ASCD EXPRESS

Respond & Reimagine: Leadership for Change
June 10, 2021 | Volume **16** | Issue **19**

Assessing Deeper Learning After a Year of Change

Jay McTighe and Chris Gareis

The profound disruptions to traditional schooling this past year leave educators with a unique opportunity to redefine school when we resume in the fall. Though it may be tempting to try to teach faster to "catch up" on missed content, we contend that the best course of action is to slow down and go into greater depth to ensure that students learn the most important ideas and skills deeply and are able to apply them in meaningful ways.

Others have written about the instructional approaches needed to achieve deep learning (McTighe & Silver, 2020; Fullan, Quinn, & McEachen, 2019; Mehta & Fine, 2019). But it is especially important to consider assessment when thinking about deeper learning.

Deeper Learning, Unpacked

The National Research Council (2012) defines deeper learning as a "process through which an individual becomes capable of taking what was learned in one situation and applying it to a new situation" (p. 5). We propose that a modern education should prepare students to be able to apply their learning to new situations—in other words, to transfer. Grant Wiggins (2012), co-author of *Understanding by Design*, highlights that transfer exists when a student makes use of their learning in a time, place, and circumstance different from that in which the learning first occurred.
But how, exactly, will we know that students have learned deeply?

This question reflects an *if-then* logic: *If* we believe that preparing students to transfer their learning is a fundamental aim of a modern education, *then* we need to collect the necessary evidence to determine the extent to which students can demonstrate deeper learning through transfer.
An unfortunate consequence of the standards-based testing movement is that many schools teach and test grade-level standards in isolation using multiple choice or institute formalized "test prep" assessments that mimic the format of standardized accountability tests. While such assessment

methods may provide measures of students' acquisition of knowledge and basic skills, they don't tell us much about deep understanding and transfer.

We contend that transfer of learning is shown best through performance assessments that require students to perform with their learning. Well-designed performance tasks can assess multiple standards and cut across subject areas, prompting complex thinking and a tangible product or performance that allows students to apply their learning. An athlete playing in a game needs to know the rules of the sport, apply the skills, and also display strategic understanding. Though a player could demonstrate knowledge of the rules on a paper and pencil test or through practice drills, the actual game requires the player to "put everything together" on the field. Similarly, effective performance assessments require knowledge, skills, and strategy, applied in context.

Consider the three examples of performance assessment tasks in Figure 1. What must a student do to successfully complete each task? How do these assessments differ from selected-response tests?

Figure 1. ***Three Sample Performance Tasks***

Evaluate a Claim

The Pooper Scooper Kitty Litter Company claims that their litter is 40 percent more absorbent than other brands. You are a consumer-advocates researcher who has been asked to evaluate their claim. Develop a plan for conducting the investigation. Explain how the design of your investigation will enable you to evaluate the claim.

Make Your Case

You have an idea that you believe will make your school better, and you want to convince school leaders that they should act on your idea. Identify your audience (e.g., principal, PTSA board, the student government association) and do the following:

1. Describe your idea.
2. Explain why and how it will improve the school.
3. Develop a plan for acting on your idea.

Your idea and plan can be communicated to your target audience in a letter, an e-mail, or a presentation. Be sure to choose the means of communication that is most appropriate for your audience and purpose.

What's the Pattern?

Part 1 – Interpret the data on incidents of COVID-19 infections and associated mortality rates on each continent for the past three months. (Students are given data sets to analyze.) Prepare a chart, podcast, or newspaper article to help people understand any patterns you detect.

Part 2 – Select four countries and compare their governmental policies enacted to mitigate the infection's spread. Provide an explanation of the link between their policies and the data on infections and mortality rates. Prepare a newspaper article, podcast, or vodcast to present your conclusions.

