RAPIDLY TRANSFORMING THE LEARNING EXPERIENCE

Formative Assessment:
Closing the Gap Between Teaching and Learning
Elijah Stambaugh was a frustrated middle school math teacher when he came up with the idea for Lightning Grader, a web-based, subscription application that grades 100 pages per minute and generates 14 reports about student performance.

He founded Lightning Grader in hopes of helping teachers find more efficient, technology-based ways to understand and address student comprehension.

During his school’s summer break in 2010, with the mentoring of the Youngstown Business Incubator, Elijah developed Lightning Grader to help teachers become better educators.

Elijah is a 2009 graduate of Youngstown State University where he earned a bachelor of arts in education. He taught for two years at National Heritage Academy in Youngstown.

Elijah and his wife Shannon have been married for 13 years and have two children. They live in Jackson Township where they are active in the Tabernacle Church.
“The direction in which education starts a man will determine his future in life.”

- Plato
Closing the Gap Between Teaching And Learning

Standardized Assessments Is there a better way?

Assessment and accountability are two buzz words that dominate media reports about education. National attention has been focused on our schools and tough visionaries such as Michele Rhees who make radical changes based on standardized test results. More states have adopted measures to tie teacher compensation to the results of standardized assessments. In extreme cases, teachers have lost their jobs and schools have closed based on the failure to reach standardized test goals. It’s no wonder that assessment has become a dirty word in some circles and that assessment can be seen as a distraction that takes time away from genuine teaching and learning.

In light of this, it’s worthwhile to ask the question: Does assessment have to be dominated by standardized state tests?

Formative Assessment Provides Opportunities for Better Learning Outcomes.

Naturally, there is a better way. State assessments and standardized tests for the evaluation of student performance are only part of the palette of assessments available to educators. There are daily assessments that provide students and teachers with meaningful feedback about teaching and learning. A focus on these types of assessments provide a more natural and successful roadmap to a better future. While Common Core and state standard assessments provide a measuring stick, daily assessments help guide the art of teaching through data. Data-driven instruction is best when it’s frequent and without judgment and the data is used to improve teaching and learning for each individual student and teacher.

"Once-a-year tests are incapable of providing teachers with the moment-to-moment and day-to-day information about student achievement that they need to make crucial instructional decisions." — Richard Stiggins, Assessment Crisis, 2002

WE ARE A NATION OBSESSED WITH THE BELIEF THAT THE PATH TO SCHOOL IMPROVEMENT IS PAVED WITH BETTER, MORE FREQUENT, AND MORE INTENSE STANDARDIZED TESTING.

Rick Stiggins states it best in his paper Assessment Crisis: The Absence of Assessment FOR Learning.

"We are a nation obsessed with the belief that the path to school improvement is paved with better, more frequent, and more intense standardized testing. The problem is that such tests, ostensibly developed to 'leave no student behind,' are in fact causing major segments of our student population to be left behind because the tests cause many to give up in hopelessness — just the opposite effect from that which politicians intended. Student achievement suffers because these once-a-year tests are incapable of providing teachers with the moment-to-moment and day-to-day information about student achievement that they need to make crucial instructional decisions. Teachers must rely on classroom assessment to do this. We know how to build healthy assessment environments that can meet the information needs of all instructional decision makers, help students want to learn and feel able to learn, and thus support unprecedented increases in student achievement. But to achieve this goal, we must put in place the mechanisms that will make healthy assessment possible."
Creating those mechanisms will require that we begin to see assessment through new eyes. The well-being of our students depends on our willingness to do so.”

**Assessment to Improve Teaching and Learning**

The use of assessments to improve learning is commonly referred to as formative assessment or assessment for learning. While there are many definitions about what formative assessment is, Shepard offers an exceptionally clear definition. (Quote To Right)

The history of the concept of formative assessment has been with us for awhile. In 1967, Michael Scriven advanced the concept of formative evaluation to discuss the difference between the use of an assessment instrument to measure student understanding, which he coined summative evaluation, versus the use of an assessment instrument for feedback to improve teaching and learning, which he coined formative evaluation.

**Bloom’s Elements of Learning**

Bloom built upon this concept in 1971 by incorporating formative assessment as a means to ensure mastery of learning before moving along to another concept. This in turn gave rise to self-guided modular instruction in the 70s and later to scaffolding. Bloom continued to build on his work and identified two essential elements of formative learning:

1. Feedback for students with corrective conditions (Bloom, 1977).
2. Creation of cooperative classroom groups based on the corrections required. From this point, teachers can differentiate instruction to meet the needs of individual students through selected teaching strategies and responses (Bloom, 1976).

