4 Steps to Optimizing Assessment and Boosting Student Achievement

Executive Summary

Pressure is on K-12 school and district leaders to demonstrate student growth and achievement amidst increasingly difficult state standards. Improving these results is possible if you are able to optimize assessment. The McGraw-Hill Education (MHE) Assessment Optimization Process guides you through assessment optimization in four steps:

1) Develop a shared vision for assessment.
2) Connect assessment with instruction.
3) Create a balanced assessment ecosystem.
4) Analyze results and use them to inform.

Assessment systems exist that make the process feasible and easy to navigate for any school or district that is driven to improve results and willing to make it a focus.

Introduction

Today, tremendous pressure is on school and district leaders nationwide to demonstrate student growth and boost student achievement within an environment of increasingly difficult and often-changing state standards. Fortunately, improving growth and achievement results is well within reach when you optimize your assessment strategy.

Knowing the pivotal role that assessment plays in academic success, we leveraged our experience with hundreds of district leaders, school administrators and teachers over the years to develop the McGraw-Hill Education (MHE) Assessment Optimization Process.

The methodology consists of four steps:

1) Develop a shared vision for assessment.
2) Connect assessment with instruction.
3) Create a balanced assessment ecosystem.
4) Analyze results and use them to inform.

This paper explains what these steps entail and how they can be applied to maximize the benefits of high-quality assessment and improve results. We've seen it work in many classrooms of varying sizes and student populations across the country.

Step 1: Develop a Shared Vision for Assessment

The first step in optimizing assessment and improving results is creating a shared vision for assessment and for how assessment results will be used. Be sure to gather input from all relevant stakeholders, including other district leaders, school administrators, teachers, students and parents. Having collective buy-in is essential to your success. Moreover, each group will lend a unique and valuable perspective that will enrich and broaden the collective vision for assessment.

Start by determining your school or district's goals for assessment and what you will do with assessment data. Below are several examples of such goals. Yours may include one or more of these, or others:

• Improve student learning and measure growth over time

• Evaluate the district's academic progress

• Establish accountability for performance at the student, teacher, school and district levels

• Inform district and school planning regarding resource, professional development and student needs

• Evaluate or validate curriculum

• Provide meaningful information to parents regarding their child's growth and development

Next, determine how various types of assessment can be used to accomplish the goals you have set. Determine what, if any, changes need to be made to better prepare students for year-end summative assessments. Consider multiple forms of formative assessment — from daily informal checks for understanding, to more formal weekly and unit assessments, to benchmark/interim assessments. Discuss the purpose of each type of assessment and how the resulting data can be used.

Additionally, consider how more formal formative assessments will be created. Will teachers have access to professional services or an assessment system to help them build more reliable and valid tests? (Research shows that teacher-created assessments have .35-.50 reliability compared to .85-.95 for assessments from an assessment company.)

Step 2: Connect Assessment with Instruction

Once a shared vision for assessment has been established, the next step is to drill down to the classroom level and connect assessment with instruction. This step is pivotal because productive learning is interactive — a dynamic exchange between the teacher facilitating learning and the student acquiring and demonstrating mastery of learning. The two are interdependent; if neither makes adjustments through the transaction, learning stalls.

Ensure Assessment Reliability

Assessments are:

35% to 50%
reliable if created by a lone individual

85% to 95%
reliable if created with an assessment organization

To connect assessment with learning, the educator should start at the foreseen "end" — the skills and strategies that must be acquired per state standards — and work backward. The process looks like this:

1) Determine the skills, strategies and standards that will be required, and how they must be demonstrated to show mastery.

2) Decide the content that will be taught and the pedagogy and technology best to teach that content to facilitate a successful demonstration of mastery.

3) Use assessment results to inform and adapt next instructional steps, relative to learning goals.

By planning which skills, concepts and standards will be assessed — and how they will be assessed — prior to instruction, teachers ensure that they are meeting students where they are currently and determining the best path forward. This "reverse-engineering" approach keeps instruction focused on learning and building proficiency in the areas required within state standards. It is a simple yet powerfully effective technique!

