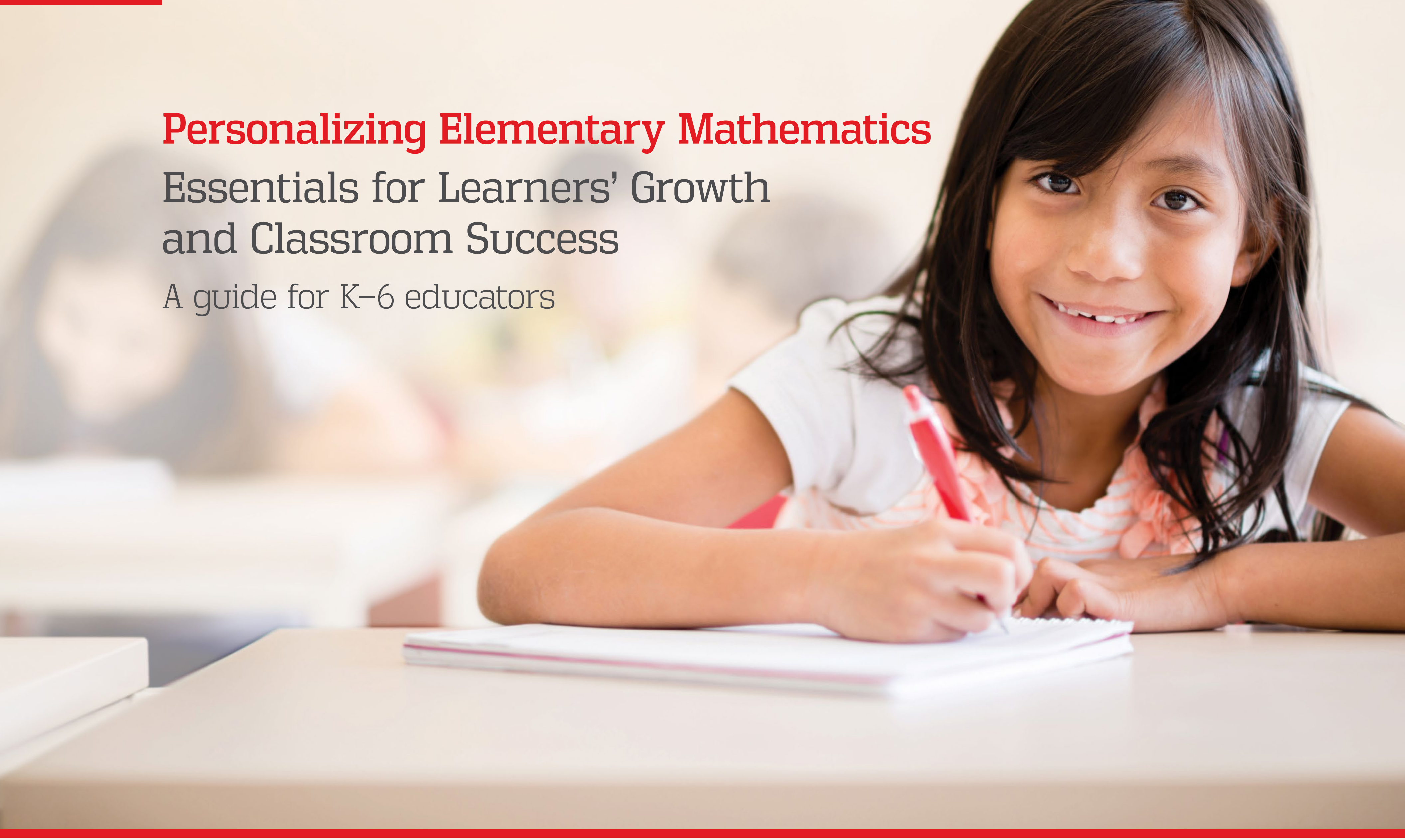
McGraw Hill Education

Personalizing Elementary Mathematics

Essentials for Learners' Growth and Classroom Success

A guide for K–6 educators



Personalizing Elementary Mathematics

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Unlock the Full Potential of Every K–6 Math Learner

All students are unique. They all have individual learning needs—and individual interests. Each has the potential to achieve math success.

Given the widespread implementation of blended and personalized learning curricula frameworks and resources in K–6 classrooms today, achieving higher outcomes for young learners is possible. In today's future-ready schools, educational experiences can be dynamically individualized to ensure that all K–6 learners remain challenged, engaged, and supported along their learning paths.

Educators are facing a pivotal opportunity to rethink approaches to mathematics curriculum, instruction, and assessment. At the same time, learners and educators are increasingly technology-savvy and amenable to digital learning and discovery. In response, school and district leaders are pursuing bold personalized learning approaches that more powerfully address how students learn best. These leaders are implementing innovative curricula and instructional technology that empower teachers to create highly effective, student-centered learning environments.

This ebook is intended to provide ideas, strategies, and resources to assist school leaders in delivering a positive, measurable impact on student outcomes using personalized learning approaches for elementary math instruction. Evidence-based educational content and resources can expand a school's range of curriculum offerings. They can accelerate the learning process for a broad range of students, unlock their potential for achieving success in secondary classes, and help them excel in the classroom and beyond.

Janet Pittock
Director, Curriculum, McGraw-Hill Education

Janet Pittock

Today's Learners

It's no secret that a mathematics proficiency crisis persists in the United States today. Fully two-thirds of Grade 8 students rank below-proficient in mathematics, according to the Nation's Report Card (National Assessment of Educational Progress, 2018). Mathematics builds on a foundation of understanding. For some elementary schools, it's an ongoing challenge to deliver the rigorous instruction needed to build strong foundations for success in the middle and high school years. In 2017, only 34% of eighth graders and 40% of fourth graders scored at or above proficient levels in math (NAEP, 2018).

