



**Formative Assessment *for*
Students with Disabilities**



THE COUNCIL OF CHIEF STATE SCHOOL OFFICERS

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Formative Assessment for Students with Disabilities

Few would question the importance of formative assessment in helping students become more effective and engaged learners. Few would question the importance of accommodating students with disabilities to maximize their learning. Practical and research literature exists separately in each of these fields. Two of the Council of Chief State School Officers' (CCSSO) State Collaboratives on Assessment and Student Standards (SCASS) — the Assessing Special Education Students (ASES) and Formative Assessment for Students and Teachers (FAST) — are collaborating to consider the two fields together: formative assessment for students with disabilities.

We begin this report with introductions to students with disabilities and to formative assessment. For students to be actively involved in their learning, they must understand a learning goal, aim for it, and use assessment evidence along the way to stay on course. Three key formative assessment questions — Where am I going? Where am I now? What do I need to do next? — are important for all students, including students with disabilities, as they partner with their teachers to produce successful learning outcomes. The main section of the report blends the two fields into a discussion of formative assessment practices for students with disabilities, illustrated with text and video examples. The video examples all include students with disabilities, some in a regular classroom and some in a small group setting. This report provides teachers, both special education and general education, with an introduction to the knowledge and skills they need to confidently and successfully implement formative assessment for students with disabilities in their classrooms

The strategies described in this paper are not limited to use with students with disabilities. The strategies work for all students, including those who are low-performing, with or without disabilities. As important as the specific formative assessment strategies is the formative approach, which looks at learning from the student's point of view instead of from a teaching and instructional planning point of view. Teachers who plan all their lessons by first asking "What will my students be trying to learn?" – and make sure that all their students are aware of what they are trying to learn – will find that most of their instructional moves are formative and most of their classroom learning activities provide evidence of learning.

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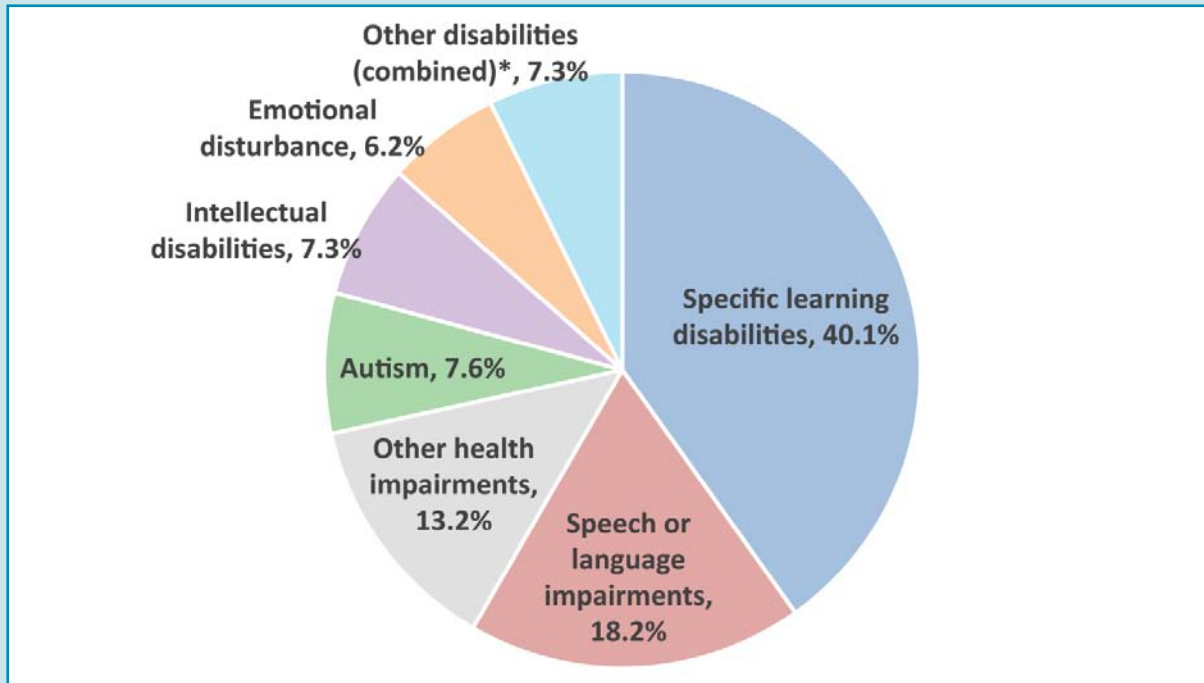
Students with Disabilities

Olivia is a fourth grade student at Hillsborough Elementary School. She has one brother; he is in kindergarten. Olivia loves to cook. She likes to make quesadillas, blueberry muffins, and chili. Olivia generally likes school—and especially enjoys chatting with her friends. Her favorite class is science. She enjoys working with her classmates to do the experiments and lab exercises. Someday Olivia wants to be a food scientist. She doesn't know anyone else in her school who wants to be a food scientist, but her next door neighbor is one, and it sounds like an awesome job. But Olivia sometimes gets frustrated at school. She doesn't read as well as the other students in her class. Olivia likes her fourth grade teacher and her special education teacher. They both help Olivia when she has difficulty and help her self-assess how she is doing so that she can improve her learning.

Olivia is one example of the almost 6 million children and youth in the United States who receive special education services under the Individuals with Disabilities Education Act (IDEA). This is about 13% of all students in public schools (U.S. Department of Education, 2015b). Most students with disabilities spend most of their day in the general education classroom, and it is important that all of their teachers know how to effectively instruct them (U.S. Department of Education, 2015b). Formative assessment has powerful potential to increase learning for all students, including students with disabilities. It is important to consider the needs of individual learners when making assessment decisions, because each student is unique. Students combine information to create a “network of knowledge” (Dolan & Hall, 2001). Using adaptations, scaffolding, and accommodations, students with disabilities can work toward and reach standards within the general education curriculum.

