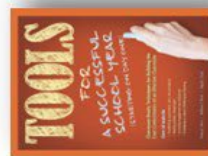
IT STARTS WITH A RALLYING CRY: DEEPER LEARNING IN EVERY CLASSROOM

**GOAL: Build Strong Foundations
to Support DL**

FRAMEWORK:
The Four
Cornerstones



TOOLS & RESOURCES:



**GOAL: Empower Students to Make
Meaning to Ensure DL**

FRAMEWORK:
Seven Deeper
Learning Skills

1. Conceptualizing
2. Note Making and Summarizing
3. Comparing
4. Reading for Understanding
5. Predicting and Hypothesizing
6. Visualizing and Graphic Representation
7. Perspective Taking and Empathizing

TOOLS & RESOURCES:

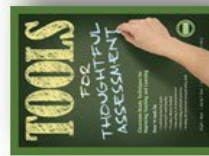
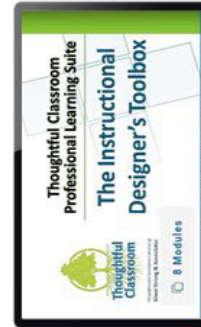


**GOAL: Design Lessons and
Units that Promote DL**

FRAMEWORK:
The Five Episodes



TOOLS & RESOURCES:



Introduction

Mitosis versus *meiosis*, logarithms, the Battle of Hastings: can you recall a time in high school or college when you “learned” something and were able to pass a test on it, only to quickly forget it? Perhaps the information was not important to you, or maybe you only learned it by rote. Cognitive psychologists have characterized such learning as *inert* knowledge—learning that was superficially acquired, never really understood, and promptly forgotten (National Research Council, 2000). Now contrast those examples with something that you *really* understand—learning that has endured. What is the difference in how you came to learn and understand it? What can you now do because of that understanding?

These differences are familiar to us, and they underscore one of the chief goals of this book: to promote deep and lasting learning that enhances the retention of information, leads to conceptual understanding, and equips students to be able to transfer their learning to new situations.

But what does it mean to learn something deeply? We propose that deep learning results in enduring understanding of important ideas and processes. However, we also contend that understanding must be “earned” by the learner. In other words, understanding is not something that teachers can transmit simply by telling. Although we can directly teach facts and procedures, understanding of conceptually larger ideas and abstract processes must be constructed in the mind of the learner. Students earn understanding through the active mental manipulation of content via higher-order

thinking skills. We refer to this active construction of meaning by students as *meaning making*.

When deep learning and understanding are the goals, the teacher's role expands from that of primarily a dispenser of information or modeler of a skill (the sage on the stage) to a facilitator of meaning making (a guide on the side). More specifically, teachers facilitate understanding of classroom content by helping students process that content using thinking skills that engage them in active meaning making.

In this book, we highlight the following seven thinking skills:

1. Conceptualizing
2. Note making and summarizing
3. Comparing
4. Reading for understanding
5. Predicting and hypothesizing
6. Visualizing and graphic representation
7. Perspective taking and empathizing

Use of these seven skills helps students achieve deep and lasting learning by facilitating acquisition of information for greater retention and retrieval, fostering active meaning making that leads to deeper understanding of “big ideas,” and building the ability to apply, or transfer, learning to new situations both within school and beyond.

Source: *Teaching for Deeper Learning*. Copyright © 2020 ASCD. J. McTighe and H. F. Silver.

Reading for Meaning-*Teaching for Deeper Learning*-Introduction

Agree	Deeper learning means mastering facts and skills.	Disagree
Support		Refute

Agree	Content that isn't understood isn't valuable.	Disagree
Support		Refute

Agree	Teacher and student roles must change dramatically if we want to achieve deep learning.	Disagree
Support		Refute

Designing Memorable Lessons

Read the article “Making Lessons Memorable: Designing from Two Perspectives.” What can we learn from this article about the science of learning and how to make lessons memorable?

