

DEVELOPING
**ASSESSMENT-
CAPABLE**
VISIBLE
LEARNERS
GRADES K-12



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DEFINING
ASSESSMENT-CAPABLE
VISIBLE LEARNERS
and the Teachers
Who Create Them



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Meet Jose. It doesn't really matter what grade he is in or where he goes to school. What does matter is that he had a history of struggle in school and, in fact, was recommended by his previous school for grade-level retention. Jose's mom knew that simply retaining him and forcing him to repeat the same class with the same content was not the answer for her son. She transferred him to a different school, one that was focused on students assuming responsibility for their learning.

Two years later and Jose is performing nearly at grade level. He is also a lot happier and is much more engaged with his peers. The difference? Jose is becoming an assessment-capable visible learner. The idea is appealing, isn't it? Who wouldn't want assessment-capable visible learners? On the surface, that sounds like students who perform well in school. That is important; schools should be all about learning. But we mean much more by the phrase *assessment-capable visible learners*.

On a daily basis, Jose can tell you what he is supposed to be learning and he can tell you where he is in the overall learning progression. He understands that there is no "bad" place to be, and that he is focused on closing the gap between what he needs to learn and what he currently understands. Jose can say to himself "I know where I'm going," which is one of the signature characteristics of an assessment-capable visible learner. Perhaps more importantly, he knows what to do next to further his learning. In doing so, his attention is focused on learning and he is motivated to close the gap that he recognizes in his own current understanding. The tasks his teacher assigns provide Jose an opportunity to engage in learning that is just the right amount of challenging—not too hard and not too boring.

Jose also can select the tools he needs for the journey. For example, while working on an essay, Jose recalled prior lessons that focused on writing introductions. He chose an introduction type to match his topic. On another day, Jose asked for peer feedback on his draft, as he knows this type of support provides another learning opportunity. Jose's teachers have equipped him with cognitive and metacognitive tools, but it is up to Jose to select from the tools he has and then apply them to the learning task at hand. He also has come to understand *what to do when he doesn't know what to do*. That sounds complex, and it is. When Jose gets stuck, he has strategies in place to help him get unstuck. For example, when confronted with a complex mathematical task, Jose was not sure where to start. Rather than be stymied by this, he decided to reread the problem and identify the given and the units. He then asked himself what the problem was asking and check with a peer to validate his thinking. Jose struggled with this task, but he knows that he has to take action to figure out things even when he's not sure what to do.

He also engages in self-talk, in his head, reminding himself that he can be successful in the face of setbacks or when his learning progress stalls. He reminds himself that there is a wide range of supports available to him—teacher and peers—to ensure he is successful. In other words, he is beginning to see that his errors are opportunities for learning. This is key, as students often wrongly believe that errors are evidence of their character, rather than an expected and welcome part of learning. In Jose’s school, teachers regularly comment, “*We celebrate errors because they’re opportunities to learn.*” They teach their students how to recognize their own errors. Then these teachers leverage these errors for the learner’s benefit.

Further, Jose knows that he has to track his own progress. Of course, his teachers also monitor his progress through formative evaluation of his work and summative tasks that allow him to demonstrate mastery. But Jose is an assessment-capable visible learner who knows that it is his responsibility to monitor his own learning. He doesn’t only rely on his teacher to tell him when he has learned something. Jose does not wait for feedback from others; rather, he regularly seeks out feedback from his peers and his teacher.

In addition, Jose has been taught a number of strategies to use in self-assessment. For example, his teachers have provided students with a checklist for assessing their own participation within the group. Jose uses the checklist (see Figure 1.1) to monitor his engagement with peers

Figure 1.1 Self-Assessment for Collaborative Learning

During my collaborative group time, did I

- Track the speaker?
- Recognize and build on the comments of others?
- Remain focused on the topic at hand?
- Bring the group back to the task when we got distracted?
- Listen carefully to ideas I did not agree with?
- Seek consensus to help the group make decisions?
- Monitor my nonverbal behavior to ensure that it communicated that I was interested?
- Contribute to the group such that our tasks were completed?

during collaborative learning. But he doesn't do this simply to comply, which is the lowest rung of the learning ladder. Jose has come to appreciate that the quality of his engagement with peers has a direct effect on his own learning. His teachers have taught him that his learning is enhanced when he is an active participant in the discussion. He has discovered that he is particularly good at getting his group back on track when they lose focus. He also has learned a number of other ways to assess his own performance, including rubrics that he develops on topics that are of interest to him.

