GUIDE

How MAP Accelerator connects math assessment data to the right instruction for each student

nwea

When education leaders look at math outcomes across their districts, whether it's just a few schools or hundreds, the landscape they see is far from homogenous. School performance, instructional strategies, and academic achievement can be highly variable, leaving districts with an uneven distribution of successful practices. And with research showing a marked decline in math learning progress since the onset of the pandemic, district leaders are looking to stop this trend in its tracks.

As they work to boost math outcomes and create greater equity across their districts, leaders rely on high-quality assessment data. Good data provides a reliable snapshot of student learning and growth, helping teachers identify and better serve students who need extra support, as well as those who are ready for more advanced material. But data is a resource, not a solution unto itself. To bring about meaningful improvement and lasting change, districts need a comprehensive way to examine, understand, and act upon the data available to them.

MAP® Accelerator™, a personalized math learning tool for students in grades 3–8, was designed to meet this need. It's a powerful solution built atop two proven pillars in the field of education. The first pillar is MAP® Growth™, the flagship offering from NWEA® and the most trusted assessment for measuring achievement and growth in K–12 math, reading, language usage, and science. The second pillar is Khan Academy, the mastery learning system that has fast become an indispensable asset for supporting classroom learning. MAP Accelerator creates a bridge between these two resources, helping educators realize the full potential and value of each—while making it easier for teachers to meet students where they are.

This guide will examine the challenges that districts face with student achievement in mathematics and will introduce you to MAP Accelerator as an effective tool for overcoming barriers to progress in this area. You'll learn how a seamless connection between MAP Growth data and Khan Academy content can support student growth and help districts achieve their goals in a number of important ways. These include:

- Ensuring that districts are not only generating high-quality assessment data, but also **utilizing that data effectively** for the benefit of students.
- Putting **personalized supplemental math instruction** at teachers' fingertips, which saves time and increases confidence in the value of assessments.
- Improving the **consistency of outcomes** and **sharing of instructional best practices** across a district by creating better visibility into student-, classroom-, and school-level performance and creating new spaces for conversation.

Adding up the costs of inconsistent outcomes

As a recent analysis showed, schools in the same district that are only a few miles apart may be markedly different in terms of their academic performance and funding levels. This inconsistency troubles district leaders for a number of reasons, starting with the basic fact that not all students experience the same opportunities to learn. While some kids are able to advance to progressively more complex material and prepare for college and professional life, others experience unfinished learning and delays.

In addition to these equity concerns, inconsistent outcomes can also lower a district's standing relative to others, with punitive consequences when it comes to the allocation of funding. And while every district has its success stories, superintendents aren't satisfied until those successes can be shared and replicated. Even if a math teacher in School A has figured out how to effectively provide her students with differentiated instruction that results in higher achievement, disparities will remain until her success can be shared with math teachers in School B. That's why leaders are seeking solutions designed to transcend the siloed nature of school culture and achieve true district-wide implementation, so that all teachers have access to the same resources, best practices, and opportunities to learn from each other.

Navigating the nuances of math instruction

Math is a uniquely challenging subject to teach. While unfinished learning in any subject can delay a student's progress, it's especially important to keep kids on track in math. The discipline of mathematics is sequential in nature, with concepts building and developing over time. When students struggle with one math concept, they are more likely to struggle with the next concept in the curriculum, too. That's why tailoring instruction in a timely manner is so important for student success.

To prevent students from becoming discouraged and concluding they are simply "bad at math," educators need high-quality assessment data that helps them meet students where they are. But assessment by itself is no panacea—it must be paired with instruction that is tailored to each student's individual learning needs.

In order to effectively connect assessment data with supplemental instruction, educators need a convenient intermediary solution. Before we explore how MAP Accelerator fills this important niche, let's look a little deeper at the consequences that educators face when these two critical components—assessment data and instructional content—are disconnected from each other.

When data is detached from supplemental instruction

We've established that high-quality, research-validated assessment data is critical for understanding how students are doing in math and gaining insight into their learning needs. But educators don't always have the time or support they need to effectively act upon this data as they develop their instructional strategies. There's no shortage of assessment data or supplemental instructional material these days—the challenge is to bring these assets into alignment.

For many teachers, differentiating instruction is a go-it-alone undertaking. Using the assessment data available to them, teachers are often on their own in responding to each student's abilities and needs. "What are my students currently capable of doing?" "Where are they struggling?" "Can I teach them at grade level, or do they have different needs?" These are the key questions facing teachers as they oversee students with a wide range of skill sets, learning styles, and levels of readiness and interest in the material.

Similarly, developing personalized learning pathways for each student that are informed by assessment results is a manual process for most teachers. They may be savvy in the use of supplemental resources such as Khan Academy, but they have to look at each student's RIT score, find instructional content appropriate for their learning level, and then activate those resources, not to mention continually reassess students' learning progress and adjust the instruction as needed. It can be done—and every district has its shining examples of teachers who do it well—but it requires a lot of time, which in many classrooms is the resource in shortest supply.