These examples reveal four characteristics of performance tasks for assessing deeper learning (McTighe, Doubet, & Carbaugh, 2020):

1. Performance assessment tasks call for students to (1) *apply* their learning in some context, and (2) *explain* what they have done. Whether a task calls for a written response (e.g., an academic essay or blog post), a spoken response (e.g., an audio recording or a live debate), or a visual or physical communication (e.g., an infographic or an interpretive dance), students need to convey their reasoning, justify their decisions, and support their interpretations.
2. Any performance assessment of deeper learning needs to engage the student in transferring their learning to a *novel* situation, different from that in which it was initially learned. Benjamin Bloom and his colleagues described this *application* category of their Taxonomy of the Cognitive Domain in 1954:

   "If the situations ... are to involve application as we are defining it here, then they must either be situations new to the student or situations containing new elements as compared to the situation in which the abstraction was learned. ... Ideally, we are seeking a problem which will test the extent to which an individual has learned to apply the abstraction in a practical way .... Problems which themselves contain clues as to how they should be solved would not test application" (p. 125).
3. An effective performance assessment task engages students in complex thinking. We recommend the use of Depth of Knowledge, a four-level framework developed by Norman Webb and his colleagues (2005) for analyzing the cognitive complexity of any task. When the goal is assessing deeper learning, the tasks need to operate at Levels 3 and 4, which require higher-order thinking such as analysis, interpretation, investigation, problem solving, argumentation, and design. Use multiple-choice and short answer test and quiz items (at Levels 1 and 2) to assess factual knowledge and discrete skills, and reserve performance tasks to assess deeper learning.
4. The best performance tasks establish a "real world" context for application, when learners can effectively apply (i.e., transfer) their learning to realistic situations.

Setting Goals and Tasks

Authentic tasks reflect a worthy goal, a target audience, realistic constraints, a tangible product or performance, and success criteria. They can vary considerably in terms of their time frame, complexity, nature of the products/performances, and whether the targeted content and skills are discipline-specific or interdisciplinary. Such performance tasks can range from conventional essays to open-ended mathematics problems to scientific experiments to a research project to tackling a community-based issue (Wren & Gareis, 2019). Wiggins and McTighe (2012) offer a practical framework captured in the acronym GRASPS that can be used to develop an authentic context for an assessment task (see Figure 2).

Figure 2. ***GRASPS Framework***

GRASPS

- A real-world **G**oal,
- A meaningful **R**ole for the student,
- An authentic (or simulated) **A**udience,
- A contextualized **S**ituation that involves real-world application,
- Student-generated culminating **P**roduct and/or **P**erformance, and
- **S**uccess criteria by which student products and performances will be evaluated as evidence of learning.

Figure 3 presents an example of a performance assessment task used as part of the study of a state or province. Can you recognize the GRASPS elements contained within the task prompt?

Figure 3: ***Sample GRASPS Performance Assessment***

State Tour

A group of six exchange students is visiting your school for one month as part of an international exchange program. The principal has asked your class to plan and budget a four-day tour of [*your state or province*] to help the visitors understand the state's history, geography, economy, and cultural elements. You should prepare a written tour itinerary, including an explanation of why each site was selected. Include a map tracing the route for the four-day tour. Optional extension: Include a budget for the trip.

Attending to Validity and Reliability

The authentic nature of performance tasks is often motivating to students. However, when these tasks are used for *assessment* purposes, they are obligated to meet measurement standards of validity and reliability. Performance assessment tasks must enable educators to answer key questions:

- Does a performance task provide the necessary and sufficient evidence to enable teachers (and others) to determine the degree of deep learning of a student?
- Does the student's performance provide evidence that they can effectively apply their learning to new situations?
- Can we trust that a student's performance is not influenced (whether positively or negatively) by raw chance, poor construction of the assessment itself, implicit biases, cheating, or inconsistency in the teacher's evaluation of students' work?

A common concern about the validity and reliability of performance assessments is that their scoring is "too subjective." While this can be a potential problem—especially with poorly designed tasks and scoring rubrics—the challenge is not insurmountable. After all, we use judgment-based evaluations routinely in state writing assessments, AP art portfolio reviews, judging in Olympic events, and when we rate a restaurant. Indeed, there are well-established practices that enable performance assessments and judgment-based evaluation to function fairly, consistently, and defensibly (Gareis & Grant, 2015; McTighe 2013).