Formative assessment is defined as assessment carried out during the instructional process for the purpose of improving teaching or learning... What makes formative assessment formative is that it is immediately used to make adjustments so as to form new learning.

(Shepard, 2008, p. 281)


**The Proof**

There is no doubt that formative assessment can make and has made a tremendous impact on improving teaching and learning. A plethora of research demonstrates time and time again that formative assessment has a large and positive impact on learning outcomes.

A groundbreaking study of formative assessment was conducted by Black and William of King’s College London School of Education and published in the article, Inside the Black Box. Their analysis evaluated 250 research studies on formative assessment and came to the conclusion that “significant learning gains lie within our grasp. The research conclusively demonstrated that formative assessment improves learning. Achievement gains are considerable amongst the largest ever reported for educational interventions. As an illustration of just how big these gains are, an effect size of 0.7, if it could be achieved on a nationwide scale, would be equivalent to raising the mathematics attainment score of an ‘average’ country like England, New Zealand or the United States into the ‘top five’ after the Pacific rim countries of Singapore, Korea, Japan and Hong Kong.”

Source: Inside the Black Box, Black and William, 1998

Learning gains had an effect size of 0.7?
When considering resources, formative assessment is more effective than other popular educational interventions such as class-size reduction. A study by Stewart Yeh of the University of Minnesota reports that an “analysis of the cost-effectiveness of 29 Comprehensive School Reform (CSR) models suggests that all 29 models are less cost-effective than an alternative approach for raising student achievement, involving rapid assessment systems that test students 2 to 5 times per week in math and reading and provide rapid feedback of the results to students and teachers.

Results suggest that reading and math achievement could increase approximately one order of magnitude greater for every dollar invested in rapid assessment rather than CSR. The results also suggest that reading and math achievement could increase two orders of magnitude for every dollar invested in rapid assessment rather than class size reduction and three orders of magnitude for every dollar invested in rapid assessment rather than high quality preschool.”

Correcting Wrong Thinking Before It’s Too Late

Why is rapid frequent assessment so effective? We all know that it is common for students to misunderstand key foundational concepts. These misunderstandings later inhibit their ability to learn subsequent material that builds on these conceptual areas. Formative assessment enables teachers to identify misunderstandings before misconceptions can negatively impact the student’s ability to learn.

Research by Roberta E. Dihoff (Rowan University), Gary M. Brosvic (Rider University), and Michael L. Epstein (Rider University) concluded that “students demonstrated the most recall, the most accurate identification of initial responses, the most confidence in their answers, and the least amount of perseverative incorrect responding on those final examination items that were originally responded to when immediate feedback was provided. These same students demonstrated less recall, less identification accuracy, less confidence in their answers, and more perseverative incorrect responding on those final examination items that were originally responded to when either end of test or delayed feedback had been provided.”

This research again confirms that feedback to the student that enables them to understand and to correct their learning process is critical to the improvement of education.”

Unique Opportunities for Student Collaboration

Formative assessment also provides unique opportunities for students to learn from one another. Ten years of research by Eric Mazur of Harvard University showed that student understanding increased significantly when students were given the opportunity to discuss a question and answer it versus traditional lecture-based teaching methods.

In his research, he delivered the Force Concept Inventory test to his students before his class and after his class to measure learning gains. He used traditional lecture methods for one year and then transitioned to a method of teaching that fostered student collaboration. A teaching method he calls Peer Instruction. His research shows that normalized gains increased from .25 when using standard lecture teaching to .74 when using Peer Instruction. Two fundamental underlying principles make student collaboration effective. One, students better understand the common misconceptions of their classmates and are in a better position to explain the correct reasoning than the teacher and two, force of logic in a student discussion will dominate incorrect or fuzzy reasoning.
FORMATIVE ASSESSMENT WHICH ENABLES STUDENTS TO PROVIDE FEEDBACK TO EACH OTHER TO INFORM THE LEARNING PROCESS HAS A PROFOUND IMPACT ON TEACHING AND LEARNING AND RESULTS IN BETTER LEARNING OUTCOMES THAN STANDARD TEACHING ALONE.
Classroom Strategies to Support Formative Assessment

It’s not a matter of should formative assessment should be a part of teaching and learning, it’s a matter of how much, how and when. The learning gains from formative assessment have been proven time and time again. There are few that would dispute its effectiveness, but there are many questions about how to practically implement formative assessment in the classroom. Stories from educators and research highlight effective practices and provide.