For these reasons, strategies for personalized math instruction can vary widely from one classroom and one school to the next. Superintendents are likely to describe their districts as heterogeneous systems in which many schools do their own thing in pursuit of their performance goals, using a variety of tools to get there. As a result, district leaders may have clear evidence that MAP Growth scores are rising in one school while they're falling at the school just down the road, but they may not understand why. They know some teachers are doing remarkable things to improve outcomes for students, but how they're doing them—let alone how to spread these practices to other teachers—often remains a mystery, making the implementation of effective district-wide approaches an elusive goal.

MAP Accelerator: Bridging the gap

Today's math teachers work in an information-rich environment. As they seek to identify each student's zone of proximal development (ZPD) and put them on a path to success, the main challenge isn't necessarily a lack of good assessment data or instructional materials—though it's certainly true that not all teachers have equal access to these resources. In many cases, what stymies teachers is the task of making efficient, well-informed use of the assets already available to them. MAP Accelerator was designed to make quick work of this task, lifting a major burden from teachers' shoulders while providing all students with automated instruction that's personalized just for them.

As explained earlier, MAP Accelerator creates a bridge between two assets that many teachers already trust and use. The first of these assets is MAP Growth, the research-validated interim assessment solution that gives teachers real-time insights into their students' ZPD and illuminates district-wide trends for administrators. The second asset powering MAP Accelerator is Khan Academy, the highly respected and increasingly popular mastery learning system that helps kids address unfinished learning and prepare for increasingly difficult material.

Since Sal Khan began posting his own tutorial videos to YouTube in 2006, Khan Academy has seen explosive growth thanks to its mission and the quality of its offerings, with more than 18 million learners now using the site every month. Regardless of whether a district has formally approved and encouraged the use of this resource, many of its teachers are likely already familiar with Khan Academy's instructional content—especially in math, where Khan Academy got its start.

In Khan Academy's personalized learning system, students work on a skill until they master it and are able to demonstrate their knowledge over time using individual skills and combinations of skills. Khan Academy's Common Core–aligned math content now includes:

- 700+ exercises
- 7,500 practice problems
- 1,125 instructional videos and articles

Khan Academy works

Research suggests that Khan Academy has a key role to play in American education.

One study found that students who complete at least 60% of their grade-level math on Khan Academy have 1.8 times more growth on the math portion of MAP Growth than expected.

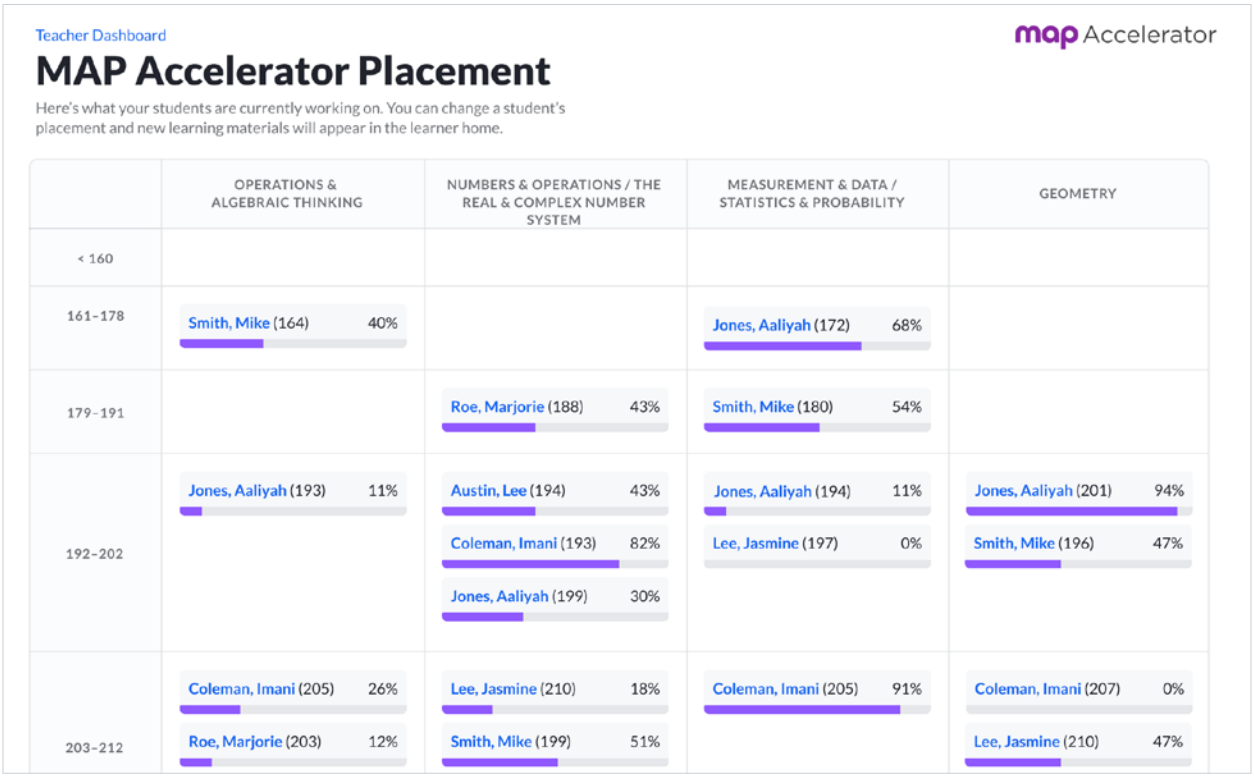
But teachers need more than login credentials to get the full value of Khan Academy. Without the support of a translational tool like MAP Accelerator, teachers have to spend valuable hours looking up their students' MAP Growth scores and sifting through the Khan Academy site for appropriate content. The initial setup alone is time-consuming, and it can be challenging to sustain a highly manual process. In contrast, a teacher using MAP Accelerator has a markedly different experience.

