



By: Ashley Marlow

Published: May 17, 2024

All means all. Not “some” or “most,” but every single person deserves to have a humanizing math experience that affirms themselves as a math learner. The vast majority of teachers All Learners Network (ALN) has interacted with hold this value as truth, and yet they are still asking- what does that look like? How can I make that happen? How do I sustain the routines and practices to ensure all students are learning math well?

The COVID-19 pandemic highlighted the disparities in the traditional delivery of, and access to, quality math instruction. These disparities effectively excluded certain students from college and career opportunities. Having a better understanding of these disparities has encouraged teachers to recognize, acknowledge, and work to close this instructional gap. This, however, cannot be done without also supporting students’ social and emotional well-being. We at ALN know that this is a lot. It is difficult but important work. It is our job to support teachers in providing high-quality instruction to all students while also tending to their social and emotional well-being. We need to teach all learners math while also validating their humanity.

The specific skills, habits, and mindsets that make up the Social Emotional Learning (SEL) Competencies, are necessary for a student to feel safe and valued in the classroom community. An inclusive and positive classroom culture is influenced and developed through the use of instructional routines and community-building techniques that support students in their social-emotional well-being. We have found that structuring math learning opportunities using the Collaborative for Academic, Social, and Emotional Learning’s (CASEL) Three Signature Practices encourages all students to feel like essential members of the learning community.



These signature practices include an opening, inclusive activity (we call this a Launch), engaging instructional strategies, and an optimistic closure (CASEL, 2019). Using CASEL's framework, all teachers can provide high-quality instructional opportunities while supporting students' social-emotional learning.

Open each class with a welcoming, inclusive activity (CASEL, 2019).

In math class, we at ALN use a Launch, or a Number Sense Routine, in the first 5-15 minutes of every balanced math block for purposeful, discussion-rich learning opportunities. The purpose of this time is to encourage all students to engage in the math lesson for the day within the first 5 minutes of the math block (Lang, 2016). Launch is a daily repetitive task where student voices dominate discussions to help them begin to recognize patterns and make generalizations. These Launch tasks could practice, strengthen, or introduce new mathematical ideas. The Launch should be engaging and open-ended enough that all students can participate, and ensure that their ideas are accepted and respected by the community of learners.

Embed engaging instructional strategies (CASEL, 2019).

The Center for Applied Special Technology (CAST) created UDL Guidelines as a tool for teachers to use when implementing the Universal Design for Learning (UDL). This UDL framework improves and optimizes teaching and learning for all people based on scientific insights into how humans learn. These guidelines offer concrete suggestions to ensure that all learners can access and participate in meaningful, challenging learning opportunities. One component of these Guidelines is engagement. CAST describes engagement as being “engaged or motivated to learn” (CAST, 2018). Instructional strategies that support engagement include recruiting interest, sustaining effort and persistence, and supporting self-regulation (CAST, 2018). We use strategies like “turn and talk” (e.g. think, then talk with a partner and share your collaborated idea or revoice your partners' idea)” or “gallery walk” (e.g. display student work and walk around and make comments)” that are facilitated by the teacher to promote students' diverse ideas being at the forefront of the class community (CASEL, 2019). Providing opportunities for students to reflect on their own thinking as well as compare and contrast classmates' thinking can support connection and build empathy. We've observed that when students have multiple opportunities to explain or compare and contrast their thinking to their peers, there is a further emphasis on a growth mindset and celebrates diverse ways of thinking.

End each class period with an optimistic closure (CASEL, 2019).

CASEL outlines the need to end each class period in a way that ensures students have a clear understanding of the learning target and their role in making progress toward it (CASEL, 2019). At ALN, we call that instructional routine, Closure.

During Closure, students can contemplate their learning and interact with a range of



other learners through frequent reflection opportunities. One possible Closure activity that we've used frequently is "Inner/Outer Circle." Here students create two circles (an inner and an outer) where the inner circle is facing out and the outer circle is partnered with and facing someone in the inner circle. The teacher provides a prompt like "Take 30 seconds to share something you learned today" and then gives each pair a minute so both can share. The teacher would then have one of the circles rotate in order to give students multiple opportunities to share their thinking and to hear the thinking of others. This provides more access and increases engagement. For example, a student who doesn't have a thought to share can hear someone else's thought first and then during the next round build upon or share that student's thinking.

The goal of the All Learners Lesson Structure is for all students to feel welcomed into the learning environment during Launch, engaged in the content, and end with a clear understanding of what they were supposed to learn. For students to access this high-quality math instruction, consideration of their social and emotional well-being must be integrated into their math learning.

Teachers need professional development experiences that support these areas of need. They need time and commitment to implement this instruction effectively. In the same way students need opportunities to practice the SEL Competencies, teachers need opportunities to plan, practice, and implement these instructional strategies and routines with their colleagues and instructional teams. Teachers need opportunities to share their thinking, reflect on the thinking of others, and make connections to combat isolation and teacher burnout. Linking quality math instruction with teaching moves that support SEL learning can help ensure that every single child has access to high-quality math instruction and affirming math experiences while simultaneously providing opportunities to support social and emotional growth.

What Now? Scan the QR code and scroll to the bottom of the post for links to next steps



1. Learn more about the All Learners Lesson Structure and how it promotes belonging by reading chapters two and six of our free e-book.
2. Explore Launch and review four types of Number Sense Routines.
3. Bring All Learners Network (ALN) into your school or district for embedded professional development.



References

Collaborative for Academic, Social, and Emotional Learning (CASEL) (2019), CASEL's SEL 3 Signature Practices Playbook, https://schoolguide.casel.org/uploads/2018/12/CASEL_SEL-3-Signature-Practices-Playbook-V3.pdf

Collaborative for Academic, Social, and Emotional Learning (CASEL) (2020), COVID 19 and Remote Learning, SEL and responding to the COVID-19 Pandemic, CASEL <https://casel.org/fundamentals-of-sel/how-does-sel-support-your-priorities/covid-19-and-remote-learning/>

Lang, J.M. (2016), Small Changes in Teaching: The First 5 Minutes of Class, The Chronicle of Higher Education <https://www.chronicle.com/article/small-changes-in-teaching-the-first-5-minutes-of-class/>

National Council of Supervisors of Mathematics (NCSM) and TODOS: Mathematics for ALL (2020), Mathematics Education Through the Lens of Social Justice: Acknowledgment, Actions, and Accountability, A joint position statement from the National Council of Supervisors of Mathematics and TODOS: Mathematics for ALL https://www.todos-math.org/assets/docs2016/2016Enews/3.pospaper16_wtodos_8pp.pdf

National Council of Supervisors of Mathematics (NCSM), 2021, Continuing the Journey: Mathematics Learning 2021 and Beyond, Math Ed Leadership <https://www.mathedleadership.org/mathematics-learning-in-the-era-of-covid-19/>

Simon, C. (2021), How COVID Taught America About Inequity in Education, Harvard Gazette <https://news.harvard.edu/gazette/story/2021/07/how-covid-taught-america-about-inequity-in-education/>