That's bad news for mathematics achievement, but the news for students of color is even worse. While performance on the NAEP mathematics test is generally trending slowly upward, racial and ethnic score gaps persist with no significant changes foreseen. While performance on the NAEP mathematics test is flat overall, race and ethnic score gaps persist: 87% of Black eighth graders and 80% of Hispanic eighth graders are below proficient (NAEP, 2018).

The U.S. Department of Education reports that white students no longer constitute the majority of K–12 students and the percentage and number of white students will continue to drop steadily from 50% in 2013 to 45% in 2022.

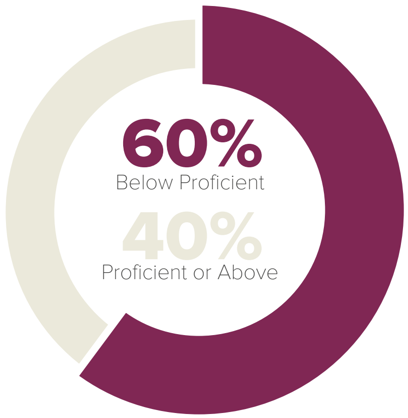
Fully 9.4% of U.S. public school students were English language learners in 2014–15, an increase of more than 9.1% since 2004-5. Percentages for the 2014–2015 school year ranged from 1.0% in West Virginia to 22.4% in California. NAEP results for English language learners are also flat. 94% of eighth grade students identified as English language learners scored below proficient (NAEP, 2018). Teachers must have effective materials, scaffolds, and teacher training to enable all students—even those learning English—to acquire and use the academic language of mathematics.

Meanwhile, whole-class instruction in the mathematics classroom assumes that one size fits all, but assessments reveal that some learners do not come to class ready to learn grade-level material. Whole-class instruction is designed to address average readiness, even though there is no average student.

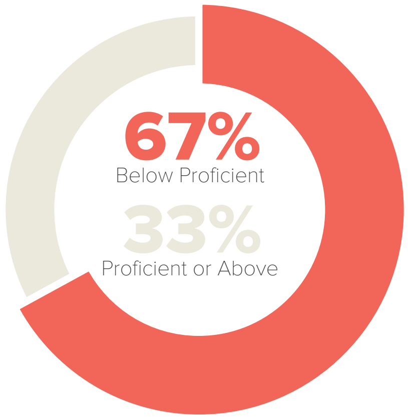
DISCOVER MORE

- Diversity in the Classroom | USA Today
- The Nation's Report Card | 2017 Mathematics Results
- The Myth of Average | Ted Rose | TEDxSonomaCounty
- English Language Learners in Public Schools | NCES

Grade 4 Math Scores



Grade 8 Math Scores



Yesterday's Techniques Won't Prepare Today's Learners for Tomorrow's Challenges

Today's learners must prepare for tomorrow's world, and they can't do that with yesterday's learning models.

Today's students live in a climate of constant sensory input—a rich mix of sound, video, written and visual information, and social media interactions. The fast-paced, visual, responsive environments they experience condition learners to expect rich, interactive learning events. Learners want to engage with experiential content that interests them, and they yearn for control over what and how they learn.

It's nearly impossible to predict what challenges today's learners will face in their futures. Tomorrow's world will be changing faster than ever, but one thing we can reliably predict is that persistent, self-directed, life-long learners will be best positioned to prosper.

DISCOVER MORE

- Preparing the Class of 2030 | Microsoft
- 85% Of Jobs That Will Exist in 2030 Haven't Been Invented Yet: Dell | Huffington Post

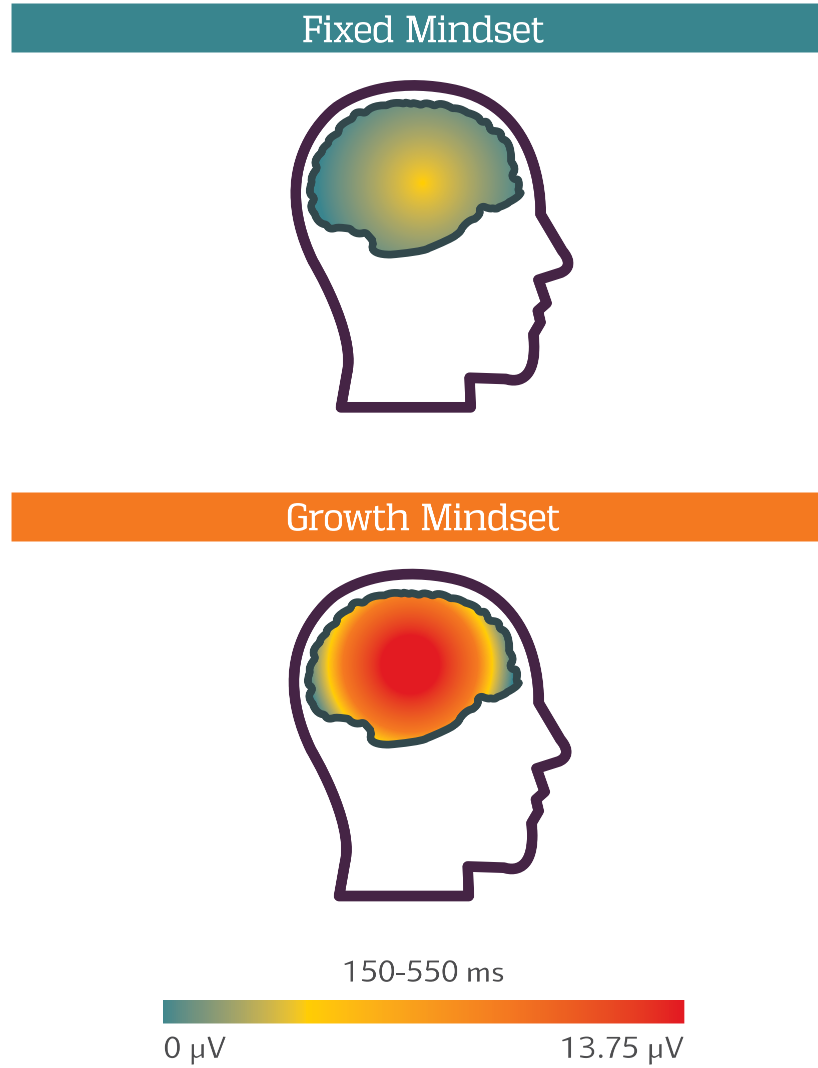
Future-Looking Goals for Mathematics Learners