As shown in Figure 1, the federal government defines 13 disability categories: autism, deaf-blindness, deafness, emotional disturbances, hearing impairment, intellectual disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment including blindness. Additionally, states may use developmental delay as a category for children ages 3 through 9.

Figure 1. Percentage of Students Ages 6 through 21 Served Under IDEA, Part B, by Disability Category, Fall 2012



*"Other disabilities (combined)" includes deaf-blindness (less than 0.03%), developmental delay (2.1%), hearing impairments (1.2%), multiple disabilities (2.2%), orthopedic impairments (0.9%), traumatic brain injury (0.4%), and visual impairments (0.4%). (Source: U.S. Department of Education, 2014)

The students in each disability category vary enormously in whether, and to what degree, they have barriers to their learning. Categorical labels vary from state to state, and application of even within-state criteria varies from district to district and school to school. Most students with disabilities do not have intellectual disabilities, and most students do not have severe disabilities of any sort. Disability category labels are useful as general descriptors of the types of barriers students may face, and generally inform the design of options that different groups of students may need in order to access and make progress in the general curriculum, but they are not helpful in designing formative assessment strategies that work for all children.

IDEA requires that the individualized education program (IEP) of students with disabilities “must be aligned with the State’s academic content standards for which the child is enrolled” (U.S. Department of Education, 2015a). Effective learning environment and instructional decisions are made at the individual student level, rather than making blanket decisions based upon a disability category (Clair, Church, & Batshaw, 2007). Students with disabilities do best in classrooms with a culture of learning that they perceive as a safe environment where there is freedom to experiment, respect for differences, and encouragement for risk-taking (Thompson, Lazarus, Clapper, & Thurlow, 2006).

Most students with disabilities **are not** low performing students (Marion, Gong, & Simpson, 2006); and on the flip side, many low performing students **do not** have disabilities. (Bechard & Godin, 2007; HB 05-1246 Study Committee, 2005; Lazarus & Thurlow, 2013; New England Compact, 2007). Finding strategies to ensure formative assessment effectively includes all students, including students with disabilities, is not a “recipe” to be applied when a given categorical label pops up, nor one that is only applied to students with disabilities. All low performing students need high quality formative assessment practices to help them become higher achieving.

The Role of Universal Design

The goal of *Universal Design* is to improve access to instruction and assessment for all students by removing barriers. The overall concept is that well-designed instruction and assessments benefit all learners universally — not just those with disabilities. Universal design is a concept that originated in architecture with the idea that good design benefits all and reduces the need for accommodations. For example, cuts in the curbs in sidewalks provide access to individuals in wheelchairs, but the cuts also benefit parents pushing strollers and people with sore knees who find the curbs cumbersome. Similarly, closed captioning was developed for individuals who are hard of hearing, yet many people use it — think of the last time you were at the airport or in a noisy restaurant that had a television (CAST, 2012; Thompson, Thurlow, & Malouf, 2004).

The National Center on Universal Design for Learning (CAST, 2012) identified three principals of universal design for learning (UDL):

- Principle I: Provide multiple means of representation (the “what” of learning)
- Principle II: Provide multiple means of action and expression (the “how” of learning)
- Principle III: Provide multiple means of engagement (the “why” of learning)

Formative assessment practices and procedures that are more universally designed can also play an important role. Formative assessment designed right from the beginning to allow the participation of individuals with a wide range of characteristics minimizes the

need for accommodations. It can also help ensure that all students can participate and that the assessment measures what is intended and provides instructionally useful information. Thompson et al. (2004) identified several characteristics of well-designed assessments that are inclusive of all students:

- Precisely designed constructs
- Accessible, nonbiased items
- Amenable to accommodations
- Simple, clear, and intuitive instructions and procedures
- Maximum readability and comprehensibility
- Maximum legibility

Formative Assessment – The Basics

John struggles to decode and comprehend written text. At school he was identified as having a specific learning disability, and both his general education and special education teachers help him in his regular fourth-grade class. Today, John is practicing baseball at recess. He knows what he wants to do – and he knows what it looks like when he does. He watches pro baseball games on television, and he sees the form of the swing, hears the “crack” as the bat connects with the ball, and sees the runner’s legs pumping as he runs the bases. John can’t reliably get a hit every time he’s up – yet – but he’s working on it, and he is watching himself improve.

Back in class, John’s teacher gives a lesson on personal pronouns. John pays attention as the teacher and class work on a few examples together. He thinks of these examples the way he approaches other language arts exercises, as exercises in completing sentences so they are “right.” When he is assigned exercises to do independently, he falters, because it isn’t clear to him how to make the sentences right. If you asked John why he was doing this work, he would say, “Because my teacher asked me to.”

Although he doesn’t know it, John uses formative assessment when he practices baseball. He has a clear vision of what good baseball playing looks like, thanks to his interest in watching ball games on television. He monitors his swing, his hits, and his speed as he bats and runs. John’s baseball playing is improving, and he could tell you how he knows that. In class, the formative assessment process is not engaged. John does not have a clear idea of what personal pronouns are and what it means to be able to use them. His feedback comes in the form of knowing what exercises he got right. And his motivation is compliance, not learning; he simply wants to be a good student and do what his teacher tells him. It doesn’t have to be this way.

What is Formative Assessment?

In 2006, the FAST SCASS adopted the following definition of formative assessment after a literature review, study, and discussion:

Formative assessment is a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students’ achievements of intended instructional outcomes.

This definition takes a stand on several issues surrounding the question, “What is formative assessment?” and is comparable to the views of the Assessment Reform Group in the U.K. (2002) and with the views of other authors (Andrade & Cizek, 2010; Heritage, 2010; Moss & Brookhart, 2009; Wiliam, 2012).