In their many years of observing formative assessment in the classroom, Black and Wiliam have witnessed five teaching strategies that facilitate the maximum learning gains:

1. Defining learning objectives and success criteria
2. Leading effective discussions
3. Providing feedback for moving learning forward
4. Facilitating student interaction
5. Creating an environment that encourages students to own their learning process

Let’s consider some real-life examples and expert suggestions to help make these strategies more understandable.

STRATEGY 1
Defining Learning Objectives and Success Criteria

In their article, "Developing the Theory of Formative Assessment," Black and Wiliam acknowledge the outstanding work done by Shirley Clarke to foster the successful implementation of formative assessment by setting the stage and creating shared expectations through learning objectives and success criteria.

Clarke states, "Learning objectives in the United Kingdom and their counterparts in the United States, state standards, should be stated simply in a language that is understandable." Clarke further explains that there are two keys for learning objectives to promote formative assessment. One, the objective should be decontextualized. For example, "write an account" rather than write an account of an underwater world." Two, it should be authentic. It should reflect what is going to be taught.

In her handbook Clarke writes, "Teachers often stick to the National Curriculum language when maybe their real learning intention for a lesson is slightly different. Once the learning objective is clear, success criteria and everything else follow much more easily. An unclear learning objective, for instance, might be "to learn how to make a cake" if what is really intended is "to be able to write instructions."

Clarke recommends that success criteria summarize the key steps or ingredients the student needs in order to fulfill the learning objective - the main things to do, include or focus on. In order to have maximum impact, success criteria:

(cont’d on next page)
Questions, and learning tasks. Well-planned engineer effective classroom discussions, Black and William suggest that teachers should develop a good list of questions, but what constitutes a good question?

Conversations should be exploratory in nature rather than take on the air of a game show where the host is seeking the correct answer from contestants. One key strategy is to

Avoid judgment - nothing closes down a conversation faster than the fear of appearing wrong. Even slight adjustments in wording can have a significant impact. A question that starts with “what could...” vs a question of “what should...” shows that there isn’t necessarily a correct or preferred answer.

Open versus closed questions - A question that can’t be simply answered yes or no invites more discussion and thought. Again, a few words can make a difference. “Do you think that the author ended the book effectively?” is a closed question. “Why do you think that the author chose to end the book this way?” is an open question that invites critical thinking and discussion.

Ask good follow up questions to keep the conversation going - In his blog post, Rethinking Class Discussion, blogger Todd Finley recognizes Ian Wilkinson’s research on questions and states the following good pieces of advice.

Clarify their answers: Tell me more about that.

Support their answers: What about the reading made you think that _____?

Argue: Convince us that _____

Examine their responses more fully: In what other context does that idea play out?

Consider different perspectives: What would you say to someone who thought _____?

Predict: What do you think that we will discover in the next chapter?

Hypothize: How would handle a situation like _____?

Decide: So, this leads you to what conclusions? Compare: How is your answer different

Finley also stresses the importance of waiting for an answer for 3-5 seconds even though the silence can be deafening. The silence gives students the opportunity to think and provide extended responses. In addition to effective questions, the Northwest Evaluation Association (NWEA) suggests ten formative assessment techniques. Six of these techniques focus on facilitating classroom discussion:

1. The Popsicle™ Stick - each student puts their name on a popsicle stick and their name is chosen at random to answer a question. This enables more students to participate in the discussion rather than just the vocal few.

2. The Exit Ticket - the teacher distributes a question to be answered about the lesson and collects the responses as students leave class. Three piles of answers are created based on the student level of understanding. In this way, a teacher can gauge where tomorrow’s lesson needs to begin.

3. The Whiteboard - each student writes down his/her answer on an individual whiteboard and holds up the answer to a teacher question. Each student can participate anonymously and the teacher gets a quick snapshot of the classroom.

4. Corners - students are asked to go to corners of the room based on their level of agreement with a statement relevant to the lesson. This encourages spirited discussion.

5. ABCD Cards - students signal the correct answer by holding up the appropriate card in response to a multiple choice question. Anonymous response invites participation and gives the teacher a quick snapshot of the class understanding.