While 94% of U.S. citizens use mathematics at work, today's careers on average require fewer than one-quarter of employees to regularly calculate anything more complex than basic fractions (The Atlantic, 2013). So why do we require students to acquire advanced mathematics skills to graduate from high school and as a prerequisite for post-secondary education?

We place a high value on mathematics courses, because they can provide so much more to every student than just learning how to solve an equation. Mathematics learning experiences can help young learners:

- value persistence, grit, learning from mistakes, and a growth mindset;
- build an analytical, quantitative lens for looking at the world;
- gain confidence in building understanding and knowing that mathematics makes sense;
- acquire 21st-century skills such as constructing knowledge, communication, and more.

Regarding mindset, it's important to ensure that learners not only try harder to acquire math skills, but to try new strategies to rewire the brain and increase their intelligence. Research shows that growth-minded individuals can learn and improve accuracy by overcoming and rebounding from mistakes.



Brain activity in individuals with a fixed and a growth mindset (Moser et al., 2011). Growth-minded individuals show more brain activity stimulated by their response to mistakes.

DISCOVER MORE

- How you can be good at math, and other surprising facts about learning | Jo Boaler | TEDx Stanford about the value of growth mindset in the mathematics classroom
- 21st Century Skills | ISTE
- Carol Dweck: The power of believing that you can improve | TED Talk about growth mindset
- Grit: the power of passion and perseverance | Angela Lee Duckworth | TED Talks Education

Characteristics of Effective Mathematics Classrooms

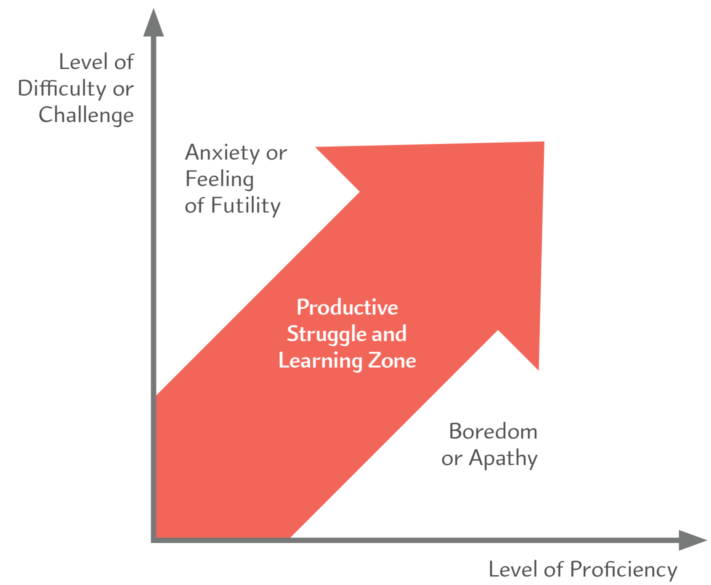
Ensuring that every student meets contemporary mathematics standards depends on attaining a balance of understanding, procedural fluency, and applications to problems. To build new understandings, learners depend on a solid foundation of proficiency in precursor content. Unfortunately, only about one-third of learners in mathematics classes are currently proficient and ready to learn on-level content. Educators must be proactive about bridging this gap.

College- and career-readiness truly begin at the elementary level. Future-ready mathematics instruction depends on elementary educators to provide a rich, connected experience for every student. That means providing resources to create an intuitive, adaptive, and connected math curriculum to both enrich and accelerate grade-level learning, and reinforcing foundations for those struggling below their grade level.

Academic research shows that learners progress most effectively when they are working in their *Zone of Proximal Development*, defined as the place where the material is "just right" for the student, where learners succeed with appropriate scaffolding and productive struggle. Supporting learning for a diverse group of students requires a variety of approaches.

Zone of Proximal Development

(Wass & Golding, 2014)



DISCOVER MORE

- Five Principles of Extraordinary Math Teaching | Dan Finkel | TEDxRainier
- Elementary and Middle School Mathematics: Teaching Developmentally | Van De Walle, Karp, Bay-Williams
- Your Mathematics Standards Companion: What They Mean and How to Teach Them
  - K–2 | Linda Gojak
  - G3–5 | Linda Gojak
  - G6–8 | Ruth Harbin Miles
- Progressions Documents | Discuss the K–8 development of concepts, skills, and applications in each mathematical domain.
- The Coherence Map | Shows dependencies between standards.

