Instructional Shifts to Support Deep Learning

Jay McTighe and Harvey Silver

For learning that sticks, classrooms need less rapid-fire content coverage and more meaning making.

"Understanding must be earned."—Grant Wiggins

Do you want to promote deep and lasting learning? Of course you do. All educators want their students to learn deeply and well. And yet evidence shows that such learning is rare in many schools. To help close the gap between aspiration and common practice, let's explore four key questions about deeper learning and how it really happens in classrooms.

1. What is deep learning?

If you consulted various experts to help answer this question, you would likely be confused. For example, one school of thought ties the concept of deep learning to *content knowledge*. Advocates for a content orientation point out that the ability to assimilate new knowledge is significantly influenced by one's prior knowledge and that the key to deep understanding lies in helping students build a broad knowledge base (Wexler, 2019; Hirsch, 2016). Another group of educators put the emphasis on the development of *process skills*, especially "21st century skills" such as critical thinking, creativity, and communication, which cut across disciplines (Fullan, Quinn, & McEachen, 2018; Vander Ark & Schneider, 2014). Advocates for this position call for schools to increase their focus on cultivating these skills, especially through the use of authentic, project-based learning.

We agree with both these important schools of thought—students need content knowledge *and* process skills for rich learning experiences. Nonetheless, our conception of deep learning is a little different. It aligns more directly with the definition proposed by the National Academy of Sciences (2018): Deep learning is a "process through which an individual becomes capable of taking what was learned in one situation and applying it to a new situation." More specifically, we contend that deep learning occurs when students come to *understand* and make sense of important ideas and processes—and are able to *transfer* those understandings to new content and contexts.

For educators, the most important thing to recognize is that this kind of understanding isn't something that teachers can transmit by telling. Indeed, the phrases "coming to understand" and "making sense of" suggest that deep learning occurs over time and requires active meaning making by the learner. As the opening quote reminds us—understanding must be *earned* by the learner!

2. Are today's students learning deeply? If not, why not?

Virtually all educators want their classrooms to be places where powerful learning takes place. Yet when researchers go looking for evidence of deep learning in schools, the mismatch between the desire for such learning and the reality is striking. In one recent example, researchers from Harvard University completed a six-year, in-depth study of "successful" high schools throughout the United States. In their resulting book, *In Search of Deep Learning*, Jal Mehta and Lisa Fine reported that even in schools that have made a commitment to deeper learning, the dominant mode of instruction involves teachers "telling" students the content, with students "bored and disengaged" rather than actively processing what they're learning (Mehta & Fine, 2019).

Mehta and Fine's observations align with other studies of instruction through the decades, which describe classrooms characterized by excessive teacher talk and low-level learning activities, in which students listen passively, copy notes, and complete worksheets (e.g., Goodlad, 1984; Hattie, 2012). Too often, it's the teachers who are doing the mental work, not the students.

To be sure, some of the reasons behind this stubborn trend stem from factors that are external to the classroom, notably the extreme volume of content that teachers are expected to cover by virtue of mandated grade-level standards (and the high-stakes standardized tests that often go with them). Additionally, teachers are often being asked to address other educational aims, such as 21st century skills and social-emotional learning competencies. We are not arguing that these aims are not important. We are simply acknowledging the fact that trying to cover too much material can result in superficial and disconnected learning—the opposite of deep learning.

While acknowledging these external factors, however, it's also important to recognize that there are factors that teachers and schools *do* control—namely, how we frame the curriculum and how we teach it.

3. How can we teach for deep learning?

If the goal of deep learning is to be attained, we must find ways to tackle the twin problems of "too much content" and "too much telling." The question then becomes *how?* We believe that educators can effectively address these problems by making two focused shifts.

Shift 1: Rather than trying to cover more content, focus on "uncovering" the big ideas within the content

When it comes to addressing the issue of content overload, we agree with curriculum experts who recommend that educators should move away from trying to cover excessive factual material, and instead orient their curriculum around a smaller number of conceptually larger, transferable ideas. Focusing on fewer, bigger ideas is critical to avoiding superficial "coverage," and it allows more time to engage students in the kinds of active, meaning-making processes that are necessary for understanding the relevant content.

In addition, by streamlining the content, teachers can expand the use of performance tasks and projects that allow students to apply their learning in authentic and meaningful ways—and authentic application leads to deeper learning and enhanced transfer abilities.

An emphasis on conceptually larger ideas also reflects our understanding of how knowledge is best structured for retention and use. Research shows that experts in a subject area tend to organize their knowledge around core concepts or "big ideas" and that "transfer—the capacity to apply learning in a new context—most likely occurs when the learner knows and understands the underlying general principles that can be applied to problems in different contexts" (National Academy of Sciences, 2018, p. 14).

To be clear, when we talk about framing instruction around big ideas, we're not suggesting that educators avoid teaching important facts and basic skills. The aim is simply to identify the core ideas that will serve as a conceptual lens for connecting discrete facts and skills and helping students make sense of them. In other words, let's use big ideas to focus and frame classroom instruction so that the facts and details support those big ideas.