Formative assessment is a process. Formative assessment happens when students and teachers get evidence of student thinking — from a variety of methods — and use that evidence to further student learning. That means formative assessment has motivational benefits as well as cognitive (learning) benefits. The process begins with giving students (or co-creating) a clear vision of what students are trying to learn. We'll have more to say about that below.

Formative assessment is used by teachers and students. Some people call an assessment “formative” if the teacher can use the information to adjust instruction without reference to students. Adjusting instruction is not a bad thing, but formative assessment is much more. Learning in schools is certainly managed by teachers, but it is the students who do the learning, and formative assessment helps students generate and use evidence within the learning process. According to our definition, if students are not involved in the process, it is not formative assessment.

Formative assessment improves student achievement of intended instructional outcomes. While some people count as formative assessment any assessment during learning, whether it is used or not, the FAST SCASS definition implies that the formative assessment information is intended to improve learning. The information needs to be used with the intention of improving learning (Black & Wiliam, 1998) and inform the learning process, whether learning improves directly or whether evidence suggests further work.

Students who experience the formative assessment process strive to answer three questions (Hattie & Timperley, 2007; Sadler, 1989): Where am I going? (What am I trying to learn?) Where am I now? (What progress have I made toward my learning goal?) What do I need to do next? (What next steps will take me closer to my learning goal?) They do this by generating and evaluating evidence of their own learning.

This kind of formative assessment is part of learning. When formative assessment is used regularly in the classroom, the lines between instruction, assessment, and learning blur (Hayward, 2015). When students, for example, are aiming to learn to write persuasive pieces, and during the writing process they get feedback they use to revise their work, is the feedback assessment or part of their instruction for that lesson where they revise? And are the insights students receive from the feedback as they read it and apply it to their work during the revision part of assessment, or is that learning? Well – yes and yes. True formative assessment blurs the lines between assessment, instruction, and learning.

Finally, as the old saying goes, “Knowledge is power.” The evidence of learning that students and teachers get during formative assessment creates a mandate to do something about it – and at the same time yields information that helps learning happen. Teachers who use formative assessment feel a need to differentiate instruction in a

way they hadn't before (Brookhart, Moss, & Long, 2010). Students who use formative assessment and thus know what they need to do next, in terms that are understandable and seem do-able, feel more in control of their learning and feel competent (Butler & Schnellert, 2015). That feeling of control is motivating. It fuels self-efficacy for learning and self-regulation of the learning process.

What Formative Assessment is NOT

With all of these good things claimed for formative assessment, it's no wonder that the concept has attracted some misconceptions and overgeneralizations. Like a snowball rolling downhill collects rocks and sticks, formative assessment has found some things "stuck" to it that don't belong there.

If formative assessment is a process, then it is not a set of assessment tools. If you hear something like, "We use formative assessments in our school," using "assessments" in the plural, chances are the speaker is not referring to formative assessment in the way we define it here. There are many formative assessment strategies and tools that one can use, and we will describe some of them in this paper. But the strategies and tools are not what make the assessment formative — it's how the strategies are used.

Formative assessment strategies can be used in very teacher-centered ways (Furtak et al., 2008; Jonsson, Lundahl, & Holmgren, 2015). When they are, they do not lead to any improvement of learning beyond that supported by conventional teaching and assessing. In fact, you can't tell by looking if an assessment – a test, a performance assessment, or an informal assessment – is formative or summative. (Summative assessment is assessment summarizing what has been learned; in most school contexts this means graded work.) You have to look at how the assessment is used. If students and teachers use the assessment evidence to figure out what students are supposed to be learning, where they are in relation to that intended learning, and what they need to do next to make progress, then the process is formative. If any single one of these components is missing, the process is not formative.

Any "formative assessment strategy" can be twisted and become a *de facto* summative assessment. For example, exit tickets are a popular formative assessment strategy. Exit tickets are supposed to involve students reflecting on what they learned and what they still need to learn. Students can use this information to inform their further study and teachers can use this information to adjust instruction if needed. The basic format is this: teachers give students a reflection question or a content area question at the end of the lesson. Students write their answers on a small piece of paper, which is their "ticket" out of the class. However, we once observed a teacher giving students a five-question "exit ticket" assignment, collecting them, and using them as a quiz grade. No matter what the teacher intended, that is summative assessment.

Why Formative Assessment?

Why is interest in formative assessment growing? And if it's such a good idea, why haven't teachers been using it all along? Teachers have always assessed their students. What is different is the realization that students need to participate in the process, that they as well as the teachers need to envision the learning goal, gather and interpret evidence of where they stand in their journey toward that goal, and actively figure out and take next steps (Andrade & Cizek, 2010; Hattie & Timperley, 2007; Sadler, 1989).

This approach to assessment, which has come to be called formative assessment or assessment for learning, has only been conceived in recent decades. Advances in learning theory are the reason. Years ago, behaviorism was the dominant learning theory, and teachers were expected to create lessons to which students would respond and from which they would learn. Then, the teachers would assess students to find out what they had learned. More recently, cognitive theories of learning have become more prevalent. While learning theory continues to change, and we hope it will become even more conclusive in the future, several basic assumptions from cognitive psychology go a long way toward explaining how student learning in classrooms is different from what our mothers' and grandmothers' teachers thought (Ormrod, 2006, pp. 187-189):

- Cognitive processes influence the nature of what is learned.
- People are selective about what they process and learn.
- Meaning is constructed by the learner, rather than being derived directly from the environment.
- Prior knowledge and beliefs play a major role in the meanings that people construct.
- People are actively involved in their own learning.