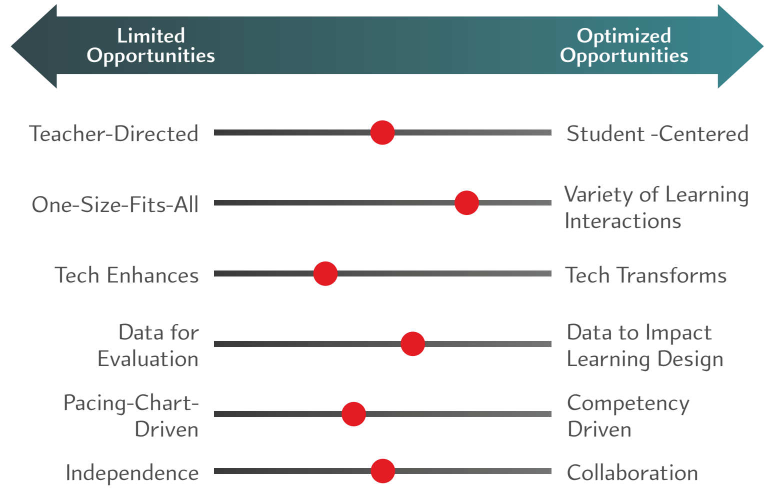
Personalized Learning: 6 Factors

The goal of personalized learning is to unlock the full potential of each learner. The teacher and the learner collaborate to drive learning and pinpoint individualized needs, plan the right instructional path, and design the learning curriculum. Personalizing learning is a process of making decisions to balance the trifecta of learning design, proficiency goals, and the practicalities of the classroom.

As educators collaborate with learners to co-create the learning environment, they make decisions:

1. Teacher-Directed vs. Learner-Centered: Who makes decisions and drives learning?
2. One-Size-Fits-All vs. Variety of Learning Interactions: To which learning resources will the learners have access?
3. Technology to Enhance vs. Technology to Transform: Where does technology use fall along the SAMR (Substitution, Augmentation, Modification, and Redefinition) continuum for integrating technology into teaching?
4. Data Evaluates Learning vs. Data Impacts Learning: Is assessment used primarily for evaluation? Does the data help direct what a learner encounters next?
5. Pacing-Chart-Driven vs. Competency-Driven: Do all learners move through the curriculum at the same time, regardless of proficiency?
6. Independence vs. Collaboration: Are learners working independently, or do they interact and communicate to learn?

Personalized Learning Continuum



DISCOVER MORE

- Webinar | Building the Bridge to Personalized Learning in Classrooms: 6 Essential Hallmarks
- Webinar | The Student Body of One-by-One: Leveraging Personalized Learning Curricula in K–12 Schools

Personalized Learning

1. The Teacher-Directed vs. Learner-Centered Continuum

The continuum from teacher-directed to student-centered learning presents opportunities to make decisions that impact learning design.

When learning is teacher-directed, educators leverage their training and expertise to make instructional decisions based on research and tradition. There is little to no collaboration or negotiation with students. If the choice is made for whole-class instruction, the teacher can use the same trusted materials with all students, making planning and preparation efficient.

On the learner-centered end of the spectrum, educators collaborate with students to choose goals, methods, and experiences. This can be time-consuming indeed, but research shows that the opportunity to support learners in making good decisions, accounting for learner interests, and accommodating their needs can be worth it. This practice centers around building life-long learning skills.

Optimizing personalized learning never involves making all-or-nothing decisions. Rather, every decision depends on the goal, considered together with the time and resources at hand.

DISCOVER MORE

- How to Apply the SAMR Model | Ruben Puentedura, creator of the SAMR model, describes best practices
- Researchers find student-centered learning approaches help underserved kids achieve | SCOPE case studies from Stanford | Barbara McKenna
- Which is Best: Teacher-Centered or Student-Centered Education? | Room 241 | A blog by Concordia University - Portland
- Are Your Teachers Ready for Student-Centered Learning? | Here's How You Can Tell | Cameron Pipkin
- Can Children Really Direct Their Own Learning? | Sarah Luchs

Personalized Learning

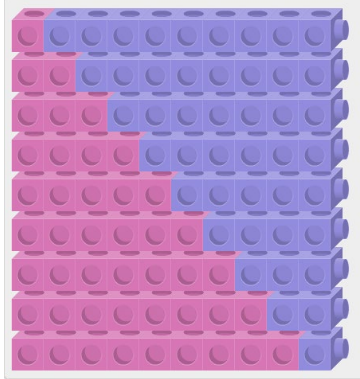
2. One-Size-Fits-All vs. Variety of Learning Interactions

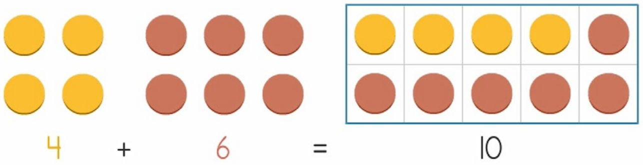
Math educators and learners planning classroom strategies often find that incorporating a wide variety of practices into the instructional learning design can more effectively assist students in meeting academic goals.

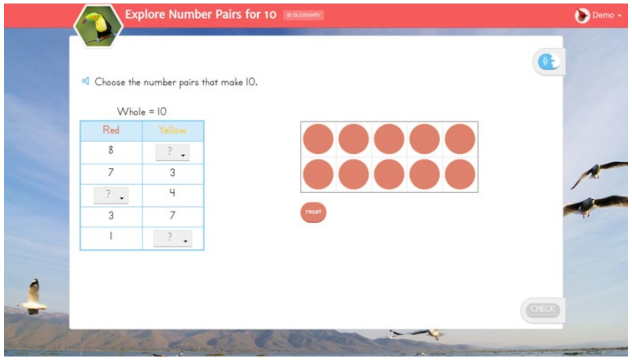
Learners gain a richer understanding of math content when they encounter a variety of experiences centered on a concept. If a learner struggles during one mathematical experience, sometimes another resource can improve understanding. Instructional scaffolding should not be about repeating the same information louder or slower. Rather, it should be about modifying assignments or lessons to afford students a different perspective and deeper access to the mathematics.

It is also essential for learners to express their understanding and listen to others' ways of interpreting mathematical situations. Listening and responding to multiple perspectives helps learners gain insights into mathematical content and develop mathematical communication skills.

Variety of Learning Interactions







Use a variety of experiences to build math concepts.