Episode	Single-Sentence Summary	How does this impact student memory?
Episode 1: Preparing Students for New Learning		
Episode 2: Presenting Students with New Learning		
Episode 3: Deepening and Reinforcing Learning		
Episode 4: Applying Learning		
Episode 5: Reflecting on and Celebrating Learning		

Window Notes

FACTS

What did you learn?

FEELINGS & REACTIONS

How did you feel about what
you saw, heard, or read?

QUESTIONS

What do you want to know or wonder about?

CONNECTIONS

Can you make any connections to people,
places, or things you know about?
Or to experiences you've had?

Math Notes

THE FACTS

What are the facts?

What is missing?

Is there any irrelevant information?

THE STEPS

What steps can you take to solve it?

THE QUESTIONS

What is the problem asking?

Are there any hidden questions?

THE REPRESENTATIONS

Can you create a sketch, graph, or table to help you understand it?

Making Lessons Memorable: Designing from Two Perspectives

Harvey F. Silver & Susan Kreisman

What do we want students to learn? What do we want them to remember—tomorrow? Next month? Next year? Clearly we cannot separate learning from memory. They go hand in hand. Ensuring that what we teach is memorable is a vital component of instruction. The question, of course, is *how*.

To answer the question of how, we need to look at learning from two distinct, but deeply interrelated, perspectives: the learner's perspective and the lesson designer's perspective.

The learner's perspective

While there is no single universal “learner,” cognitive science can help us extrapolate some important generalizations about how all humans build understanding and retain new learning. Drawing on brain research, Goodwin, Gibson, Lewis, and Rouleau (2018) outline a model of the “perilous journey that information must take before finding a home in long-term memory” (p. 71). In its simplest form, this journey entails three phases: (1) attention, or making the initial connection to new learning; (2) focus, or working with and actively processing the new learning; and (3) consolidation, during which learners practice using the new learning, elaborate on it, and make it personally meaningful. Thus, a key to making lessons memorable is designing them with the goals of capturing attention, promoting active processing, and facilitating practice and reflection so that learning sticks.

The lesson designer's perspective

Madeline Hunter. Grant Wiggins and Jay McTighe. Robert Marzano. All of these giants in education have spent years researching and improving this thing called instructional design. In working with thousands of educators over the years to help them apply the frameworks laid out by these experts, we became driven by a question: What do all instructional-design frameworks have in common? The result of this inquiry is *The Five Episodes of Effective Instruction* (Silver Strong & Associates, 2012), a framework that synthesizes the preeminent instructional-design models into a simple, universal design. This design recognizes that good instruction is episodic in nature—that learning unfolds over time and that there are distinct episodes during which teachers pursue five distinct purposes. Over the course of any effective learning sequence, teachers (1) prepare students for new learning; (2) present and help students acquire new learning; (3) deepen and reinforce learning; (4) challenge students to apply or demonstrate learning; and (5) encourage students to reflect on and celebrate learning.

So let's bring these two critical perspectives together with a walk-through of *The Five Episodes of Effective Instruction*, complete with an explanation of how each episode supports the learning

process (attention, focus, consolidation) and a classroom example showing how a teacher uses this framework to help students retain and make use of new learning.

EPISODE 1: Preparing Students for New Learning

Learning begins with *attention*. Therefore, during this episode, teachers capture students' attention and help students activate prior knowledge. Teachers also direct students' attention to the learning to come by establishing clear learning targets.

Instead of announcing, "Today, we will learn about the water cycle" Mr. Chow begins with a thought-provoking hook that will help drive the entire lesson. He takes a sip of water from a glass and asks students to agree/disagree with these statements:

- *This water is the same water dinosaurs drank millions of years ago.*
- *Leonardo da Vinci sipped this water while painting the Mona Lisa.*
- *Serena Williams guzzled this water to get through her last tennis match.*

He asks, "Not quite sure? Skeptical? By the end of this lesson you will be able to explain whether these statements are true with clear evidence to support your explanation."