6. Basketball Discussion - the teacher passes a basketball to a student to indicate that they should answer a question. The student then passes the ball to another student to indicate that they need to contribute to the discussion. This technique facilitates peer interaction in discussions.

Success criteria provide students with the tools to be able to assess themselves and their peers. Margaret Black, 4th and 5th grade teacher at Rama Central P.S. in Ontario, Canada, details how she has implemented learning objectives and success criteria on her blog. She involved parents and students in the learning process. In her classroom she has a colorful board that displays the learning objectives for each of the students and she has involved the students in creating their own success criteria. Mrs. Black states that the students appreciate the way that learning objectives and success criteria take the guess work out of learning.

STRATEGY 2
Leading Effective Discussions

Black and William suggest that teachers should engineer effective classroom discussions, questions, and learning tasks. Well-planned questions can prompt students to think and provide teachers with information to adjust instruction. Teachers need to use effective questioning techniques that keep all students engaged and that gauge the understanding of the whole class instead of just selected students.

Need to be known, in a basic form, by teachers first.

Should be the same set for all learners in a class.

Must be generated by pupils, or they have little meaning and less impact on learning.

Can be used across the curriculum, including social skills and thinking skills.

Need to be constantly referred to and completion should be recorded by pupils.

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Technology can be extremely effective in providing feedback that can guide classroom discussion. Lightning Grader can provide more immediate detailed information to an instructor than ABCD cards or whiteboards. This detailed information helps the teacher facilitate discussions based on classroom understandings and individual student perspectives. It also provides longitudinal data that is helpful in guiding teaching decisions over the course of a year.

"Do I really know enough about my pupils to be able to help each of them?"

Source: Black and Wiliam, Inside the Black Box, 1998

STRATEGY 3

Providing Feedback For Moving Forward

Formative assessment is most effective when teachers provide students with feedback that enables them to take ownership of their learning. According to Sadler, "feedback is required about the desired learning goal, the student’s present position and way for the student to close the gap." (Sadler, 1989) Teachers need to provide specific guidance on student’s strengths and weaknesses before the summative test so the student has the opportunity to improve. Feedback after the unit test is far less effective and some would argue meaningless. When teachers provide feedback, it shouldn’t compare the students work to others in the class like a traditional grade, but it should provide insights on how to improve. In order to deliver appropriate feedback, Black and Wiliam state that teachers need to confront the question "Do I really know enough about my pupils to be able to help each of them?"

With advancements in technologies, there are new tools available to collect data about student performance and produce reports that can be used in the classroom to assist teachers in providing feedback to students. Technology can also assist administrators in making curriculum choices and monitoring student progress. Implementing these new technologies and methods take time. The story of one school helps to showcase the improvements in learning that are possible once new technology-supported teaching strategies are implemented.

Youngstown Christian Academy

Youngstown Christian Academy had been searching for and testing methods to increase student achievement through data measurement for three years. After several attempts (yielding marginal, although improved results) with popular methods and widely available technologies, Academic Dean, Dr. Josh Reichard, PhD chose a two-pronged approach to assessment. He chose the "From L to J" method of assessment coupled with Lightning Grader, a SaaS grading application, to provide rapid data reports.
Implementing such a system didn’t happen overnight. Much thoughtful planning went into creating the new school-wide initiative to measure achievement. Reichard had to get buy-in from teachers and other administrators. He focused on the tenets of continuous process improvement and total quality management to iterate his ideas.

Dean Reichard says, “The purpose of collecting data is to track trends over time to inform decision-making. Data collection is essential to the teaching learning process because it provides a quantitative measure of student progress. Formative data provides feedback throughout the course and summative data provides final results. Both formative and summative data enable teachers to teach more effectively in less time and to focus on essential content rather than on trivial details.”

To introduce the new assessment model, the school created a “What Will You Learn” document based entirely on the Ohio State Content Standards where indicators are used to determine which content (what is to be known) and which skills (what is to be done) are taught, assessed and reviewed.

Based on this document, teachers developed a quarterly syllabus that aligned the Content Standards to each week’s assessments. The alignment of weekly assessments to the Content Standards provided a baseline for accurate data collection and reporting linked directly to essential knowledge and skills. Alignment is critical for student academic success because it ensures that students do not have permission to forget, but also ensures that time is not wasted on unnecessary review.