Deeper Learning for School and Life

There's a cartoon that shows a recent graduate interviewing for a job. Across the desk is a besuited business executive who has just asked a question of the owl-eyed youngster. On the executive's face is an expression of dismay. The caption—spoken by the recent graduate—reads something like this: "Can you give me four choices?" The comic is a satirical commentary on one of the unintended consequences of high-stakes standardized tests. If we feed students a steady diet of multiple-choice questions throughout their school careers, should we be surprised that they (and the graduates they become) will frame problems in terms of a set of selectable "answers"? The stone-faced expression on the prospective employer's face belies his experience in the "real world," where issues and problems are often complex and do not lend themselves to fixed-response solutions. Today's students need deeper learning to successfully navigate the opportunities and challenges they will face in the world beyond school. Achieving this goal will require shifts in curriculum, instruction, and especially, assessment practices.

As Grant Wiggins reminds us, "The point of school is not to get good at school but to effectively parlay what we learned in school in other learning and in life." Deeper learning enables transfer. Performance assessments give us the evidence that students are indeed learning deeply—and are able to apply that learning in school and life.

References

Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *The taxonomy of educational objectives, handbook I: The cognitive domain*. New York: David McKay Co.

Fullan, M., Quinn, J., & McEachen, J. (2018). *Deep learning: Engage the world. Change the world*. Thousand Oaks, CA: Corwin Press.

Gareis, C. R., & Grant, L. W. (2015) *Teacher-made assessments: How to connect curriculum, instruction, and student learning*. Routledge.

McTighe, J. and Curtis, G. (2019). *Leading modern learning, 2nd ed*. Bloomington, IN: Corwin Press.

McTighe, J., Doubet, K., & Carbaugh, E. (2020). *Designing authentic performance tasks and projects: Tools for meaningful learning and assessment*. Alexandria, VA: ASCD.

McTighe, J. & Silver, H. (2020). *Teaching for deeper learning: Tools for engaging students in meaning making*. Alexandria, VA: ASCD.

McTighe, J. (2013). *Core learning: Assessing what matters most*. Midvale, UT: School Improvement Network.

Mehta., J. & Fine, S. (2019). *In search of deeper learning: The quest to remake the American high school*. Cambridge, MA: Harvard University Press.

National Research Council. (2012). *Education for life and work*. Washington, DC: National Academies Press.

Webb, N. L., Alt, M., Ely, R., & Vesperman, B. (2005). *Webb alignment Tool (WAT): Training manual 1.1*. Madison, WI: Wisconsin Center of Education Research, University of Wisconsin-Madison.

Wiggins, G., & McTighe, J. (2012). *The understanding by design guide to advanced concepts in creating and reviewing units*. Alexandria, VA: ASCD.

Wren, D. & Gareis, C. (2019). *Assessing deeper learning: Developing, implementing, and scoring performance tasks*. Lanham, MD: Rowman Littlefield.

Jay McTighe (@jaymctighe), a widely known authority on curriculum, assessment and instruction, has coauthored 18 books, including the award-winning and best-selling *Understanding by Design* series with Grant Wiggins.

Chris Gareis, a professor of educational leadership at William & Mary, is the coauthor of books on teacher-made assessments and assessing deeper learning. He works with teachers, schools, and districts in the United States and internationally.

ASCD Express, Vol. 16, No. 19. Copyright 2021 by ASCD. All rights reserved.
Visit www.ascd.org/ascdexpress

September 2021 - Issue No. 57

Instructional Shifts to Support Deep Learning

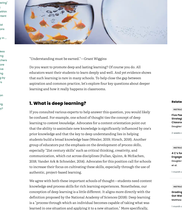
Lan Neuhaus, Hannes E. Zürcher

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

Abstract +

Table of Contents

INSTRUCTIONAL STRATEGIES | CURRICULUM



"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 reality, this article addresses the key question about deeper learning and how it might be achieved.