Click here for an example

DISCOVER MORE

- 6 Ways to Help Students Understand Math | Dr. Matthew Beyranevand
- How Differentiated Instruction Works: Why Louder & Slower Does Not Work | Ellis Scott

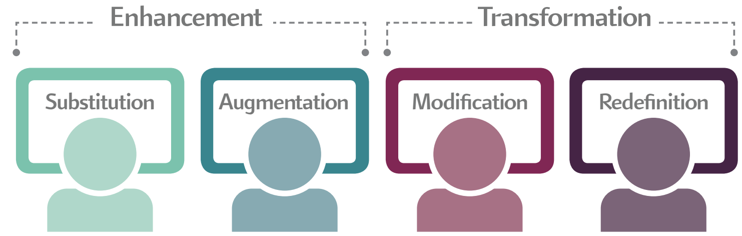
Personalized Learning

3. Technology to Enhance vs. Transform

There is no guarantee that incorporating technology into a K–6 math classroom will help deliver a more engaging and personalized experience for students. However, analyzing and planning the use of technology through the lens of the SAMR (Substitution, Augmentation, Modification, and Redefinition) model can improve the chances for transformation.

There are four positions along the SAMR continuum. The first two, Substitution and Augmentation, enhance the instructional practices teachers already use. The next two, Modification and Redefinition, afford opportunities for educators to transform learning.

SAMR Model



Substitution	Augmentation	Modification	Redefinition
Technology is used as a direct replacement for a task normally done without technology.	Employing technology is more effective than executing the task without technology.	A significant, functional redesign of the learning task. The task isn't possible without technology.	Allows for the creation of new learning tasks that are inconceivable without technology.

DISCOVER MORE

- How to Apply the SAMR Model | Ruben Puentedura, creator of the SAMR model, describes best practices
- SAMR in 120 Seconds
- SAMR Model and the Mathematics Classroom | Catherine Olson | ET520.webm

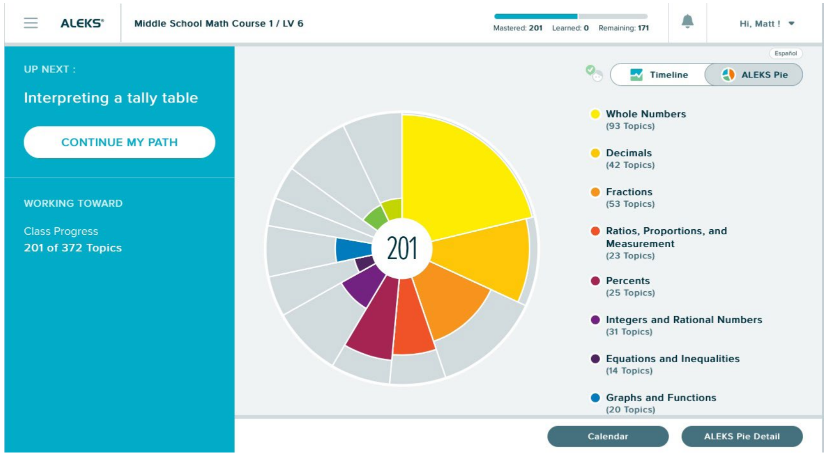
Personalized Learning

4. Data for Evaluation vs. Data to Impact Learning Design

Data-driven instruction sounds like a great idea, but what goes into fulfilling its promise of impacting learning beyond simply measuring achievement? Data gathered from assessments should help inform changes to support learning, decisions about revising curricula, and choices regarding learning opportunities.

- **Diagnostic Assessments** determine a learner's zone of proximal development. Diagnose content related to a topic immediately before learning experiences to accurately measure what a student is ready to learn at that time. Diagnoses may change over time as a student learns.
- **Formative Assessments** reveal whether the learning design is working, when to accelerate learners, and whether and how the student should move at a different pace, which may mean spending more time practicing with key concepts or skills or taking a different approach.
- **Summative Assessments** measure whether a student has maintained the proficiency level revealed in formative assessments or whether more work is required to gain competency.

ALEKS Data Impacts Learning Design



DISCOVER MORE

- How Much Testing is Too Much? | Erik Robelen
- Too much educational data is pointless, misused and about control rather than improvement | Greg Watson
- Using Data | National Council of Teachers of Mathematics (NCTM)

Personalized Learning

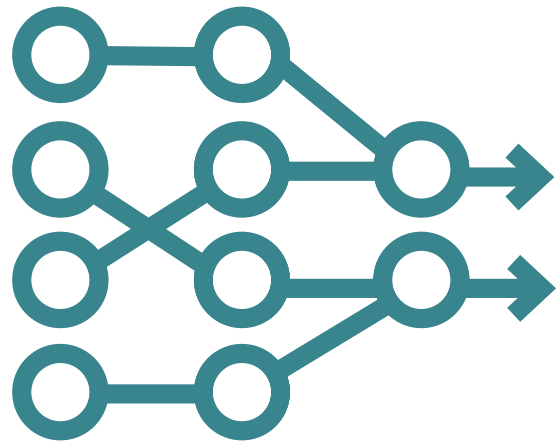
5. Pacing-Chart-Driven vs. Competency-Based

Educators must balance addressing mandated grade-level content with addressing student readiness to learn. Providing the right instruction at the right time for every student and ensuring that learners show proficiency on high stakes assessments are a persistent challenges for most educators.

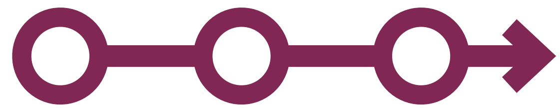
Pacing charts, or pacing guides, are tools that influence teachers' instructional choices in many schools. These charts help ensure that teachers throughout the school or district are covering the material on high-stakes assessments in preparation for the tests. Educators who use this model instruct all students within the class on the same material at the same time. The downside is a focus on time-spent versus mastery. There is a risk that some students must move on to new topics before they are entirely proficient with the current ones.