Once standards were aligned, teachers gave a pretest at the beginning of the school year with randomly selected questions covering all content standards for the year. As teachers progressed through the year they checked off particular standards and generated additional assessments with randomized questions based on those standards. By using the Lightning Grader software, teachers immediately learned the achievement levels of each student and Dean Reichard enjoyed an easy-to-understand overview of school achievement data.

The Lightning Grader software permits teachers to conduct an item analysis for both classes and individual students. Item analysis reports will show (and graph) the most missed questions, percentage of students who chose particular answers for each question, and how students scored individually on each assessment.

The Class Item Analysis shows the responses of every student in the class, the correct answer for each question, and the percentage of students that chose the correct answer for each question. This report allows teachers to quickly identify problem questions on an assessment or content that needs to be retaught or modified to meet the needs of the class.

Dean Reichard says, “Lightning Grader’s Student Item Analysis Report is a valuable tool for teachers to identify specific areas of strength and weakness for individual students on a particular assessment. Our teachers also use the Student Item Analysis Report as a summary of each student’s achievement on a particular assessment on a question-by-question level compared to class average.”
STRATEGY 4
Facilitating Student interaction

As previously shown in Eric Mazur’s research, a student’s peers are valuable. Their thoughts can often provide a student with new insights and learning opportunities. NWEA makes mention of the Think-Pair-Share method where students write down their answer to a question. They are then paired and they discuss their answer with another student. Finally, students share their answers with a larger group of people. This provides students with the opportunity to learn from each other.

Another innovative technique to facilitate peer interaction is Carousel Brainstorming. The class is split up into groups of four to five students. Each group gets their own chart and colored marker.

The idea is to have each group write down what they know about a sub topic or possible answers to an open-ended question. A time limit is placed on each group and when the time is up, each group passes their chart along to another group. Students must read what the other groups have recorded and then add to the list of answers. After the charts have been have worked on by each group they can be reviewed as a class and used by the students to write essays. Teachers can walk the classroom while the charts are being completed and note engagement levels for student understanding, which can be used to adapt instruction accordingly. (NWEA blog post).

STRATEGY 5
Facilitating Student interaction

Teachers need to provide feedback and create an environment where students take accountability for their own learning. Student involvement in recording the class progress helps them take ownership of their own learning. The creation of bar chart on a weekly basis showing longitudinal progress can be a great tool in this process. The Youngstown Christian School used this method with great success.

At the Youngstown Christian School, three basic charts for analyzing “From L to J” results are the Student Run Chart, the Class Run Chart and the Histogram. Assessments for “From L to J” quizzes were administered on paper and scored at 100+ pages a minute using Lightning Grader’s web-based software. Answer sheets were returned to students with a percentage score and number of questions right or wrong. which students individually transfer to their own Run Charts and Class Run Charts. Students conducted graphing themselves as a demonstration of responsibility and accountability for their success.

The Student Run Chart shows how students scored compared to a baseline goal or objective. It shows a class goal or baseline designed to depict improvement over the course of the year. Histograms are graphical representations of the percentage of students who achieved certain scores and can be compared over time. The curve lifted from “L” to “bell” to “J” over time. Teachers displayed these histograms on posters in their classrooms.

The school planned quarterly celebrations where home rooms and individual students were recognized for “all time best” during the learning is the Two Stars and a Wish technique as reported by NWEA on its blog. In short, it solicits Two Stars – areas where the student’s work excelled – and one Wish – an area where there can be some level of improvement. It can be administered in several ways, and ideally all three over time:

1. Review an anonymous piece of work with the entire class and have all students provide feedback
2. Break the class into pairs and have them review each other’s work
3. Have each student assess their own work. Two Stars and a Wish helps activate students and empower them as owners of their learning, and research suggests that self-regulation of learning leads to student performance improvement.

In 2004, Susan Brookhart, Senior Research Associate in the Center for Advancing the Study of Teaching and Learning at Duquesne University, along with some of her research colleagues, examined the impact of student self-monitoring on 41 students in two classrooms. Students were provided with structures and tools (logs, graphs, reflection sheets, etc.) to reflect each week on the success of their study and problem-solving strategies. An analysis of student reflection sheets showed that when teachers involved their students in monitoring their own progress, students were more autonomous and were able to accurately predict their performance on timed tests. Overall, the students in this study enjoyed participating in self-assessment and seeing their progress. Student comments on their reflection sheets also acknowledged the value of their own studying.
CHAPTER 3

TRENDS IN ASSESSMENT

With technology making it possible to assess all students in real-time, teachers are embedding frequent assessment into instruction. This flow of information about what students know enables teachers to meet the students where they are at and to adapt instruction for each individual student. This level of differentiated instruction opens up new opportunities for student achievement and requires the teacher to act as a facilitator that guides students through their own learning process.