Considered in light of these assumptions, the three formative assessment questions (Where am I going? Where am I now? What do I need to do next?) make sense as a productive way for students to be involved in their own learning. These questions complement the phases of self-regulation of learning (Zimmerman & Schunk, 2011) and are important for all students, including students with disabilities (Butler & Schnellert, 2015). Students need to understand a learning goal, aim for it, use assessment information along the way to stay on course, and eventually be able to articulate what they learned and how they know they've learned it.

This orientation to learning has huge implications for both instruction and assessment. Teachers who simply incorporate "formative assessment strategies" into an otherwise teacher-centered approach to instruction, as we have seen, will not effectively harness the

learning power in students. For formative assessment to really work, a sea change – a whole different approach to instruction – is necessary. When planning a lesson, instead of thinking, “What am I going to do with the kids today?” a teacher needs to think, “What will my students try to learn today?”

It is very difficult to change one’s thinking at this fundamental level, but the results are worth it – students both learn more and are more motivated (Black & Wiliam, 1998). And teachers find that when they work on the foundations of formative assessment and really try to put them in practice, the results are worthwhile for them, as well (Brookhart, Moss, & Long, 2010).

The Foundations of Formative Assessment

Descriptions of formative assessment differ in how they list the strategies that can be used in the formative assessment process (Heritage, 2010; Heritage et al., 2012; Moss & Brookhart, 2009; Wiliam, 2012). However, they all have several basic, foundational aspects in common. First, clear learning goals and criteria for success should be communicated to students. It’s not just a matter of teachers having learning goals for students; students must understand them and actively aim for them. Recall the first formative assessment question, “Where am I going?” It’s not, “What directions did my teacher give me that I have to follow?” The student is the subject of the sentence. The student owns the learning.

The learning goals and criteria form the basis for collecting evidence of student learning. Teachers can find out how their students are thinking by asking questions like, “What are you trying to learn?” The learning goals, sometimes called “learning targets,” communicated to students should be small, achievable sub-goals derived from broader curricular goals and grade-level, state content standards. Content-area, standards-based learning progressions help teachers figure out student-friendly, learning-target-sized “chunks” appropriate for students to aim for and that add up to larger standards. Learning progressions provide curricular pathways that can guide teachers as they assist students in accessing and achieving academic standards for their grade level.

Video Example 1

The state of Hawaii is engaged in the production and use of Progress Maps that describe typical pathways students travel as they learn and achieve benchmarks in a standards-based curriculum. These learning progressions help the teachers consistently interpret evidence of students' learning as they make their way through the curriculum. The students in this video include those with disabilities.



<https://www.youtube.com/watch?v=8vltv2PaZVUh>

A clear learning progression makes it easier to plan instruction and lesson-by-lesson formative assessment (Steps 4 and 5 in the Hawaii implementation process). Each lesson needs a student learning target that fits into the progression. Lesson-sized learning targets for students are the "baby steps" they take in their progress toward the larger learning goals highlighted in this video.

Clear learning goals are the foundation on which formative assessment rests. A student receiving "feedback" without knowing what she is trying to achieve is basically just receiving directions. Questions or exercises meant to elicit student thinking, without the directional pull of a learning goal, are just chat. Some of you remember class "discussions" like this from your own school days.

With clear learning goals, even formerly unsuccessful students can learn. Based on their work with the Learning How to Learn (LHTL) project, the largest systematic study of formative assessment to date, James and colleagues (2006, p. 40) observed:

Pupils improve their learning and attainment when they have opportunities to think about what counts as good work. However, much more significantly, the improvements appear to be greater for pupils with weak basic skills. This suggests that, at least in part, low achievement in schools is exacerbated by pupils not understanding what it is they are meant to be learning.

A second foundation of formative assessment is feedback, which again is mentioned in every description of formative assessment. Hattie (2009, p. 173) suggested students needed "heavy dollops of feedback," while noting that of course it had to be the right

kind of feedback, focused on student work on the task, the student's process, or the student's self-regulation and pitched at or just above the level on which the student is working. Another important aspect of feedback is that it has to be part of a feedback loop or "formative learning cycle" (Moss & Brookhart, 2009) where students get timely opportunities to use the feedback and see the results. Without such opportunities, feedback delivered with the intention it will be used "next time" is unlikely to be effective.

With those foundations – learning goals and feedback – in place, other formative assessment methods and tools that make student thinking visible and thus amenable to analysis and change can make a real difference. Useful strategies include student goal setting and self-assessment, and the use by both students and teachers of strategic questions that make students think. Within these strategies, practitioners use a multitude of tools: exit tickets, whiteboards, student response systems, "traffic lights" (red-yellow-green indicators), and others. Remember these strategies themselves are not formative assessment. They are just useful ways to help generate evidence so that students who are aiming for a learning goal can find out where they are and where they need to go.

The next section of this paper gives several examples of formative assessment strategies used with students with disabilities, and it is important to remember that the strategies are only formative if they are carried out in a classroom where students are actively involved in directing their own learning. It is also important to note that feedback can come from the teacher, self or peers, or books, computers, and other materials. Students generally appreciate teacher feedback, and much has been learned about how teachers can deliver effective feedback in the context of the formative assessment process (Hattie & Timperley, 2007; Shute, 2008). Feedback from self-assessment can contribute to both increased achievement and self-regulation of learning (Brown & Harris, 2013). Peer assessment can also contribute to increased achievement, but often does not, and can bring with it student resistance and difficulties in implementation (Topping, 2013). The success of peer-assessment depends on how it is set up and managed.