Connected, Personalized Learning

Ten to twenty years ago, the only way to offer personalized learning and support for individual students day-to-day was to provide an unrealistically high teacher-to-student ratio, build more classrooms and hire additional staff. But technology has changed that. Today, technology-based assessment systems make connected, personalized learning possible in every classroom, regardless of size.

Assessment systems make this possible because they can continually gather data about how each student is performing, measure it against past performance, identify any knowledge gaps, and suggest targeted activities or content to close those gaps. Using reports from the system, educators can know at any given point what each student is ready to learn next and where they need support.

Some systems also offer adaptive assessment, in which the test continually adapts its questioning based on the student's response — either increasing or decreasing the level of difficulty. Depending on your assessment goals, this can be a useful methodology. Compared to fixed-form testing, adaptive assessment is highly personalized, measuring individual student knowledge and achievement in great detail. This is especially beneficial when measuring achievement of the highest- and lowest-performing students, whose readiness typically cannot be captured via fixed-form testing.

Keep in mind, however, that the highly personalized nature of adaptive assessment has a down-side. It makes it extremely difficult to analyze performance results at a macro level. Therefore, its value to your school or district is solely dependent on the assessment goals you established in Step 1 of our process. Be mindful of this as you evaluate assessment systems and the test methodologies they support.

One School Administrator's Story

Name
Robinson Intermediate School

Location
Aurora, Missouri

Missouri

When Dr. Shawn Page joined Robinson Intermediate School in Aurora, Missouri as principal in 2008, he had his work cut out for him. More than half of the student body wasn't performing at grade level in English language arts (ELA) and mathematics. The school's state test scores were low, they had no way to track students' progress toward state standards, and they lacked predictive assessment data.

Dr. Page turned to McGraw-Hill Education for an assessment system that offers personalized learning experiences for students, powerful features for teachers (i.e. performance tasks, item banks, pre- and post-tests, fixed and adaptive assessment, targeted instructional materials, progress monitoring) and user-friendly reports for educators and administrators.

McGraw-Hill Education provides the assessment data Dr. Page needs to track student, class, grade and school progress and achievement

— as well as predict future achievement. Reports are featured in easy-to-read formats and available online, which makes them easy for teachers to access and use. Many teachers share individualized reports with students, getting them more involved and engaged in their own learning.
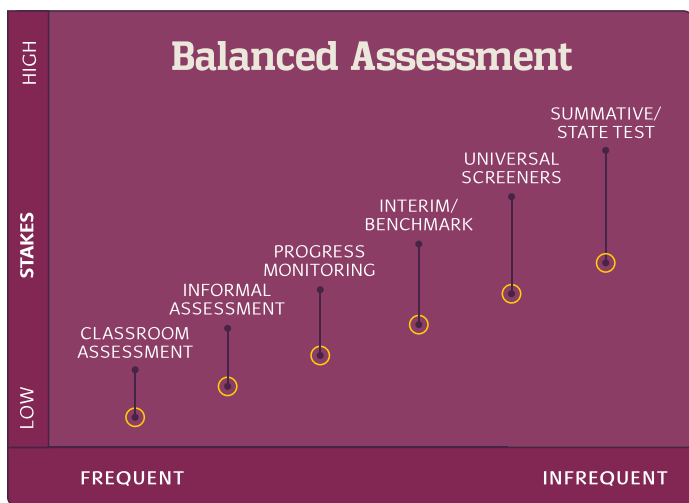
The school started with the McGraw-Hill Education ELA assessment and instructional resource content, and later added fifth and sixth grade math. Today, they are using McGraw-Hill Education as their complete assessment system.

When asked to summarize the system's impact on the school, Dr. Page said, "McGraw-Hill Education has enabled us to get better and better." Case in point: The school increased its ELA scores on the state's summative assessment from 40% Advanced and Proficient in 2014, to 62% in 2015, to 67% in 2016.

Step 3: Create a Balanced Assessment Ecosystem

The third step in the MHE Assessment Optimization Process is creating a balanced assessment ecosystem. An assessment ecosystem must be balanced in order for teachers and administrators to have a complete and accurate picture of how each student is progressing and where they are relative to state standards.