- First, the teacher logs in to MAP Accelerator and clicks on a pre-loaded class roster. A dynamic grid appears, with every one of their students assigned to personalized learning pathways for four instructional areas: Operations & Algebraic Thinking, Numbers & Operations, Measurement & Data, and Geometry.

- As students spend the recommended 30–45 learning minutes per week on their customized Khan Academy content, teachers can monitor students' progress via easy-to-read reports showing how students have performed on quizzes and checks for understanding that are built into the instruction.

- At any time, the teacher can access each student's automated placements and adjust or add assignments as needed to reflect their own sense of the student's readiness for new material.

MAP Accelerator automates the connection between MAP Growth and Khan Academy, allows for efficient customization and tracking for all their students, and gives teachers the last word on their students' learning pathways and assignments. The tool is designed to strengthen the teacher–student connection, reduce busywork, and return valuable time to the teacher.



Inside MAP Accelerator

- Available for grades 3–8
- Available for schools in the US only
- Aligned with Common Core standards
- Uses Clever for rostering
- Available to schools using MAP Growth

Shared instructional best practices, bigger math gains, higher ROI

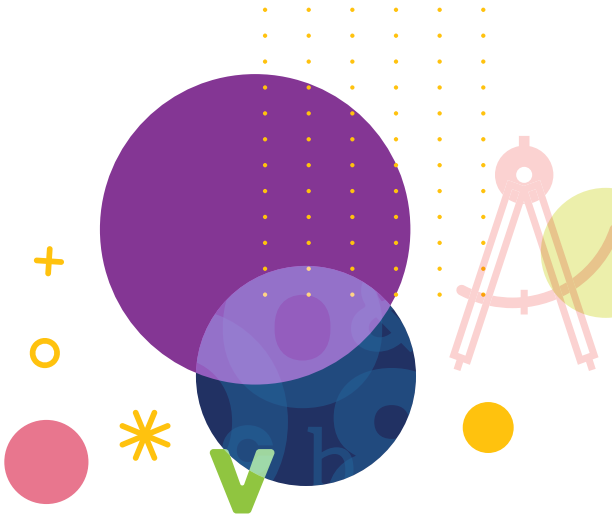
Whether a school district has five buildings or five hundred, district leaders crave transparency and actionable insights into what's working in their system—and what's not. With an influx of federal funding to help schools and students recover from the impacts of the pandemic, superintendents have a generational opportunity to invest in large-scale change initiatives. Faced with a concerning decline in math achievement and persistent disparities that threaten their commitment to equity, district leaders need effective solutions to support all students and break through these barriers.

With district needs in mind, NWEA and Khan Academy co-developed MAP Accelerator to address these fundamental issues and facilitate lasting transformation by:

- Helping to ensure that **assessment data is used effectively** to personalize instruction, thus maximizing return on investment for the district's assessment solution.
- Promoting **shared best practices in grade 3–8 math instruction** across each district by automating the connection between RIT scores and supplemental instruction for every student, making it easier for teachers to provide personalized support to individual students that complements their whole-group instruction.
- Providing district leaders with **regular reports** that show the uptake of MAP Accelerator across the district, including the number of students enrolled at each school and the percentage of accounts activated.
- **Supporting teachers** with an automated solution that makes judicious use of assessment data and doesn't threaten their autonomy.
- Connecting districts with **professional learning opportunities** to orient teachers to MAP Accelerator, show them how it can be used in their teaching, and explore ways to bring students into goal-setting conversations.

As our hard-working teachers find their way to a new normal in the COVID era, they are both adapting to a strong tilt toward technology and reckoning with the ongoing impact of unfinished learning. Schools across the US have seen steeper declines in math than in other disciplines, raising questions about the long-term impact of math anxiety for young students. How can we keep them engaged in a subject in which each new skill builds on the one that came before, gradually adding up to a proficiency that will make a lasting difference in their lives?

The partnership between not-for-profit entities NWEA and Khan Academy represents a commitment to leveraging some of the best aspects of technology—automation, algorithms, and data visualization—while unburdening teachers and giving districts a major assist in their push for better outcomes and more effective sharing of successful instructional strategies. We encourage you to learn more about MAP Accelerator, see what it can do for districts like yours, and reach out to us anytime to continue the conversation.



nwea

NWEA is a not-for-profit organization that supports students and educators worldwide by providing assessment solutions, insightful reports, professional learning offerings, and research services. Visit NWEA.org to find out how NWEA can partner with you to help all kids learn.

NOV21 | KAP7675