And finally, Jose recognizes his learning and teaches others. As he monitors his success, he notes where those successes lie, as well as which areas still require attention. He communicates this with his teacher (and others, including his family members) as he works to interpret data about his learning and set goals for mastery. He knows that learning is important and he is motivated by the success he experiences. This success drives him to want to learn more and the cycle starts again. Once he has attained the success criteria for the lessons, Jose looks for the next gap in his learning, comparing his current performance to the learning progression.

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In order to build assessment-capable visible learners, you need your own success criteria. You need a vision of an assessment-capable visible learner.

For many people, this sounds idealistic and unattainable. But it did happen. It happened for Jose, a real student in a real school, with real teachers who understood the value of creating assessment-capable visible learners. Those teachers provided Jose and his peers with specific experiences that built their competence and confidence, which in turn reinforced the necessary characteristics that assessment-capable visible learners possess. It's not pie in the sky, but rather an attainable goal when school teams focus on a few things that work really well. To our thinking, assessment-capable visible learners, not just their teachers, think about their learning in complex and interrelated ways. And in order to build assessment-capable visible learners, you need your own success criteria. You need a vision of an assessment-capable visible learner. That's why we introduced you to Jose.

If there is one core message in this book that we want you to come away with, it is this: *Assessment-capable visible learners are cultivated by assessment-capable teachers.* They understand that learning is accelerated when three conditions are present: *skill*, *will*, and *thrill* (Hattie & Donoghue, 2016). Learners need to be equipped with the skills and knowledge, but also with the will to learn—this is the motivational component. When you combine skill and will, the result is the thrill of learning. It's the disposition that drives learners to investigate, explore, and take academic risks. Standing next to every assessment-capable

visible learner is a teacher who is determined to foster these beliefs, dispositions, and abilities in every student. This teacher understands that her fundamental mission isn't teaching math, or reading, or science, or any other subject. Job number one is ensuring that her *students know how to learn*.

What Does It Mean to Learn?

A common dictionary definition of learning suggests that it is the acquisition of knowledge and skills through experience, study, or by being taught. That seems simple enough on the surface, but anyone who has tried to measure learning knows that the process is much more complex. To some, learning is memorization and recall. In fact, at some points in the history of education, students were expected to memorize texts and recite them. When they did so, their teachers indicated that they had successfully learned the content. Others suggest that learning requires demonstration and application. At other points in the history of education, students' performance on summative assessments was used as the sole measure of whether or not they had learned something. Many parents continue to subscribe to this type of learning and schools and districts around the country are often graded on student performance on these types of tasks.

More recently, some standardized assessments have been redesigned to measure deeper levels of knowledge, focused on students' ability to apply concepts, skills, and strategies in unfamiliar situations and to continue to acquire information and ideas on their own as evidence of learning. We believe that students, teachers, and families should value memorization and recall of the content information *if* it then leads to reducing students' working memory demand so that they go on to understand conceptual relationships, extend their ideas, and think critically. Memorization and recall have their place in the cycle of learning but rarely at the start and certainly not as an end of learning.

Standing next to every assessment-capable learner is a teacher who is determined to foster these beliefs, dispositions, and abilities in every student. This teacher understands that her fundamental mission isn't teaching a subject. Job number one is ensuring that her *students know how to learn*.



In what ways do you currently measure and monitor student learning?

How do you support your students' ability to measure and monitor learning?