1. What is deep learning?

If you consulted various experts to help answer this question, you would likely be confused. For example, they would offer you different definitions of what deep learning is content knowledge. Achievement for a content orientation point out that deep learning is knowledge is significantly influenced by one's prior knowledge and that the key to deep understanding lies in helping students make connections between ideas. Others, from the other, rather group of educators with the emphasis on the development of process skills, especially "21st century skills" such as critical thinking, creativity, and communication, point out that many disciplines (Fullan, Quinn, & McEachen, 2018; Sawyer with K.S.Nawyer, 2018). Because for this particular, so all the schools and teachers are trying to develop 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 they need to develop learning competencies. Nevertheless, our conception of deep learning is a little different. It aligns more directly with the Hattie and Donoghue (2016) "Learning Strategies" model, which is based on a Dynamic Design which at an individual level, learners capable of taking what was learned in one situation and applying it in a new situation." More specifically, we conceive of deep learning as a process where students come to understand and make sense of important ideas and processes—and are able to transfer those understandings to new contexts and contexts.

For education, the most important thing to recognize is that this kind of learning requires students to be cognitively and emotionally engaged. Research on deeper learning, the dominant mode of instruction involves teachers "telling" learning across over time and requires active meaning making by the learner. As the opening quote reminds us—understanding must be earned by the learner!

2. How can we make deep learning happen?

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 this article addresses is how teachers and administrators 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, an agreed-with curriculum experts who recommend that education should move away from trying to cover excessive factual material, and instead orient their curriculum and instruction around "essential questions." Essential questions are "open-ended, bigger ideas is critical to compelling and "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 authentic and meaningful ways—and authentic application leads to deeper understanding and enhanced transfer ability.

Focusing on essential questions and big ideas reflects our understanding of how knowledge is organized in the memory and our beliefs about how students learn. 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 students have learned to think and reason like the content/ignorance principles of the discipline. Research also shows that students learn better when they are taught to think and reason like experts (Bransford, Brown, & Cocking, 2000, p. 39).

To be clear, when we talk about focusing instruction around big ideas, we are 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 hook for connecting discrete facts and skills and helping students make sense of them. Indeed, as Wiggins and McTighe (2005) note, effective 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 (Neuhaus & Zürcher, 2020): "Essential Questions" and "It Ends by…". 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 important ideas (Wiggins & McTighe, 2005). Essential questions are not single or final "correct" answers—these questions are designed to engage students in making meaning by stimulating thinking, sparking discussion and debate, and creating 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 reflected on them over time, what would they learn? What would they learn about how to make meaning of new concepts? How would it help them save deep understandings?

- 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 authors 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…." This tool is based on the research on how people learn to make connections between concepts and literature (Oliver & Perini, 2018). Reading and learning series in the way keeps these critical concepts front and center in teachers' and students' minds. This allow them to serve as "conceptual filters" that help students focus attention into "more meaningful patterns and realistically bringing to other situations (transfer)" (Wiggins & McTighe, 2004, p. 88).

Below are some examples of some action-grade levels and content areas that were concerned an studies in large-complex or universal themes:

- The Four Seasons: A Study in Change
- Our Community: A Study in Interdependence
- Expeditions: A Study in Balance
- The Water Cycle: A Study in Renewal
- Hunter: 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 content focus to big ideas and concepts is only part of the equation, we must also think about how we can help students process and make sense of the content. Research shows that students learn most effectively when teachers and focus 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 "understand by understanding" critical content by having them process that content using higher-order thinking skills.

While there are various ways that teachers can engage students in active meaning making, we recommend focusing on the "Big Four" higher-order 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 (Wiggins & Gibbs, 2020).

Why focus on getting students to use these skills to process new material? First, you'll promote a deeper more enduring understanding of what is presented. Second, you'll help students develop the habit of thinking and learning independently about the content. Second, you'll also help students develop a repertoire of inherently valuable and transferable thinking skills that they can draw and use to make sense of future content.

