



Ready, Set, Go

Success for All

An e-Newsletter linking people and resources to support quality practices in the education of all students

**Hold on Tight:
ACCELERATE MATH LEARNING!**

Mathematics is cumulative, requiring a progression of knowledge that builds upon previously learned skills. Unfinished learning occurs when students do not have prerequisite skills to understand more advanced concepts (Dorn, Hancock, Sarakatsannis, & Viruleg, 2020), resulting in an increased risk of math anxiety and fixed mindset (Montague & Jitundra, 2006). Unfinished learning has always existed, and the pandemic amplified its effects (Kuhfeld, Soland, Tarasawa, Johnson, Ruzek, & Liu, 2020). Math anxiety and fixed mindset conflate the effects of unfinished learning.

High leverage practices and growth mindset strategies accelerate learning. The Council for Exceptional Children (CEC) and CEEDAR Center identified 22 research-based [High Leverage Practices](#) (HLPs), and HLP #7 outlines ways teachers create positive, structured and predictable classrooms where all students thrive. Infusing growth mindset strategies further promotes academic courage, engagement and resilience (Dweck, 2010; Snipes & Loan, 2017; Tee, Leong,

& Rahim, 2020; Yeagar, Romero, Paunesku, Hulleman, Schneider, Hinojosa, & Dweck, 2016). Preparing classroom materials aligned with classroom routines and learning goals creates structure. Essential grade level content and prerequisite standards provide a roadmap for learning and can be shared with students through self-monitoring checklists. Self-monitoring is a research-based strategy and is an essential component of [HLP #9](#). Students self-evaluate their academic skills on a set of pre-established criteria (Rafferty, Raimondi, 2009; Rafferty, 2010; The IRIS Center, 2008), identifying skills they understand, skills they don't understand **yet**, and improving students' self-awareness and mindset. Self-monitoring checklists can be embedded into classroom routines, inspiring growth mindset and academic courage throughout the year.

Get Ready to learn about ways to accelerate learning. To plan instruction that accelerates learning, the National Council on Teaching Mathematics (NCTM), National Council of Supervisors of Mathematics (NCSM) (2020), and National Council for Learning Disabilities (NCLD) (2021) recommend the following. First, identify power standards, which are essential standards and skills students need to achieve in sequential mathematics courses, other curricula, and life. Next, identify essential prerequisite skills related to prioritized power standards. For new content to make sense, students need to understand related prerequisite skills. Before every math unit, assess students' understanding of essential prerequisite skills. Data about students' strengths and needs informs instruction, which can be individualized for students with disabilities (NCLD, 2021). Finally, immediately before instruction, review critical prerequisite skills (NCTM, 2020). Prioritize teaching these skills and give students time to practice and engage with content until mastery (NCLD, 2021).

- [Moving Forward: Mathematics Learning in the Era of COVID-19 by the National Council on Teaching Mathematics by NCTM & NCSM](#)
- [Promising Practices to Accelerate Learning for Students with Disabilities during COVID-19 and Beyond by the National Center for Learning Disabilities](#)

Get Set to prepare your curriculum to accelerate learning. Virginia Department of Education resources can help teachers identify power standards.

VDOE Resources

- [VDOE Mathematics Bridging \(Power\) Standards K - 8](#)
- [VDOE Math Tracking Logs](#) K – 8, Algebra 1,2; Geometry, Trigonometry and more.
- [VDOE Mathematics Standards of Learning](#)
- [VDOE Just in Time Quick Checks](#) K – Algebra 2.

Go Explore High Leverage Practices and Growth Mindset Strategies that establish structured and respectful learning environments that boost academic courage and resilience. Enroll in TTAC’s free self-paced asynchronous professional learning session and create materials for the 2021-2022 school year. Included are resources to help administrators, teacher leaders, and instructional coaches scale up high leverage and growth mindset practices.

- [TTAC Self-Paced Professional Learning: Accelerate Learning in Math with HLPs and Growth Mindset](#)

High Leverage Practices

- [Highlight Tool – HLP #7 Establish a Consistent, Organized, Respectful Learning Environment](#)
- [Highlight Tool – HLP # 8 & 22 Provide Positive and Constructive Feedback to Guide Learning and Behavior](#)
- [HLP #7 & Growth Mindset Checklist: Establish consistent, organized, respectful learning environment \(HLP #7\) with positive feedback that inspires growth mindset \(HLP #8 & 22\)](#)

Growth Mindset Strategies and Resources

- [Project for Education Research that Scales \(PERTS\)](#)
- [Youcubed.org](#)
- [Khan Academy Growth Mindset Activities](#)

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