Evidence for Connecting Formative Assessment and Students with Disabilities

Before we present practical examples, we will take a moment to cite research that suggests formative assessment is a very appropriate approach to use with low achievers in general and students with disabilities in particular. Black and Wiliam (1998) reviewed 250 studies and reviews of studies of formative assessment. They report that some, but not all, of the studies showed formative assessment helped lower achievers more than others, in effect narrowing the achievement gap while raising achievement overall (Black, Harrison, Lee, Marshall, & Wiliam, 2003). Their review described several studies as examples, including a study of disadvantaged kindergarten students (Bergan, Sladeczek,

Schwarz, & Smith, 1991), and a meta-analysis of 21 studies that primarily addressed of the use of formative curriculum-based evaluation for children with disabilities (Fuchs & Fuchs, 1986). The success of formative assessment in these studies serves as “proof of concept” that formative assessment can work with low achievers and students with disabilities.

Brookhart, Moss, and Long (2010) worked with six Title I reading teachers on professional development in formative assessment. The students of these six teachers were in an Extended Day Kindergarten program or were receiving remedial reading assistance while mainstreamed into regular elementary classrooms. The teachers found they became more mindful of their own instruction, involved students more, gave more specific feedback, kept more useful records of observations of students, began to focus on student motivation as well as achievement, and came to see formative assessment as part of good instruction. The teachers were very positive about their changes in practice and excited about the changes they saw in their students. Student achievement rose in first grade, compared with similar students of teachers who were not using formative assessment. Teachers also said they observed an increase in general reading achievement, motivation, time on task, and student engagement.

We have already mentioned the LHTL project and its finding that lower achievers benefitted from clear learning goals and success criteria, suggesting not knowing what they were supposed to learn was a key issue for them. The LHTL project found that three factors underlie effective formative assessment practice: making learning explicit, which we already mentioned, promoting learning autonomy, and a performance orientation (James, Black et al., 2006; James & Learning Research Program, 2006).

Promoting learning autonomy may be an especially important support for students with disabilities who have poor executive functioning. Butler and Schnellert (2015) suggest that teachers create a classroom environment that supports learning autonomy when they set tasks that give students opportunities for planning, thinking, and learning over time, and managing their learning. These opportunities promote students’ metacognition, motivation, and strategic action. Some students with disabilities, Butler and Schnellert point out, will need routines and structures to support such work, clear learning goals, feedback, and involvement in the assessment process. These are exactly the qualities featured in formative assessment. Shute’s (2008) review of literature on feedback similarly finds that low-achieving students benefit from immediate feedback and feedback that provides scaffolding and support, focused on the learning goal. These supports and the self-regulation they engender will help all students, including students with disabilities, move away from some of the unsuccessful routines they may have developed, for example, conceiving of tasks as following directions instead of making meaning, and seeing schoolwork as a series of isolated assignments that require mostly recall and drill.

What does Formative Assessment look like in Action with Students with Disabilities?

This paper began with an introduction to formative assessment and to students with disabilities. In this section, we synthesize the two, and present examples of various formative assessment strategies being used with a variety of students with disabilities in text and video form. Our intention is to show what effective formative assessment practices look like when used with students with disabilities.

Sharing Learning Targets and Criteria for Success

Sharing learning targets and criteria for success with students is the foundational formative assessment strategy. Everything else flows from it, and without it, no strategies can be “formative.” Students need to know what they’re aiming for or they can only comply with directions, not pro-actively regulate their learning. The formative assessment paradigm begins with the student deciding, “What am I trying to learn?”

Two common misconceptions about learning targets for teachers of students without identified disabilities are especially critical for teachers of students with disabilities. Many teachers think of a learning target as an “I can” statement, often written on the board for students to read. An “I can” statement does not constitute a learning target, and it’s not the teacher who “has” the target. A lesson has a functioning learning target if students can tell you “what I am trying to learn.” It takes more than a statement for students to reach that point; it takes a set of strategies that make the learning target live in the lesson.

A second misconception about learning targets is that a long-term learning goal is sufficient, for example, “I can write a descriptive paragraph.” While it is true that students need a long view of where they are going, *every lesson* should have its own learning target. Students should be aware of what they are trying to learn in every lesson. Students should know how each lesson’s learning builds on previous learning and leads to future learning. This is especially critical for some students with disabilities (as well as other students) who need short-term goals to keep them on track.

Effective teachers use the following general strategies for sharing learning targets and refer to the learning target before, during, and after each lesson. First, they share the learning target with students and make sure they understand it. Second, they have students do, make, say, or write things that produce evidence about their status on the learning target as they work. Third, they share success criteria with students, things to look for in their work that become the yardstick by which they will assess their own evidence to decide where they are and what they need to do, study, or understand next. To repeat, all of these strategies must be enacted in order for students to be truly

able to answer the question, “What are you trying to learn?” It is vital to consider which strategies are working as intended, and which may not be taking students to the next step. Students with disabilities and other struggling learners may need more scaffolding around these strategies to help ensure they understand the learning targets and why they are important. Specific suggestions include the following:

- State a learning target in language students can understand from the point of view of a student who has not learned it yet. Some teachers find “I can...” or “We are learning to...” sentences helpful, but the format is not required. What is important is that students have language to express what they are aiming to learn. A student’s individual needs and characteristics can provide clues about how to state the learning target. For example, some students may be easily distracted and it will be important to clearly and succinctly state the learning target multiple times throughout the lesson. Other students may have issues with their working memory capacity — and it may be helpful to provide the information in ways that the student can refer back to when needed.
- Explain the importance and relevance of the lesson’s learning target, its relation to the previous lesson’s and the next lesson’s targets, and its relation to the larger learning goal. Even better, use strategies and questions that help students make these connections themselves. Struggling learners may find it difficult to make the connections. Providing just enough detail, and clearly and explicitly helping the student work through the process, can support students as they process why each target is important within the larger context of their learning.
- Select or construct examples of work that illustrate various levels of achievement of the learning target. Ask students, in groups, to sort the work into sets of high, medium, and low quality. Working in groups, students will have to verbalize their reasoning. Facilitate discussion with students that helps turn their expressed reasons into criteria for good work. Some students may be better able to accurately sort the examples than others. Similarly, some can better verbalize their rationale than others. Low-performing students can find it particularly challenging to see why some work is of higher quality than others — yet it is vital for them to develop an understanding of how to evaluate various pieces of work. Develop processes to assist, for example, using additional modeling, smaller steps, and frequent brief feedback. Ensure that the groups are safe environments for students to express their opinions.
- Each lesson should include something for the students to do, make, say, or write that embodies the learning target. Just listening to a teacher talk does