Clayton Christensen in his ground-breaking book, Disrupting Class, has envisioned a classroom of the future where each student works independently with a computer. The teacher roams the classroom and helps each student individually overcome their challenges. Christensen admits that we are a long way away from seeing this type of innovation and that technology investments remain underutilized in most classrooms. The reason is that this type of individual computerized learning would compete with existing education models.

Kevin McChesney, who teaches AP physics, honors physics and general chemistry at Pickerington High School Central, has found tremendous benefits from using technology to accelerate the feedback loop. He states, “I use Lightning Grader for multiple choice portions of my tests, since I only need a normal sheet of paper and not an expensive Scranton form to make an answer sheet, I have been able to cut down on the cost and time associated with testing. We previously used Scranton machines, they are now over 10 years old and would never consistently work.

Since we’ve started using Lightning Grader, I have been able to generate reports that I use to track student progress, to spot errors I’ve made, and to analyze specific question. This year, I was rated as accomplished, the reports I’ve generated using Lightning Grader helped me reach that rating, by providing evidence of how I am using data to help my students. Lightning Grader has also allowed me to get tests back faster to my students, by cutting down the grading time, which allows them to do test corrections while the mistakes are fresh in their minds.”

Adaptive Learning

Other trends in adaptive learning include enhancing existing paper-based systems and educational models through the use of technology tools that empower teachers to interpret a student’s learning and personalize instruction. Technology such as the Lightning Grader provides these teachers with new insights about students strengths and weaknesses. Knowing what the student knows and doesn’t know, teachers are able to help each individual student as they take ownership of their learning.

Online learning is gaining hold in the advanced courses that many schools are unable to offer...

- Clayton Christensen

unable to offer, in small, rural, and urban schools that are unable to offer breadth, in remedial courses for students who must retake courses in order to graduate, with home-schooled students and those who can’t keep up with the regular schedule of school, and for those who need tutoring. Online enrollments are up from 45,000 in 2000 to 1 million today, as organizations like Florida Virtual School and Apex Learning lead the way.”
Enable Mobile Devices

The proliferation of mobile devices and the growth of BYOD programs as creates new learning tools and challenges for educators. Adequate bandwidth, network security and internet filtering are major concerns that schools are wrestling with. Along with these issues, come opportunities and teachers are making the most of tablets and phones to facilitate formative assessment.

Mobile devices enable learning to take place anywhere. For example, questions for formative assessment can be delivered while on a field trip to enhance the student learning experience. It can also extend learning outside the classroom using social media. “Twitter is a great way to keep your students thinking after class,” says Chris O’Neal, an instructional technology coordinator in Charlottesville, VA. “You can tweet a quick provocative question about a social studies lesson, for example, that will keep their brains active.”

And in the classroom, student assessments can be delivered to mobile devices and results gathered in real-time to enable instructors to differentiate instruction using grading software such as the Lightning Grader. This immediate response enables teachers to make changes to their teaching to address students needs immediately without the need for additional hardware of traditional clicker and whiteboard systems.

Standardized Assessments - Can Formative Assessment Help?

Formative assessment produces impressive learning gains. Research has shown that students can learn twice a much with effective formative assessment programs. State achievement tests and the common core are here to stay and play an important role measuring our global competitiveness, but it’s what happens in the classroom that really makes a difference in student achievement. Frequent embedded formative assessment provides teachers with the information necessary to make a difference in the lives of each student.

Technology facilitates the flow of information in ways that were not possible or even imaginable in the past. Ultimately, the best use of technology in the classroom supports a student centric environment where the teacher guides self directed and peer directed learning. This vision of the future holds the most promise and brings us beyond the dire headlines of assessment and accountability to a vision that is more exciting and meaningful. A vision where the student is a lifelong learner that strives and achieves their maximum potential.

If you’re interested in improving your formative assessment processes, request a custom demo of the Lightning Grader software.

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If you’re interested in improving your formative assessment processes, request a custom demo of the Lightning Grader software.