The problem, as we've learned from our work in schools, is that simply encouraging students to use these skills is not enough. Students need to know and know how to integrate the skills into their everyday instruction and develop student 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:

Figure 1 Building Up the Facts: Primary Science

Fig 1. Reading for Meaning Organizer: Gettysburg Address

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

Our own shift approach to teaching for deeper learning resonates with contemporary research on how students learn, contemporary research on schools and common sense—and because they don't require a complete curriculum overhaul to be effective. Indeed, we encourage teachers to start simply, by introducing existing lessons or units in accordance with the shifts.

The keys are to identify conceptual ideas, not just national factual information or skills, as the lessons focus and to ensure that students are actively engaged in making meaning. Making these two shifts yields a dual benefit for learners: (1) it helps students develop a deeper understanding of important content and (2) it helps 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.

4. 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 estimates of knowledge doubling every 2 years (Bell, 2009). Consequently, the 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 education should focus on identifying knowledge and concepts that are most "worthwhile" and helping students develop the habits of mind and skills that promote lifelong learning. 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 rapidly—and related unpredictability—of change in society. Many of the jobs students will be preparing for will involve artificial intelligence in 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 transferred their learning to new situations. The future requires deep learning.

References

- Fullan, M., Quinn, J., & McEachen, J. (2018). Deep learning: Engage the world. Change the world. Thousand Oaks, CA: Corwin Press.
- Bransford, J. (2002). A place called school. New York: McGraw-Hill.
- Hattie, J. (2012). Visible learning for teachers: Maximizing impact on learning. New York: Routledge.
- Hirsch, E.D. (2016). Why knowledge matters: Rescuing our children from failed educational theories. Cambridge, MA: Harvard Education Press.
- Mehta, J., & Fine, S. (2019). In search of deeper learning: The quest to remake the American high school. Cambridge, MA: Harvard University Press.
- McTighe, J., & Silver, H. F. (2020). Teaching for deeper learning: Tools to engage students in meaning-making. Alexandria, VA: ASCD.
- McTighe, J., & Wiggins, G. (2013). Essential questions: Opening doors to student understanding. Alexandria, VA: ASCD.
- McTighe, J. (1998). Developing students' thinking skills [Workshop handout]. Columbia, MD: McTighe & Associates.
- National Academies of Sciences, Engineering, and Medicine (2018). How people learn II: Learners, contexts, and cultures. Washington, D.C.: The National Academies Press.
- Oliver, H., & Perini, M. J. (2018). Classroom curriculum design: How strategies units improve instruction and engage students in meaningful learning. Franklin Lakes, NJ: Thoughtful Education Press.
- Oliver, H.F., Abel, L., Bruce, A. L., & Perini, M. J. (2018). Tools for classroom curriculum design: Strategies units, lesson plans, and performance assessment. Franklin Lakes, NJ: Thoughtful Education Press and Motivity International.
- Oliver, H. F., Abel, L. C., & Perini, M. J. (2018). Reading for meaning: How to build a strategies unit. Franklin Lakes, NJ: Thoughtful Education Press and Motivity International.
- Wiggins, G. P., & McTighe, J. (2005). Understanding by design (2nd ed.). Alexandria, VA: ASCD.
- Wiggins, G. P., & Gibbs, J. (2020). Understanding by design guide to creating high quality units. Alexandria, VA: ASCD.

Lan Neuhaus
Hannes E. Zürcher

Related Articles

INSTRUCTIONAL STRATEGIES
Five Page Turning Strategies for Deeper Classrooms
Douglas Fisher & Nancy Frey
5 minutes read

CURRICULUM
4 Ways to Make Student Engagement Stick
Douglas Fisher & Nancy Frey
5 minutes read

INSTRUCTIONAL STRATEGIES
Reading Writing and Thinking Together
Matthew D. Kay
5 minutes read

INSTRUCTIONAL STRATEGIES
Revisiting Sight Reading
Douglas Fisher & Nancy Frey
5 minutes read

INSTRUCTIONAL STRATEGIES
Tweet Up for Equity and Excellence
Catherine Fosnacht
5 minutes read

Find out more

Visit the Publication

Go To Publication

Share Chapter