not constitute such an activity. The students must do something that helps them actively pursue the learning target and at the same time gives them evidence of how they are doing. This dual role for student work — that it both develops student learning and at the same time produces evidence of student achievement — is critical for effective formative assessment. The tasks students do and the questions they answer should embody the lesson’s learning target in a direct and obvious way, so that both students and teachers perceive them as evidence of learning. They should be accessible and designed in a way that all students, including students with disabilities, can participate. Some students with disabilities may need to use accommodations. For example, if students are asked to write, a student with a disability that affects how she or he interacts with print may complete the activity using speech-to-text software.

- Provide success criteria (as rubrics, guiding questions, a list of “I can” statements, a checklist, etc.) that are more specific and descriptive than the learning target statement. Co-constructing success criteria with students is especially effective for learning targets where students have some background from which to draw. Consider the characteristics and needs of the students who will be using the criteria. For example, for students with intellectual disabilities, it would be important to consider the cognitive demands.
- Ask students to put the learning target and/or criteria for success in their own words, or participate in a think-pair-share or other processing or “unpacking” activity about the learning target and criteria. Simply listing criteria does not guarantee student understanding. As for any concept, students must be taught what they mean and how to use them. Involve all students, including students with disabilities, in processing activities. Listen to what the students say to identify student concerns, needs, and misunderstandings.

Formative Feedback

Feedback can come from many sources: teachers, the students themselves, peers, books, or computers. Here we focus on two of those sources, teachers and students.

Teacher feedback. Feedback that students can use to move their learning forward must be based on the learning target and criteria for success (see previous section). Otherwise, it’s not “formative assessment,” it’s just more directions for students to follow. Effective feedback describes — as opposed to evaluating or grading — student work based on the same criteria for success that students have been targeting. For example, “Good job!” is an evaluative comment; it does not describe what is good.

Contrast this with “Effective topic sentence” given for the same work, and assuming the learning target was to learn to write an effective topic sentence.

The student work is evidence of learning, and the criteria help both students and teachers interpret that evidence. For formative feedback, both students and teachers need to understand this process. Effective feedback is delivered in a timely fashion and contains a “just right” amount of information. Interpret the evidence of learning to focus on where students should turn their attention next rather than delivering a blanket critique of everything one could say about the work. Comments, whether written or oral, should be clear, specific enough for the student to take action, but not so specific the work is done for the student. Comments should be stated in language that implies the student is the owner of the learning, not the executor of teacher’s directions. All students benefit when feedback is linked to desired learning targets, processes, and outcomes. For some students, extra care may be needed to ensure that feedback is provided in a way that is accessible, useful, and actionable.

Feedback should be an episode of learning for both the student and the teacher — they both should learn something. The teacher should learn something about how the student is thinking, not just whether or not she is “correct.” The student, of course, should learn more about where she is in her quest to hit the learning target and be able to envision what she should do next. Questions such as “Where am I going?” and “Where am I now?” can help elicit good student feedback. The teacher should make sure the student has an immediate opportunity to use the feedback. Feedback delivered with the intent that students will use it on some indeterminate “next time” work is wasted time; this is simply not how learning works. Instructional plans should include dedicated time for students to use feedback. Teachers should provide feedback that makes information accessible to each student, including students with disabilities. For example, struggling learners and some students with disabilities may need their next steps described in concrete terms, for example, “Make a list of all the reasons you like this book. Then write a sentence for each one.”

Video Example 2

In this interview, Mr. Sias, a 7th grade Social Studies teacher, describes how he gives feedback to all students and how he builds into his instruction opportunities for students to use the feedback. He mentions several specific strategies: giving written feedback on written work while there is still time for revision, helping students understand their feedback using a numbered heads-together strategy, allowing students to keep their written feedback and use it for revising work, requiring revision for some students (those with work below a certain quality) and accepting optional revisions from others.



<https://www.youtube.com/watch?v=JhcdzHdn93o>

Self-assessment. Effective self-assessment begins with students setting, or at least understanding, a learning goal and understanding the criteria they will be looking for in their work, then applying the criteria to monitor and adjust their work. This needs to be taught; it does not come “naturally.” Checklists or rubrics are useful tools. They codify the criteria and give students a way to note and explain their self-assessments. For paper and pencil work, students can use highlighters to match aspects of their work with the performance descriptions. A key part of the strategy is having students explain — to each other, to the teacher, or in writing — their assessment of their work against the criteria and the implications for what they should do next. Students who are less proficient sometimes find it more difficult to accurately assess their work — though they benefit greatly when they learn how to use input from self-assessment. Students also need to feel safe to accurately self-assess. Teachers play a key role in helping struggling learners develop the self-regulatory processes, and in creating the safe environment, needed for honest and accurate self-assessment.

Video Example 3

In this clip, an 8th grade Social Studies teacher, asks students to assess their own achievement on each of a set of learning targets in their unit. She uses a 1 to 4 scale where each of the levels describes something a student would think or feel (e.g., "I can mostly do it by myself, but sometimes I mess up."). She has the students turn those in so she can "do a little check." Notice that one of the students had trouble holding in mind the definitions for each level; perhaps for this student, or for all students, a copy of the scale would make the self-assessment even more valid. She follows this rating activity with an exit ticket asking students to state what they did to make their learning go well today. Reading the resulting exit tickets should give Ms. Bach insights into the students' thinking processes during the lesson.