Competency-based instruction first assesses where a student needs to begin to acquire proficiency with a topic, and then supports the learner until he or she is proficient with the material. Learners move at their own pace through material, and it's unlikely that all students in a class will be working on the same material at the same time. The drawback is that students may not encounter the material presented on high-stakes assessments in time for their tests. Requiring mastery before moving to advanced topics may mean that some students will stall on tough topics, limiting their growth.

Multiple Paths for Learning



One Path for Learning



JOIN THE DEBATE

- Competency-Based Education: Lessons Learned After a Decade of Transformation | Brian M. Stack
- The Role of a Pacing Guide | Henry Kranedonk

Personalized Learning

6. Independence vs. Collaboration

Imagine a classroom where students use adaptive learning software to work on exactly the material they need, exactly when they need it. Did you imagine a roomful of students, each with headsets on, eyes glued to their devices? This scenario presents one of the objections to competency-based, personalized learning. On the other hand, traditional classrooms in which teachers instruct and students independently succeed or fail can be just as isolating.

Successful personalization allows learners to work independently when it makes sense while also providing experiences that enable learners to collaborate and communicate, building rich understandings and skills.

Independent Work

Collaborative Work

JOIN THE DEBATE

- Educators on Artificial Intelligence: Here's the One Thing It Can't Do Well | Mary Jo Madda
- Technology: Devices isolate us, even in schools | Ethan Ris

Building a Bridge Between Traditional Instruction and Personalized Learning

Moving from a traditional classroom organization to personalized learning is a challenging journey. Some enthusiastic educators who are at the pinnacle of their traditional instruction skills may attempt to leap to the imagined pinnacle of personalized learning. Some teachers are successful with that leap, but others land in an uncomfortable position between the pinnacles. Rather than making an unsupported leap, many educators are instead building a bridge between the two pinnacles. The journey across the bridge is supported by making choices amongst the considerations that optimize opportunities for personalization—realizing that personalization is not all or nothing.

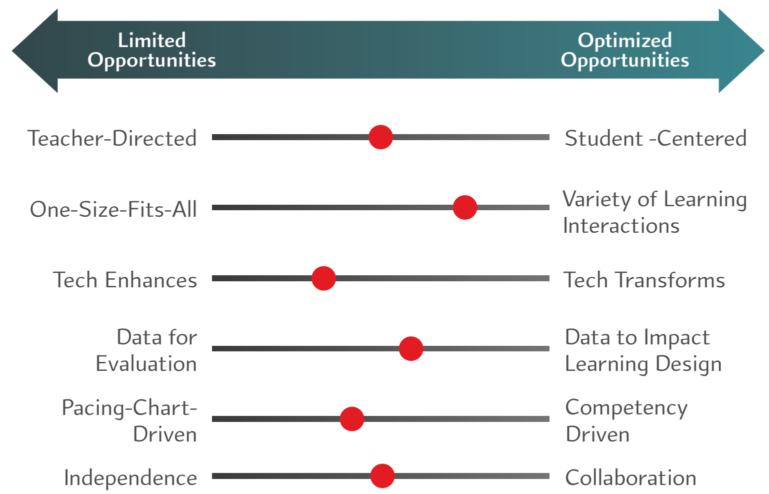
Educators also find support on their journey across the bridge from other teachers making that same journey. Professional social networking, ongoing professional development, and other opportunities for learning help educators meet the challenges along the way.

DISCOVER MORE

- Personalized Learning Readiness Quiz
- Blended Learning in Action Workshop
- Webinar | Leading Personalized Learning: Digital Programs Help Meet the Needs of All Students

Build a Bridge

Personalized Learning Continuum



Building Blocks for Personalizing the Mathematics Classroom

Educators and learners need building blocks in their journey to personalize mathematics learning. A rich variety of resources helps to create a rich understanding of mathematics.

The building blocks of a future-ready learning system include:

1. **Standards, competencies,** and **learning trajectories**, which are the basis for establishing learning goals. Ongoing Professional Development supports educators along the way.
2. **Comprehensive assessment,** including diagnostic, formative, and summative assessments, informs instruction and monitors student proficiency.
3. **A carefully-crafted core program** can form the backbone of instruction, including integrated, coherent learning materials and baseline differentiation.
4. **Rich, adaptive software** addresses learner needs in the zone of proximal development. Adaptive software uses data about performance to deliver immediate feedback and expand practice or accelerate movement through content, so that students optimize their mathematics learning.
5. **Resources focused on specific needs** are identified by assessments or data collected by adaptive software and deployed through educator/learner decisions to provide intense intervention, additional practice, spot differentiation, or acceleration and challenge as needed.

The Building Blocks

A rich variety of resources is available to help K–6 educators build more personalized math programs.

DISCOVER MORE

- Intervention and Tiered Curriculum Solutions
- Professional Development | YouTube

Best-Practice Implementation Models

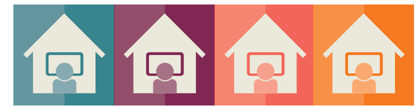
Personalizing learning optimization means that stand-and-deliver instruction is no longer the mainstay of the classroom. There are a variety of implementation models that educators can employ to personalize learning. Some provide modest change and an opportunity to personalize, and some transform the classroom in a more dramatic way. The pages that follow detail these approaches, which include:

1. **Homework** that personalizes learning without a big shift in the instructional model. Homework assignments leverage adaptive software to provide personalized instruction tuned to each student's zone of proximal development.
2. **A Computer Lab or Cart** that provides 1:1 device access. This approach may have a limited impact on the instructional model due to time-restricted access.
3. **The Menu Model** offers students choice. A menu of learning options can allow learners to make choices to self-differentiate while all working towards the same goals.
4. **Classroom Rotation** is familiar to many teachers and easily coupled with whole-class instruction. The stations can include adaptive software and opportunities for more personalization.