Consistent with learning theorists (e.g., Biggs, 1999; Bransford, Brown, & Cocking, 2000; Marton & Säljö, 1976), we have proposed that learning occurs across three phases—surface, deep, and transfer—and that there are specific strategies that align with each of these phases of learning (Fisher, Frey, & Hattie, 2016). Importantly, surface learning is not superficial learning. Surface learning focuses on one idea at a time, whether concept or skill. For example, when students are first introduced to the skill of making inferences while reading, they are performing at the surface level. They are learning what an inference is and are provided examples, often through modeling, as they examine examples and non-examples. They learn about the ways in which authors imply things so that inferences can be made.

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To ensure that students become assessment capable, teachers must actively help students learn how to learn, in part by helping them select appropriate learning tools (strategies).

At the deep level, students see connections, relationships, and schema between ideas and learn to organize skills and concepts. Deep learning often involves interacting with peers and provides students with “aha” moments as they discover these connections. The student who is learning to infer progresses to deep learning when she is able to explain and justify her inferences to others and when she sees the relationship between making inferences, predictions, activating background knowledge, recognizing vocabulary and word choice, and critical reading. It’s this integration of ideas that signals the deep phase of learning.

When this student begins to apply knowledge in increasingly new and novel situations, the transfer level of learning is reached. For the student working on inferences, when she develops the habit of using this process while reading across text types and genres, applying her knowledge to increasingly complex texts and does this with automaticity, we would say that transfer has occurred. To our thinking, transfer is the goal of learning. When students reach the point of transfer, they own the concept or skill and know how to use it.

At the surface and deep levels, there are two processes that must occur to ensure that students have a chance to develop the transfer level of learning: *acquisition* and *consolidation*. As Hattie and Donoghue (2016) note,

During the acquisition phase, information from a teacher or instructional materials is attended to by the students and this is taken into short-term memory. During the consolidation phase, a learner then needs to actively process and rehearse the material as this increases the likelihood of moving that knowledge to longer-term memory. (p. 3)

Figure 1.2 Aligning Instructional Strategies With Phases of Learning

	Surface	Deep	Transfer
Acquisition	Note-taking Annotations Summarizing Mnemonics Notebook reviews	Concept mapping Metacognitive strategies Elaboration and organization Strategy monitoring	Classification charts Sorting, matching, and categorizing Student-generated classification patterns Similarities and differences
Consolidation	Practice testing Deliberate practice Spaced practice Rehearsal Help seeking Receiving feedback	Peer response groups and seeking peer support Classroom discussions Student tournaments Self-questioning Self-monitoring Collaborative learning	Extended writing instruction (improve and elaborate on ideas, strive for cohesion, think aloud about process)

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A list of common instructional strategies useful for each phase of learning is presented in Figure 1.2. As you consider these instructional approaches, it's important to remember the focus of this book: assessment-capable visible learners. If we are to be successful, students must learn to select from a range of strategies to move their learning forward. Teachers can organize learning experiences for students, but to ensure that students become assessment capable, teachers must actively help students learn how to learn, in part by helping them select appropriate learning tools (strategies). Students who are assessment capable are able to move through the surface, deep, and transfer phases of learning more adeptly. This is the catalyst—the fuel—needed to accelerate learning.



Think about a time you have experienced deep learning.
What was it like?
How did you know you had learned?

What Fuels Learning?

Astute educators know that all that is taught is not necessarily learned. Our quest, then, is to determine what ingredients are vital for learning to occur. We ask ourselves, “What is the right combination of experiences that ensure learning? What conditions must be present? Should more time be spent on direct instruction or on dialogic instruction?” (e.g., Munter, Stein, & Smith, 2015). Debates rage in education about which strategies are most effective, and the ultimate answer lies in knowing your impact on your learners (Hattie, 2012). The strategies we teach our students to learn encompass four general categories (e.g., Boekaerts, 1997; Dingath, Buetter, & Langfeldt, 2008).

Four General Categories of Learning Strategies

- **Cognitive strategies** such as summarizing or estimating, especially when used to deepen understanding of the content being studied
- **Metacognitive strategies** such as planning, monitoring, and regulating the learning process
- **Motivational strategies** such as self-efficacy and self-regulation to remain focused and engaged in learning
- **Management strategies** such as finding, navigating, and evaluating resources and information

-----● Assessment-capable teachers mediate the thinking of their students as often as they possibly can, so that their students can gain more insight into how and when they learn, and associate their actions to results.