<https://www.youtube.com/watch?v=MJnTZMQjPE8>

Video Example 4

In this video, the teacher has set up a learning environment that enables students to successfully self assess their levels of development of Socratic Seminar skills using a chart with learning progressions. Students first self-assess, then discuss it with a peer, and finally pull back together as a class to consider next steps. While this appears straightforward in a few minutes of video, it is worth emphasizing that neither accurate self-assessment nor public discussion of self-assessment can happen without the safe learning environment, which has been nurtured over time.



<https://youtu.be/3Q-g272PGKQ>

Peer assessment. Peer assessment functions in a slightly different manner from self-assessment. The peer may or may not give useful feedback, and the student may or may not wish to modify the work because of it. Peer assessment can be successfully used with students with disabilities who have many different characteristics and needs, including students who have intellectual disabilities. Some research suggests students benefit most from peer assessment if their behavior is normative, and that students who struggle with behavioral issues may not be good candidates for peer assessment (Topping, 2013). Students who are aggressive or have disruptive behaviors, and those who are withdrawn, are less likely to be accepted by their classmates and more likely to get lower peer evaluations than other students.

Using peer assessment requires instruction in both the substance (how to apply criteria to the work, not the person) and the format (use descriptive language, note strengths as well as suggestions for improvement) for feedback. Model, perhaps using a role play, how to do peer assessment, making sure that the purpose is to provide formative suggestions for improvement and not peer grading. Give students feedback on the quality of their peer assessments. Students with disabilities can successfully serve in both the roles of assessor and assessee. Group students thoughtfully for peer review activities; care should be used in matching students with challenging behaviors with peers likely to be patient, understanding, and able to deal with challenges that may occur.

Video Example 5

In this clip, an 8th grade Social Studies teacher, has students do a “stand up, hand up, pair up” activity to give peer feedback on work focusing on a single criterion: Was the work specific enough? Students also gave each other suggestions on how to make the work more specific if that was needed.



https://www.youtube.com/watch?v=u_7OIGcMIcg

Additional Formative Assessment Strategies: Helping Students Gather, Interpret, and Use Evidence of Learning

There are a myriad of additional formative assessment strategies, the common denominator being the formative assessment questions: Where am I going? Where am I now? How do I close the gap? Or Where to next? These strategies can all be used poorly, in non-formative ways, if they do not involve students as well as teachers and give evidence for the formative assessment questions. This section presents a few examples of strategies teachers and students can use to gather, interpret, and use evidence of learning. There are many more potential strategies than we illustrate here, and teachers with a formative approach to instructional planning and assessment develop more every day.

The examples in this section all illustrate key qualities that any formative assessment should have. Each of these formative assessment strategies should be fit into a formative learning cycle. Each of these strategies assumes students understand their learning target for a lesson and the larger learning goals. Each strategy also assumes that students are learning to be assessment-capable and to apply criteria to evidence of their learning. As the video examples will show, students with disabilities can learn to be assessment-capable. As the previous two sections showed, these things must be in place in order for the following strategies to be truly formative.

Student goal setting and keeping track of their own work. When success criteria are presented in rubrics or checklists, or are visualized as learning progressions, students can set goals and monitor their progress using these tools. It's important to remember that the tools — whether a rubric or some other device — are not what is formative, and they are not the strategy. Formative assessment comes when students and teachers use tools that organize criteria and make them easier to apply to evidence of student learning, and then use the results to improve learning.

Video Example 6

In this video, the teacher works with students on goal-setting for their participation in one Socratic discussion, which is to be held soon in the same class. (The discussion topic will be whether or not chocolate milk should be served in schools. Students had read informational texts on both sides of this issue.) The short timeline is a way to make the goal-setting more immediate for students. The teacher further scaffolds the goal-setting by having students select as their goal one of the skills in an area (Analysis and Reasoning) the class had already identified as a weak point in their previous Socratic discussion. The learning progression functions as a tool to help students select their level of accomplishment. Thus students can set goals and levels of accomplishment by matching their learning intentions with elements on the progression. They do not have to write original goals; rather, they set their caps for the next level of accomplishment that is already mapped out for them. Students discuss their goals with peers, an additional strategy to help students understand and take on their goals. Finally, they hear everyone's goal. The goals are all different, but they are all about Analysis and Reasoning in a Socratic discussion. Reaching these goals becomes both an individual and a community effort.



<https://youtu.be/pa4EubsfOm8>

Asking strategic questions that make student thinking visible. The most effective formative assessment gives students and teachers insights into their thinking (and sometimes skill development), not just correct answers. One strategy for teacher questioning is to ask open-ended questions, where multiple good answers are possible. Another questioning strategy for making student thinking visible is to ask students to explain their reasoning, whether the question they are answering is open-ended or not. A third questioning strategy for making student thinking visible is the “reflective toss,” where the teacher asks a question based on a student’s own statement (van Zee & Minstrell, 1997). There are many other questioning strategies, and in all cases, the aim is to elicit responses from students that present a window on their thinking. Then, teachers and students can interpret the thinking and push further learning.

Students need to learn to ask strategic questions, as well. Methods for teaching students to ask strategic questions include helping students understand the difference between open and closed questions, using question starters (for example, using strips of paper that say “What would happen if...,” “How many other ways could we...,” “Why do you think that...,” and so on). Student questioning can be built into almost any collaborative learning activity, with as much or as little scaffolding as required. In some collaborative learning activities, a student in each group can be assigned the role of “questioner.”

Managing classroom discourse as students answer the teacher’s questions or questions from other students is important, too. Calling methods should ensure that every student is thinking about an answer. This means either using all-student response systems (see the section below) or calling on students randomly or at least non-systematically, and calling the student’s name after you ask the question, not before.