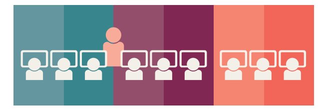
DISCOVER MORE

- Blended Learning | Christensen Institute
- Blended Learning in Action | Tucker, Wycoff, Green

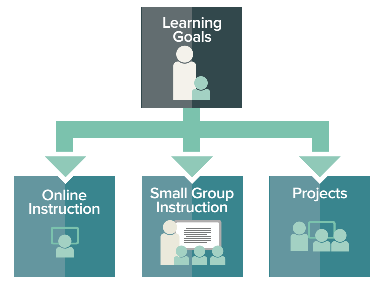
Implementation Models



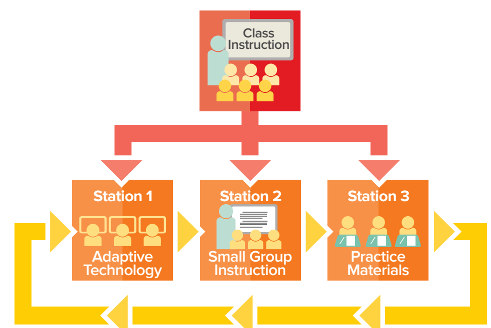
Homework Model



Computer Lab or Cart Model



Menu Model



Classroom Rotation Model

Best-Practice Implementation Models

1. Using Homework to Personalize Mathematics Learning

Personalizing homework assignments is an efficient way to provide work personalized to each student. The key is to provide material and resources that are within students' current grasp, and accelerate while supporting productive struggle. This effort does not require changes to be made to a classroom's organization and environment.

Description of Experience	Personalized homework assignments *Examples:* • The teacher creates a variety of homework experiences and matches them to the appropriate learners. • Homework experiences are created collaboratively to meet agreed-upon goals. • Learner use adaptive software to engage with content within the zone of proximal development.
Device Requirements	Not necessarily required, depends on nature of the assignments
Change from Traditional	Minimal
Benefits	✔ Learners experience work specific to their needs without impacting the traditional classroom organization. ✔ Adaptive software assignments have a low teacher-time requirement. ✔ Adaptive software can provide data about learners' differing proficiencies beyond the topics addressed in regular class work.

Homework Model

Learners receive personalized homework assignments, and the organization of the classroom does not require change.

DISCOVER MORE

- Is Homework Compatible With Personalized Learning? | Autumn Hillis

Best-Practice Implementation Models

2. Using the Computer Lab or Cart to Personalize Mathematics Learning

When a school is not fully future-ready with comprehensive technology that includes digital devices for every student, learners may have limited access to 1:1 devices.

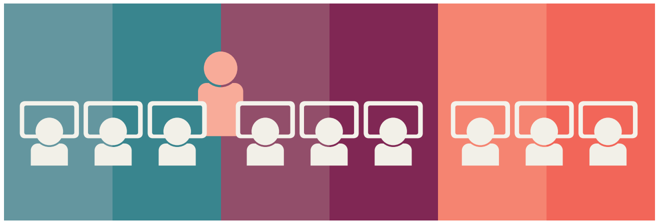
Description of Experience	Whole class uses software to personalize learning *Examples:* • The teacher matches learners to appropriate digital experiences. • Learners choose from a menu of software. This approach allows teachers to utilize the menu model within the lab or cart model. • Learners use adaptive software to engage with content within the zone of proximal development.
Device Requirements	Limited time 1:1 access
Change from Traditional	Educator schedules 60-90 minutes per week in addition to regular math work or may pull the time from regular math time. If pulled from regular math time, educators may modify traditional work.
Benefits	✔ Learners can experience work specific to their needs without impacting traditional classroom organization. ✔ Adaptive software assignments require a minimal investment of a teacher's time. ✔ Can provide data about learners' differing proficiencies beyond topics addressed in regular class work. ✔ Teachers monitor technology usage, supporting learners. Classroom management is easier than rotations.

DISCOVER MORE

- Pros and Cons of Computer Labs | Edutopia | Mary Beth Hertz

Computer Lab or Cart Model

If learners have limited access to 1:1 devices, labs or carts may provide a solution.



Best-Practice Implementation Models

3. Using a Menu Model to Personalize Mathematics Learning

Another best practice implementation model allows learners to choose their own learning experiences from a menu that the teacher creates.

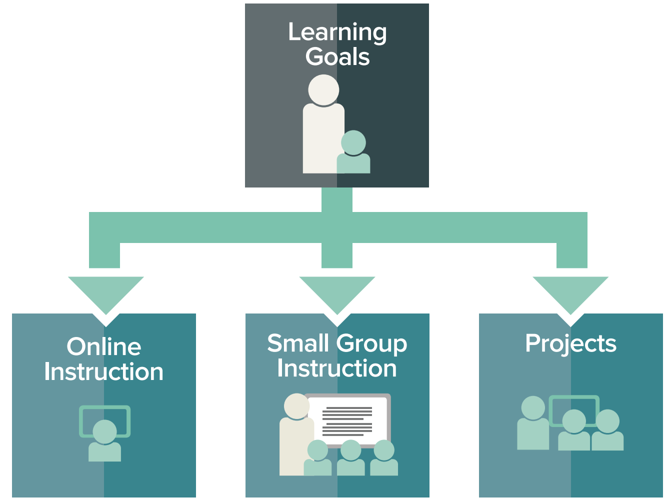
Description of Experience	The learner chooses experiences from a menu that will serve their goals. *Examples:* • The teacher (and possibly learner) considers goals for individuals or groups of learners and creates or chooses a variety of experiences to populate a menu. • A learner can choose a subset of the experiences to work from until they meet their goals. • Adaptive software may be one of the menu choices.
Device Requirements	If digital experiences are part of the menu, it can require from a few devices, up to one device for each student.
Change from Traditional	All learners may have the same goals, or differing goals which can be served with one menu or a variety of menus. Some time may still be spent using traditional instructional models, but generally classrooms using menus are beginning to move away from tradition towards innovation.
Benefits	✔ Learners can choose to experience work specific to their needs. ✔ If using a variety of menus, this model can accommodate different learning goals for different learners. ✔ Adaptive software assignment has a low teacher time investment. ✔ Adaptive software can provide data about learners' differing proficiencies beyond topics addressed in regular class work.