Teachers whose mission it is to cultivate assessment-capable visible learners teach all four of these kinds of strategies and create opportunities for students to use them. They hold a metaphorical mirror up to students to promote reflection, self-questioning, problem solving, and decision making. Assessment-capable teachers mediate the thinking of their students as often as they possibly can so that their students can gain more insight into how and when they learn, and associate their actions to results. And they possess a clear vision of the kind of learner they are building because they know the characteristics of an assessment-capable visible learner.

Characteristics of Assessment-Capable Visible Learners

We have described a student, Jose, and noted why we believe that he is an example of one who is on his way to becoming assessment-capable. In doing so, we draw on the work of Absolum, Flockton, Hattie, Hipkins, and Reid (2009) in our thinking about increasing the role that students

play in becoming assessment capable. We have organized the research evidence and our experiences into five factors that comprise the characteristics of assessment-capable visible learners, including the following:

- **I know where I'm going.** Students understand their current performance and how it relates to the learning intention and success criteria.
- **I have the tools for the journey.** Students understand that they can select from a range of strategies to move their learning forward, especially when progress is interrupted.
- **I monitor my progress.** Students seek and respond to feedback from others, including peers and teachers, as they assess their own performance. Students know that making mistakes is expected in learning and indicates an opportunity for further learning.
- **I recognize when I'm ready for what's next.** Students interpret their data in light of the learning intention and success criteria of the lessons as well as the overall learning progression to identify when they are ready to move on.
- **I know what to do next.** Knowing what to do *when you do not know what to do* is surely the mark of the educated person. It is the difference between knowing how to persist and simply giving up when faced with an early challenge. It is the essence of being a lifelong learner, one who knows how to research, organize information, and continue his or her own learning.

Helping students become assessment-capable is part of a larger initiative known as *Visible Learning* (e.g., Hattie, 2009), detailed in the Introduction. Reconsider the experiences we conveyed about Jose and see how many of his learner characteristics are consistent with those of a visible learner. Jose, like a growing number of students around the world, is surrounded by teachers who leverage high-yield influences to cultivate these characteristics.

High-Yield Influences to Build Assessment-Capable Visible Learners

Next to every assessment-capable learner is a teacher who uses strategies and techniques to help the student take ownership of learning. These documented influences impact a student's ability to learn how to learn (Hattie, 2009). High-yield influences that point to the construction of assessment-capable visible learners include teacher clarity, expectations,



Video 1.1 Teaching Strategies for Visible Learners, K–5

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To read a QR code, you must have a smartphone or tablet with a camera. We recommend that you download a QR code reader app that is made specifically for your phone or tablet brand.



Video 1.2 Teaching Strategies for Visible Learners, 6–12

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challenge, self-reported grades, feedback, and agency and ownership for learning through goal setting. Mobilizing several high-yield influences at once further amplifies their power.

Teacher Clarity

As with the conceptual framework of assessment-capable visible learners, teacher clarity is really a constellation of ideas. With an effect size of 0.75 (with the potential for accelerating growth in one school year) it's worthy of attention. In essence, teacher clarity requires that the teacher knows what students need to learn, communicates those expectations to students, conveys the success criteria for students, and presents lessons in a coherent way. Teacher clarity is an important driver to improve student learning. Assessment-capable learners attend to the learning intentions and success criteria as a means to map their future learning. We will revisit teacher clarity in more detail in Chapter 3.

Teacher Expectations

All teachers have expectations for their students. Therefore, there really is no point in asking the question “Do teachers have expectations for their students?” The better question is “Do they have false and misleading expectations that lead to decrements in learning or learning gains—and for which students?” (Hattie, 2009, p. 121). The impact that teachers' expectations have on student learning is 0.43. Let's state it another way: If teachers expect their students to learn a full year (or more) of content for a year of input, they probably will. These expectations are communicated every day, from demeanor to the challenge of tasks. Expectations need to be at the forefront as teachers plan units of study and engage students in quality learning experiences.