Video Example 7

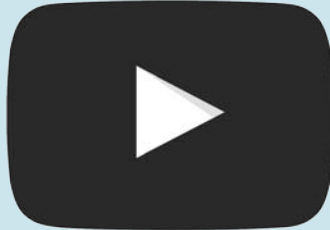
In this video, students are preparing for a Socratic discussion on the question of whether or not chocolate milk should be served in schools. Students have read informational text about chocolate milk and have organized their notes in a graphic organizer with “For” and “Against” columns. In this clip, a student asks the class a question about adding evidence he hears in the discussion, but had not considered in his own reading, to the notes he has already taken. Learning goals for the discussion include analysis and reasoning from evidence, making the student’s question right on point. The teacher asks the students to respond to his question and give their reasoning.



<https://youtu.be/mSNa9iJtP94>

Video Example 8

In this clip, the teacher uses flip cards with students' names as a way of randomly calling on students. This clip also shows her questioning strategy of scaffolding and asking students to explain how they arrived at their answers to problems in their 8th grade algebra class.



<https://www.youtube.com/watch?v=hAucV1AECEk>

Using techniques for all students to respond. When teachers can see the responses of all students, not just those who are called on, they get a sense of the distribution of understanding in the class. Common ways to do that include electronic every-student response systems (“clickers”), whiteboards, and letter cards (typically cards labelled A, B, C, and D, which students hold up in answer to multiple choice questions). Teachers also use hand or body signals as answers to questions, for example, “Thumbs up if you think the cork will float; thumbs down if you think it will sink.” Other variations include whole-hand voting (for example, “On a scale of one to five, hold up the number of fingers that indicate how confident you are that we will be able to make our river safe for swimming again”) or indicating by movement (for example, “Go to that corner if you think Billie Jo is mostly responsible for the fire, and to that corner if you think Bayard is mostly responsible for it”).

From a formative assessment perspective, all of these methods have the advantage over individual responses because both the thinking of every individual student and the collective thinking of the group are made visible. This makes more informed “Where am I now?” and “Where are they now?” decisions for both students and teachers. In addition, if the questions are deeply tied to the content and intended learning outcomes, the responses become evidence that helps move learning forward. Some of these methods require accommodations for some students, for example blind/visually impaired, physically impaired, or deaf students.

Video Example 9

In this video, a teacher works with three students in a small group. He uses whiteboards so that he can see the work of each student. Whiteboards also have the advantage of being very editable. Students can change their work as often as they change their thinking.



<https://www.youtube.com/watch?v=Fiz2Zk52Z7U>

Notice that in this clip, the teacher adjusts instruction for two students, but not for the third, based on the evidence of the work on the whiteboards.

Video Example 10

In this clip, co-teachers use response cards to ascertain all students' responses to a question about the use of the words "affect" and "effect." Notice that asking students to hold the cards in front of their chest helps students to do their own thinking and not look at the responses of other students. It also allows for "safe" answering of closed questions like this one – only the student and the teacher know whether the response was correct or incorrect.



https://www.youtube.com/watch?v=Rtbz2_jTjvI

Self-reflection methods. We hope it is clear that all formative assessment methods include an element of student self-reflection, by definition, as students experience the formative learning cycle and are guided by the formative assessment questions: Where am I going? Where am I now? What do I Need to do next? Some formative assessment strategies offer intentional tools or methods for making self-reflection explicit and concrete. Methods include keeping learning journals or learning logs, affixing sticky notes to annotate work, using traffic lights or other red/yellow/green indicators to express confidence in one’s understanding, and so on. All these methods are ways to compel student self-regulation of learning and yield external indicators of what often is an internal process. Once this thinking is visible, both students and teachers can interpret it and take action to improve learning.

Video Example 11

A teacher uses sentence frames (“I used to think____about Mesopotamia, but now I know_____.”) to scaffold student self-reflection about large-chunk (unit-sized) learning goals in his 7th grade world history class.



<https://www.youtube.com/watch?v=46swxjJXPV8>

Conclusion

This paper is an introduction to using formative assessment with students with disabilities. A main theme of the paper is that students with disabilities, as well as other struggling students without identified disabilities, can benefit from formative assessment.

Accommodations and scaffolding are needed for some students with disabilities so they can meaningfully access instruction and assessments, including formative assessment.

The paper introduced formative assessment and students with disabilities, then focused on illustrating key formative assessment strategies with students with disabilities, using both text and video. The video examples in this paper all included students with disabilities. Some were videos which showed formative assessment in action in a large-group classroom setting; others showed how formative assessment can be used with small groups. While reading and viewing this paper is not sufficient for complete professional development, it is intended to serve as an introduction to the topic and inspire teachers to embrace formative assessment's potential to help all their students. We encourage readers who are convinced of our message — that formative assessment should be available to all students — to pursue professional development that will hone their skills in using formative assessment strategies by additional reading, trying methods in class, and importantly, working with colleagues. The aim is to include students with disabilities in the benefits that formative assessment can provide if done well.

Of course no paper can list or illustrate all strategies. We have emphasized the foundational role of clarifying learning targets and criteria for success and of formative feedback. These strategies must be in place in order for students to participate in the formative learning cycle and answer the questions: Where am I going? Where am I now? What do I need to do next? We illustrated additional formative assessment strategies that help students and teachers gather, interpret, and use evidence of learning. Other strategies exist, such as exit tickets or the formative use of summative tests.

More important than an encyclopedic list of strategies, which by definition will be always incomplete, is changing one's approach to instruction. Traditional instructional planning often has teachers thinking, "What am I going to do with the students today?" In contrast, a formative approach to instruction and assessment emphasizes the importance of asking, "What will my students be trying to learn today?" and looking at learning from the students' point of view. This change in the pattern of teachers' thinking may be difficult, but it will certainly be worth the effort, especially for students with disabilities and for struggling learners.

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