EPISODE 2: Presenting/Acquiring New Learning

Learning requires focus. Therefore, during this episode teachers do more than present content; they help students actively process the content and assemble information into big ideas and important details.

Mr. Chow presents students with a blank graphic organizer that outlines the water cycle. He has students review the organizer to determine what it tells them about the water cycle (What are the big ideas? What predictions can you make?). He then presents the content, one chunk at a time, while students make notes. After each chunk, he engages students in a processing activity. Activities include reducing notes to a single-sentence summary, diagramming what was presented, and comparing notes with a partner.

EPISODE 3: 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 key content and increase their mastery of new skills.

In small groups, students use their organizers to retell the steps in the water cycle. Group members give one another feedback on how to make their retellings more complete and more accurate.

EPISODE 4: 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.

Mr. Chow offers students a choice of tasks. Students can (1) Agree or disagree with the opening hook (“This is the same water the dinosaurs, etc. drank.”) and support their position with evidence; (2) Make a diagram explaining the water cycle; or (3) Create a narrative titled, “My Life as A Drop of Water.” No matter which task they choose, students must demonstrate their understanding of the entire water cycle.

EPISODE 5: Reflecting on and Celebrating Learning

This 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.

Mr. Chow’s students think about what they have learned and complete one of the following reflection stems: I was amazed by . . . , I would like to learn more about . . . , I see a connection between . . . , I am confused about...

Mr. Chow concludes the lesson with homework that anticipates tomorrow’s lesson (water conservation) by asking students to make a list of five things they believe they can do to conserve water.

Mastering the Dance

George Balanchine said of ballet, “There are no new steps, only new combinations.”

Over the years, we have found that the best way to help teachers increase their expertise in instructional design is to use The Five Episodes, guided by an understanding of what it takes to really learn something. No new steps, but endless opportunities for combinations that make learning memorable.

Works Cited

Goodwin, B., Gibson, T., Lewis, D., & Rouleau, K. (2018). *Unstuck: How curiosity, peer coaching, and teaming can change your school*. Alexandria, VA: ASCD.

Silver Strong & Associates. *The thoughtful classroom teacher effectiveness framework: Resource guide*. Franklin Lakes, NJ: Author.