Challenge

As we noted in the introduction, challenge is an important aspect of learning. Overall, challenging tasks have an effect size of 0.57. But when teachers ensure that students have a “Goldilocks” challenge, not too hard and not too boring, the effect size increases to 0.72. Students expect that school will be challenging, but not to the point of frustration and utter defeat. They also hope that they are not bored with tasks that seem meaningless and can be easily completed without much thought. Becoming assessment capable means helping students feel capable in the face of appropriate challenge. A misinterpretation of Dweck's (2007) work on growth mindset is that it exists as a state of being. It isn't used when the task is an easy one. Challenge is a necessary condition for growth mindset. Further, growth mindset isn't simply a rallying cry like

The Little Engine That Could (“I think I can, I think I can . . .”). Rather, it is a coping strategy that an assessment-capable learner can deploy when faced with a slog. In those situations, learners pause, take a deep breath, and then begin to consider what to do next when they don’t know what to do. What does this mean for teachers? It means we must regularly create tasks that challenge students, equip them with problem-solving strategies, and assist them in making decisions about what they might do next. Under those conditions, a growth mindset can be developed.

Self-Reported Grades

In order for students to understand where they’re going, they need to have an accurate sense of where they currently stand. With an effect size of 1.44, self-reported grades are a powerful way to strengthen student learning because it gives them the opportunity to take a measure of their current status. The evidence clearly suggests that students are acutely aware of their performance and understand their achievement levels. But if they have to rely on their teacher (and their grades) to tell them where they are and when they have learned something, they become dependent on adults, and they don’t develop that internal compass they need to drive their own learning. Teachers of assessment-capable visible learners create opportunities for their students to understand their own current level of understanding and recognize when they don’t know something. First grader Andrew told his mom that he would “meet the standard” on his math assessment several nights before it was administered, which he did. He knew what he knew and accurately predicted his success.

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Student Expectations of Their Learning

Schools that focus on developing assessment-capable visible learners encourage students to reach beyond their current expectations. With an effect size of 1.44, student expectations of self are a powerful driver of learning. These students receive consistent messages about mastery of learning (e.g., “I want to learn how to improve my use of perspective in my paintings”). Mastery of learning is an important belief for students (and their parents) to develop. Without intending to, schools sometimes reinforce some students’ beliefs about goal setting for performance only (e.g., “I want to get a passing grade in art.”). Students who only attend to performance often limit their expectations of themselves, determined to play it safe rather than engage in the kind of academic risk taking that learning requires. We betray the message about the necessity of errors in learning when we react to the mistakes of children as evidence of deficient character or ability. “Struggling” is situational, not identity. There is a monumental difference between

saying “I’m stuck” versus “I’m stupid.” Too often, children receive the unintended message that if you don’t get it right the first time, you failed. In fact, if you routinely get everything right on the first attempt, it is an indication that there isn’t a sufficient level of challenge for you. This is equally damaging for students who excel. Children and families who are focused only on performance (“straight As”) reinforce a belief that playing it safe and limiting challenge is their key to success. Assessment-capable visible learners are resilient ones who rise to a challenge and are willing to go higher.

Agency and Ownership for Learning Through Goal Setting

When teachers and students have goals for learning, the impact is positive with an effect size of 0.56. This does not mean that teachers simply say “do your best” or that the goals focus on completing tasks, as was the case when a teacher said, “Our goal today is to finish the questions at the end of the chapter.” Rather, goals should be focused on learning, not just doing. When school is reduced to an endless series of tasks to be completed, learning suffers immeasurably, as goals are reduced to a series of items to cross off on a to-do list. When students share a commitment to the challenging learning goals they (and their teachers) set, those goals are more likely to be attained. Fourth grader Melissa set a goal for herself, which was to “figure out how to add and subtract fractions with different numerators,” and then set about trying to learn that, noting her mistakes and successes along the way.

Goals should be focused on learning, not just doing. When school is reduced to an endless series of tasks to be completed, learning suffers immeasurably, as goals are reduced to a series of items to cross off on a to-do list.