To help make this shift more concrete and more practical for teachers, let's take a look at two tools that we discuss in *Teaching for Deeper Learning* (McTighe & Silver, 2020): "*Essential Questions*" and "*A Study In* …". Both of these tools make it easy to frame instruction around the big ideas that animate content.

Essential Questions

One way to keep instruction focused on big ideas rather than isolated facts is to frame lessons and units around "essential questions." Essential questions are open-ended, thought-provoking questions that engage students in exploring and uncovering "big ideas" (McTighe & Wiggins, 2013). Rather than yielding a single or final "correct" answer, these questions are designed to engage students in making meaning by stimulating thinking, sparking discussion and debate, and raising additional questions for further inquiry.

Below are a few examples of essential questions in different disciplines. Consider what the impact would be if you were to organize your curriculum around questions like these. If students revisited these questions and refined their responses to them in light of new learning, how would that help them make meaning of core concepts? How would it help them earn deep understanding?

Geography – *How does where we live influence how we live?*

Government – *How should we balance the rights of individuals with the common good?*

History – *Whose "story" is this?*

Literature – *To what extent can fiction reveal "truth"?*

Mathematics – *When is the "correct" answer not the best solution?*

Science – *How are science and common sense related?*

Writing – *How do effective writers hook and hold their readers?*

Visual and Performing Arts – *How does art reflect, as well as shape, culture?*

A Study In …

Another simple way to keep a big-idea focus is to use a tool called "A Study In …", which involves naming and framing instructional units as studies *within* larger concepts and themes (Silver & Perini, 2010). Naming and framing units in this way keeps these critical concepts front and center in teachers' and students' minds. This allows them to serve as "conceptual Velcro" that helps individual facts cohere into "more meaningful patterns and enable[s] bridging to other situations (transfer)" (Wiggins & McTighe, 2004, p. 69).

Below are some examples of units across grade levels and content areas that were conceived as studies in larger concepts or universal themes:

The Four Seasons: A Study in *Change*

Our Community: A Study in *Cooperation*

Equations: A Study in *Balance*

The Water Cycle: A Study in *Renewal*

Hamlet: A Study in *Indecision*

Nutrition: A Study in *Personal Responsibility*

World War I: A Study in *Unintended Consequences*

Shift 2: Focus less on telling by teachers and more on active meaning making by learners

If deep learning is the goal, shifting toward big ideas and concepts is only part of the equation; we must also think about how we can help students process new content. Specifically, we must focus less on delivering the content didactically to students and focus more on helping students make meaning of that content for themselves. The idea is to move from being a "sage on the stage" to a "guide on the side"—someone who helps students "earn" understanding of critical content by having them process that content using higher-order thinking skills.

While there are various ways that teachers can engage students in actively processing curriculum content for deep learning, we've identified seven thinking skills that are especially germane to this purpose:

1. Conceptualizing (or, developing an understanding of abstract concepts).
2. Note-making and summarizing.

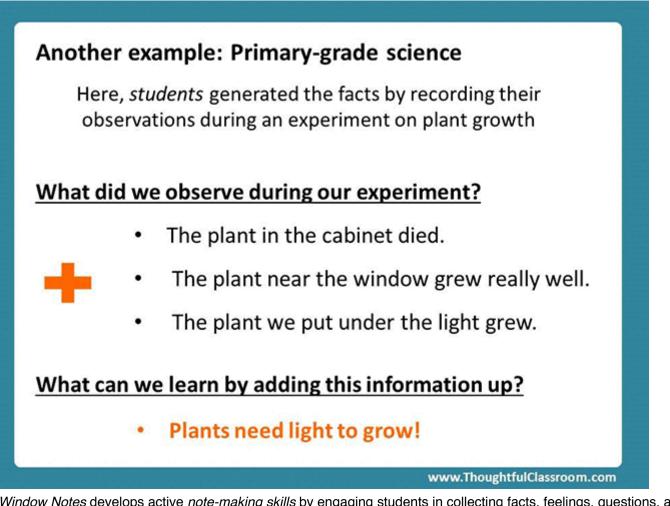3. Comparing.

4. Reading for understanding (or, going beyond the literal meaning).

5. Predicting and hypothesizing.

6. Visualizing and graphic representation.

7. Perspective taking and empathizing (McTighe & Silver, 2020).

Why focus on getting students to use these skills to process new material? First, you'll promote a deeper, more enduring understanding of whatever content you're teaching by engaging students in thinking deeply, actively, and independently about that content. Second, you'll also help students develop a repertoire of inherently valuable and transferable thinking skills that they can use to make sense of future content.

The problem, as we've learned from our work in schools, is that simply identifying these skills isn't sufficient. To reap the promised benefits, teachers must know *how* to integrate the skills into their everyday instruction and develop students' capacity to use them independently. In *Teaching for Deeper Learning*, we identify more than 30 strategies for building and using these seven skills in the classroom. Here are a few examples:

Adding Up the Facts teaches students to *conceptualize* by having them "add up" a set of facts to derive a larger understanding or generalization (McTighe, 1996). Figure 1 shows how 1st graders worked with their teacher to add up the facts about plant growth.