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

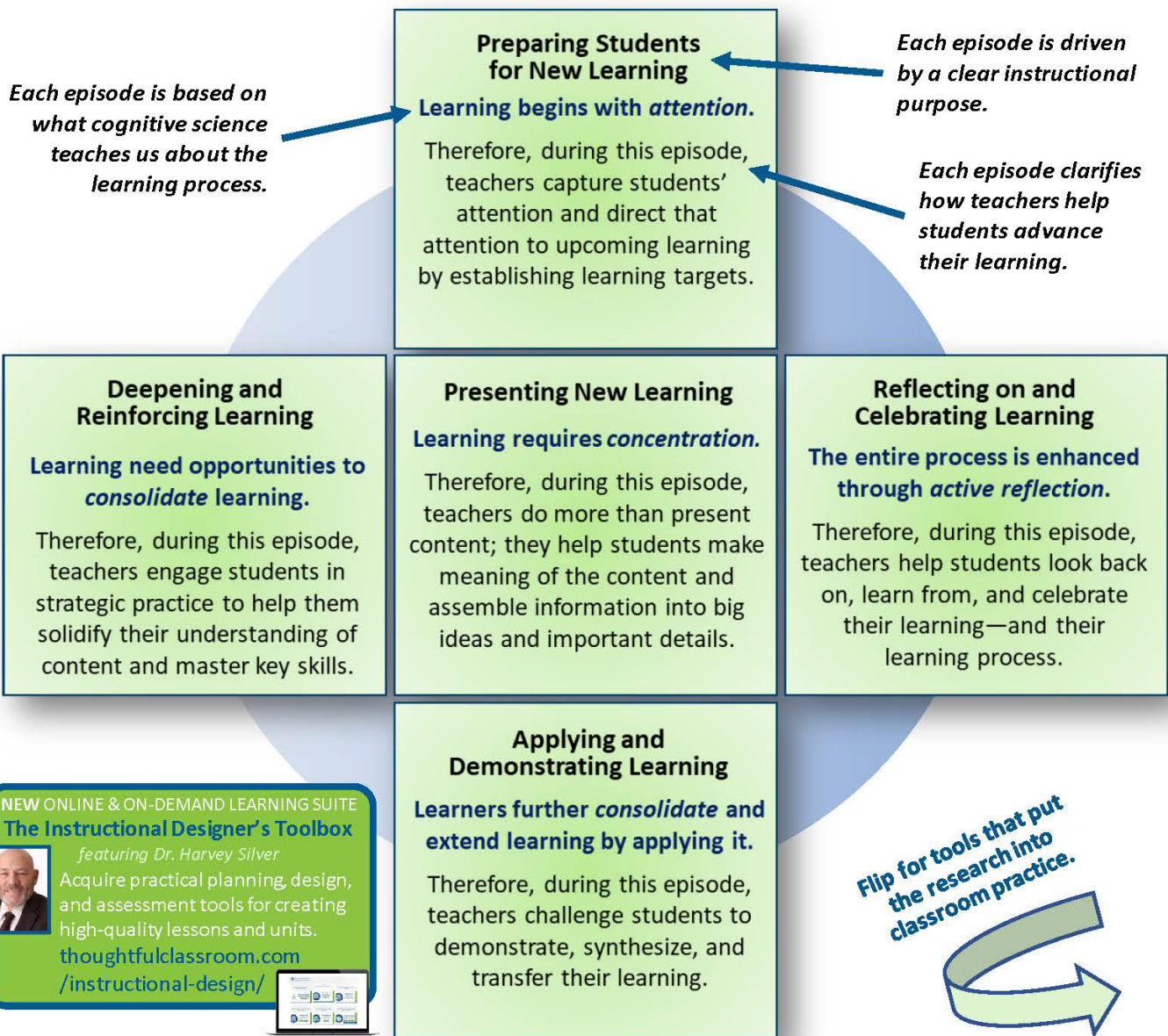
Working with and actively processing learning

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



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 help teachers 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; Spire & 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

National 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

William, 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

Metacognition

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, go to www.ThoughtfulClassroom.com/5-episodes-research.

Learning Window

Topic	Rainforest	
STANDARDS that I intend to address		
<ul style="list-style-type: none">Ecosystems: Ecosystems: Interactions, Energy and DynamicsSeek questions, think analytically, and apply knowledge of scientific concepts to conduct scientific inquiries.Work effectively and learn from others in a variety of situations.		
A Study In	Rainforest: A Study in Balance and Harmony	
What will students need to KNOW ? (terms, * facts, formulas, events, procedures, etc.)	What HABITS OF MIND will I try to foster?	
Students will know... <ul style="list-style-type: none">Names of animals and plants that live in the rainforest.Climate conditions in the rain forest.Structure of the rainforest.Where rainforests are located.	<ul style="list-style-type: none">Posing problems and designing solutionsListening and responding with empathy	
What will students need to UNDERSTAND ? (big ideas, concepts, principles, “hows & whys”)	What will students need to BE ABLE TO DO ? (thinking and learning skills like summarizing, researching, and data analysis, as well as products and performances that students will need to create)	
Students will understand that... <ul style="list-style-type: none">The rain forest is an interdependent balanced ecosystem.A change in one part of a system effects the other parts of a system.The health of the rain forest impacts the health of other ecosystems around the world.	Students will be able to: (stated as student friendly targets) <ul style="list-style-type: none">cite relevant evidence to support a claimconduct an inquirymake a comparisondevelop a plan of actionmake a presentation	
What TERMS will students need to know?		
Balance	Interdependence	Rainforest
Ecosystem	Prey	Predator
Food Chain	Canopy	Adaptation
Harmony		