Essentially, the research on goal setting suggests that students live up to the expectations they, and others, have for them (Martin, 2013). Students set themselves expectations about what and how they can achieve and by age 8, these are pretty accurate. But our job is to mess them up and help students rise *above* the expectations they set for themselves. We can say to them, “What do you think you will receive for this assignment? A grade of B? Well, I can help you attain an A.” The problem with too many expectations is that it sets a limit on the sense of satisfaction a student can obtain.

Feedback

We all want to know how we’re doing, especially when we’re trying to master a new concept or skill. But how that feedback is provided can either make us defensive and destroy the learning situation or propel us to new levels of understanding. Many of the other influences in *Visible Learning* also include feedback; it permeates the educational landscape. With an effect size of 0.73, it’s something to value, especially when done well. At its core, feedback is “just-in-time, just-for-me information

delivered when and where it can do the most good” (Brookhart, 2008, p. 1). Feedback is not limited to teachers giving it to students. Feedback sources also include self and peers.



What are some of the methods you use to manage agency, ownership, expectations, and goal setting within your classroom?

What are some methods you would like to implement?

We’ll return to a more detailed discussion of feedback in Chapter 5 of this book but it’s important to recognize that, first and foremost, teachers have to see student work and performance as feedback to themselves. That makes some people uncomfortable, but as John (Hattie, 2009) noted, “feedback to teachers helps make learning visible” (p. 173). Seeing student learning as feedback to oneself as a teacher opens the door to all kinds of other feedback. In this way, feedback becomes a “consequence of performance” (p. 174) and thus is seen as a natural set of actions following the completion of some effort.

Teachers of assessment-capable visible learners use high-yield influences to foster their students’ ability to learn how to learn. Importantly, they have a vision of what an assessment-capable learner looks and sounds like, and they search relentlessly for evidence of student growth. They reflect on their own impact, understanding that student learning is feedback about their teaching. They adjust accordingly to strengthen their students’ skill, will, and thrill. In the chapters that follow, we delve more deeply into the ways in which educators can help students become assessment-capable visible learners.

Conclusion

To accomplish the goal of making learning visible, educators first need to know what works best, and when those things work. Simply said, some things are much more likely to ensure learning than others. Focusing on actions that are most likely to ensure learning is sensible and can prevent a lot of problems later (see Hattie, 2009, 2012, for a list of evidence-based approaches). Having said that, it’s important to remember that strategies cannot be used in the generic. Rather, teachers should carefully consider the phase of students’ learning needs and which approaches are more likely to guide thinking.

First and foremost, teachers have to see student work and performance as feedback to themselves. That makes some people uncomfortable, but as John noted, “feedback to teachers helps make learning visible” (p. 173).

When students are assessment capable, and when all of us know our impact, we set the conditions for transfer to occur. As a result of transfer, teachers do not have to spend time at the start of every year providing students review and reteaching of previous content. Instead, learning is extended beyond expectations and young people are future-proof. In other words, they know how to learn, which equips them to be able to learn about concepts and skills we haven't even dreamed of yet. They are ready for anything that the world hands them and they know how to succeed.

It is important to note that this learning is always about “something,” hence the content of the curriculum is critical. While we do not cite the actual knowledge or specific understanding that is the focus of learning, we need to be mindful of the moral claims we make when we choose this content. The reason for developing assessment-capable visible learners is for them to know, and care about, important knowledge. Thinking is a means to this knowledge end, and knowledge is the building block for further learning.

In the chapters that follow, we will leverage these principles to articulate a coherent set of instructional practices and introduce you to educators who foster assessment capability in their students. Together, the teacher and these assessment-capable visible learners possess the following abilities:

- Know their current level of understanding (Chapter 2)
- Understand where they're going and have the confidence to take on the challenge (Chapter 3)
- Select tools to guide their learning (Chapter 4)
- Seek feedback and recognize that errors are opportunities to learn (Chapter 5)
- Monitor progress and adjust their learning (Chapter 6)
- Recognize their learning and teach others (Chapter 7)



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