Figure 1. Adding Up the Facts – Primary Science

Window Notes develops active *note-making skills* by engaging students in collecting facts, feelings, questions, and connections rather than having them take notes verbatim (Silver, Abla, Boutz, & Perini, 2018). Figure 2 shows a high school student's Window Notes for Maya Angelou's poem, "Caged Bird."

Figure 2. Window Notes – High School English

FACTS	FEELINGS & REACTIONS
· The poem goes back and forth between a free bird and a caged bird. · The free bird leaps and floats and flies and "claims the sky." · The caged bird's wings are clipped, and its feet are tired. · The poem is written in free verse.	The poem makes me feel sorry for the caged bird. It can't fly and longs to be free. I really like the way it repeats the verse about the caged bird singing of freedom. The song can't be stopped.
QUESTIONS	CONNECTIONS
Is the caged bird actually triumphant at the end?	The poem reminds me of a technique they sometimes use in movies where they keep cutting back and forth between two different characters.

Source: From Silver, H. F., Abla, H., Boutz, A. L., & Perini, M. J. (2018). *Tools for classroom instruction that works: Ready-to-use techniques for increasing student achievement*, p. 160. Franklin Lakes, NJ: Silver Strong & Associates/Thoughtful Education Press, and McREL International. Copyright © 2018 Silver Strong & Associates. Used with permission.

Reading for Meaning promotes *reading for understanding* by having students search assigned passages for evidence to support or refute specific statements (Silver, Morris, & Klein, 2010). Figure 3 shows the statements a teacher generated (middle column) and the textual evidence a student collected while reading the Gettysburg Address.

Reading for Meaning – High School History/Social Studies

Figure 3.

Evidence That Supports	Statements	Evidence That Refutes
"We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live."	The primary goal of the speech was to honor the soldiers who had fought and died.	"It is for us the living, rather, to be dedicated here to the unfinished work . . . to the great task remaining before us."
"Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure."	Lincoln believed the United States was at a crossroads.	
	Lincoln believed that the outcome of the war had implications only for the U.S.	"The world will little note, nor long remember what we say here, but it can never forget what they did here. . . . shall not perish from the earth."
• "Four score and seven years ago" —past • "Now we are engaged"—present • "Shall not perish from the earth" —future	Lincoln takes the reader on a journey through time.	
"The brave men . . . who struggled here, have consecrated it, far above our poor power to add or detract. The world will . . . never forget what they did here."	Lincoln would agree that actions speak louder than words.	

Source: From McTighe, J., & Silver, H. F. (2020). *Teaching for deeper learning: Tools to engage students in meaning making*, p. 66. Alexandria, VA: ASCD.]

Our two-shift approach to teaching for deeper learning resonates with educators because the moves are practical to implement across grade levels and content areas—and because they don't require a complete curriculum overhaul to be effective. Indeed, we encourage teachers to start simply, by reworking existing lessons or units in accordance with the shifts.

The keys are to identify conceptual ideas, not just isolated factual information or skills, as the lesson focus and to ensure that students are actively engaged in making meaning. Making these two shifts yields a dual benefit for learners: (1) they develop a deeper understanding of transferable concepts, and (2) students build a repertoire of thinking skills that they can apply throughout school and in their lives beyond the school walls. Frankly, they also make lessons more engaging.

Why Focus on Deep Learning, Anyway?

The educational goal of deeper learning takes on a greater importance today than ever before. A fundamental characteristic of the modern world is the fact that our collective knowledge base continues to increase rapidly, with estimated doubling times that are expressed in months rather than decades. Indeed, knowledge is expanding faster than we're able to absorb it, and there is simply not enough time in school to teach it all or to master even a small percentage of it. Moreover, the fact that ordinary people can now access much of the world's information on a smartphone means that success in school or life no longer requires memorization of all pertinent information.

Instead, today's educators should focus on identifying knowledge and concepts that are worth understanding deeply— and design instruction in a way that promotes that kind of deep understanding. The goal should be to help students develop a strong conceptual knowledge base that they can draw and build on in the future.

A related trend has to do with the rapidity—and related unpredictability—of changes in today's world. From technological advances (like automation and artificial intelligence) to political and economic transformations, shifts in global migration patterns, climate change, and pandemics that can bring the world to a halt, it is fair to say that we are no longer educating learners for a stable and predictable world.

The future will belong to those who are adaptable and able to apply (transfer) their learning to new situations. The future requires deep learning.

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Jay McTighe, a widely known authority on curriculum and instruction, has coauthored 16 books, including the award-winning and best-selling *Understanding by Design Series* with Grant Wiggins. **Harvey Silver** is president of Silver

Strong & Associates and Thoughtful Education Press. He is the author of several books on instructional tools and strategies, including *The Core Six* and *The Strategic Teacher*, both from ASCD.