DISCOVER MORE

- Learning Menus: Giving Options & Independence | Teaching Channel

Menu Model

Learners choose learning experiences from a menu that the teacher creates.



Best-Practice Implementation Models

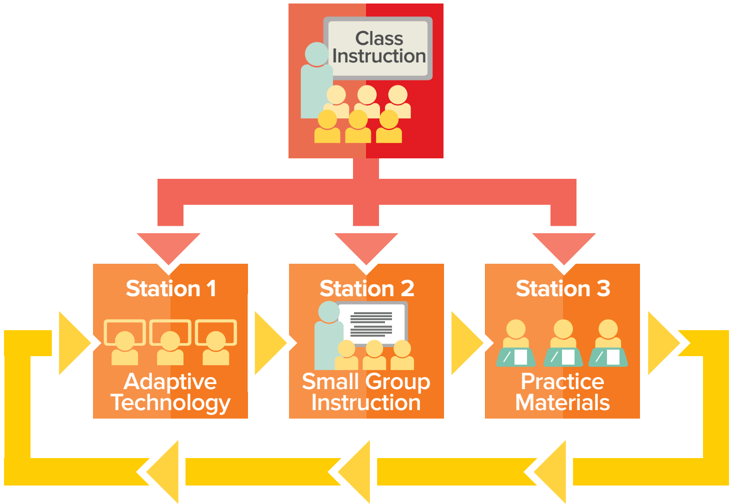
4. Using Classroom Rotations to Personalize Mathematics Learning

Personalized math curriculum strategies using flexible groupings can complement teacher-led instruction. Learners gain independent, hands-on, and collaborative opportunities as they move from station to station within the classroom.

Description of Experience	The teacher creates stations to serve the needs of groups of learners. *Examples:* • Station 1 might offer adaptive software that addresses learner needs in his or her zone of proximal development. • Station 2 might be used for small groups or 1:1 conferences. • Station 3 might be used for independent practice, reliant on the best practice choice for each learner.
Device Requirements	If digital experiences are at one or more of the stations, a 1:2 or 1:3 ratio could serve the needs of this model.
Change from Traditional	All learners may have the same goals, or differing goals which can be served by personalization of work at each station. Teachers often have whole class instruction time in addition to their classroom rotations.
Benefits	✔ Stations can be designed in a variety of ways. They can meet the shared goals of all learners or offer personalized experiences to meet the goals of individual learners. ✔ If learners are split evenly between 2 stations, educators can use the third station to pull learners into small group instruction or for individual learning goal conferences. ✔ Adaptive software assignment has a low teacher time investment. ✔ Adaptive software can provide data about learners' differing proficiencies beyond topics addressed in regular class work.

Classroom Rotation Model

Learners move from station to station within the classroom.



Dean Deaver's 4th Grade Math Class Uses Station Rotation with Adaptive Software

Conclusion

Educators embark on their career journeys empowered by the dream of unlocking the full potential of every learner. High-stakes assessments such as NAEP, the Nation's Report Card, reveal that our educational system is missing the mark for most learners, and even more often for students of color or students whose first language is not English.

Personalized learning, with a focus on engaging with learners where and when they are ready to learn, using methods that engage and inspire them, shows promise for unlocking the potential of more students. Educators undertake the challenge of leaving their known practices and implementing innovative practices with grit and bravery. It's not easy to change culture and to leave the known for the new.

Taking steps toward new, innovative practices is easier with the support of other educators. Try these first steps:

- Create a community of practitioners and share challenges, successes, and setbacks.
- Find inspirational educators, follow their blogs and Twitter feeds, and connect with them on Facebook.
- Play with the Personalized Learning Continuum, making different decisions as appropriate for learning goals, reflecting on how that impacts learner experience and success.
- Be a model for your students and allow yourself to learn from mistakes. **"Anyone who has never made a mistake has never tried anything new."** — ***Albert Einstein***
- Share your challenges and successes with me, I'd love to hear how it's going for you.

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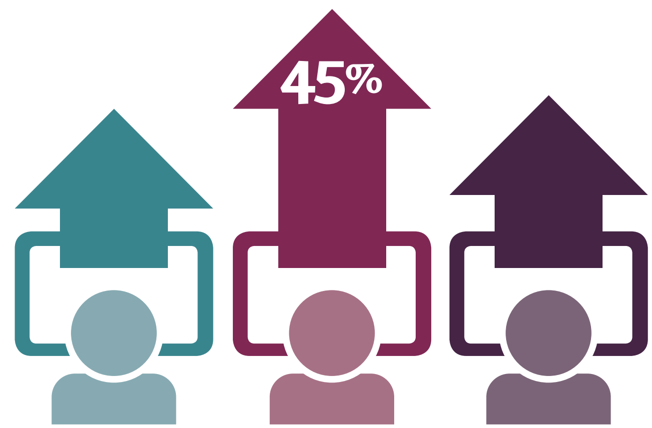

Using Stanford University's Education Program for Gifted Youth (EPGY) to Support and Advance Student Achievement, NYU Steinhardt, March 2014

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