The figure below illustrates the concept of balanced assessment. As you can see, formative assessments occur frequently and the stakes are relatively low. Summative assessments, of course, occur infrequently and the stakes are high (particularly because their results carry consequences that affect all stakeholders in varying degrees).

Balanced Assessment

HIGH · STAKES · LOW

SUMMATIVE/STATE TEST
UNIVERSAL SCREENERS
INTERIM/BENCHMARK
PROGRESS MONITORING
INFORMAL ASSESSMENT
CLASSROOM ASSESSMENT

FREQUENT — INFREQUENT

Formative assessments include all short-cycle classroom activities that are used to measure learning and progress and provide evidence used to make instructional adjustments. They can be as simple as a teacher pausing instruction to do a quick check on students' general understanding, or they can be more structured and planned, such as a daily quiz or weekly assessment. They may even be administered by the student in the form of a self-assessment.

Informal assessments include performance based activities, research and inquiry projects and other alternative forms of measuring student progress toward outcomes. They are content driven and used to learn about student learning styles and behaviors.

Regardless of the format, the purpose they serve is to uncover readiness and inform instruction.

Interim/benchmark assessments and universal screeners bridge the gap between lower-stakes formative and high-stakes summative assessments. These formal, research-based tests need to be detailed enough to inform instruction yet broad enough to provide achievement information at a macro level. Typically, they are used to assess student knowledge relative to predefined goals and indicate the breadth and depth of curricula covered at a given point in time. Additionally, they can help uncover or confirm a student's need for intervention.

It is important that educators utilize all the various types of assessment to keep their assessment ecosystem balanced. As mentioned earlier, if the ecosystem is unbalanced, it cannot provide an accurate, complete view of students' learning or needs, making it more difficult for all stakeholders to achieve success.

Lastly, as you build the assessment ecosystem, keep in mind the assessment goals you established in Step 1 of our process. No matter how balanced the ecosystem, it cannot be effective unless it supports the primary assessment goals of your school or district.

Step 4: Analyze Results & Use Them to Inform

The output from the balanced assessment ecosystem created in Step 3 is a mass of data. In Step 4, the loop is closed by transforming that data into meaningful insights and using them to inform next steps.

With an assessment system in the classroom, measuring results and using them to inform instructional next steps happens every time a student starts a lesson. The system continually assesses the student's understanding of the material being presented and determines the readiness needed to move on. If the student demonstrates that additional support is necessary, the system recommends targeted content (e.g., video, interactive resource or teaching game) specifically designed to close the learning gap.

Some assessment systems offer comprehensive reporting functionality that makes it easy for teachers to gather results that inform instruction. Teachers can use the reports to determine how individual students are progressing relative to their personal learning goals within the state's standards. They can also use them to discover specific information about class performance, such as how a group of students is performing year-over-year. Some teachers share assessment reports with individual students to get them more involved and engaged in their own learning, which can be very effective.

For administrators, being able to run reports at the student, class, grade, school and district levels provides layers of valuable information that informs decision-making. Reports can reveal current student progress toward state standards, predict future assessment results, and uncover academic areas where more resources may be needed. They can also be used to evaluate curricula by comparing grade to grade level, year-over-year.

Conclusion

Even in today's climate of increasingly difficult state standards, student growth and achievement can be increased by optimizing assessment.

Based on years of experience, the MHE Assessment Optimization Process was developed to help school and district leaders maximize the benefits of assessment. It is executed in four practical steps:

1) Develop a shared vision for assessment.
2) Connect assessment with instruction.
3) Develop a balanced assessment ecosystem.
4) Analyze results and use them to inform.

Employing a modern assessment system, inclusive of quality assessment items and prebuilt forms like that available from McGraw-Hill Education, in conjunction with these steps, creates a solid foundation for improving student success and increasing summative scores.

Visit **mheducation.com/prek-12** to learn more.

About McGraw-Hill Education

McGraw-Hill Education is a learning science company that delivers personalized learning experiences that help students, parents, educators, and professionals drive results. McGraw-Hill Education has offices across North America, India, China, Europe, the Middle East and South America, and makes its learning solutions available in nearly 60 languages. Visit us at **mheducation.com**.

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