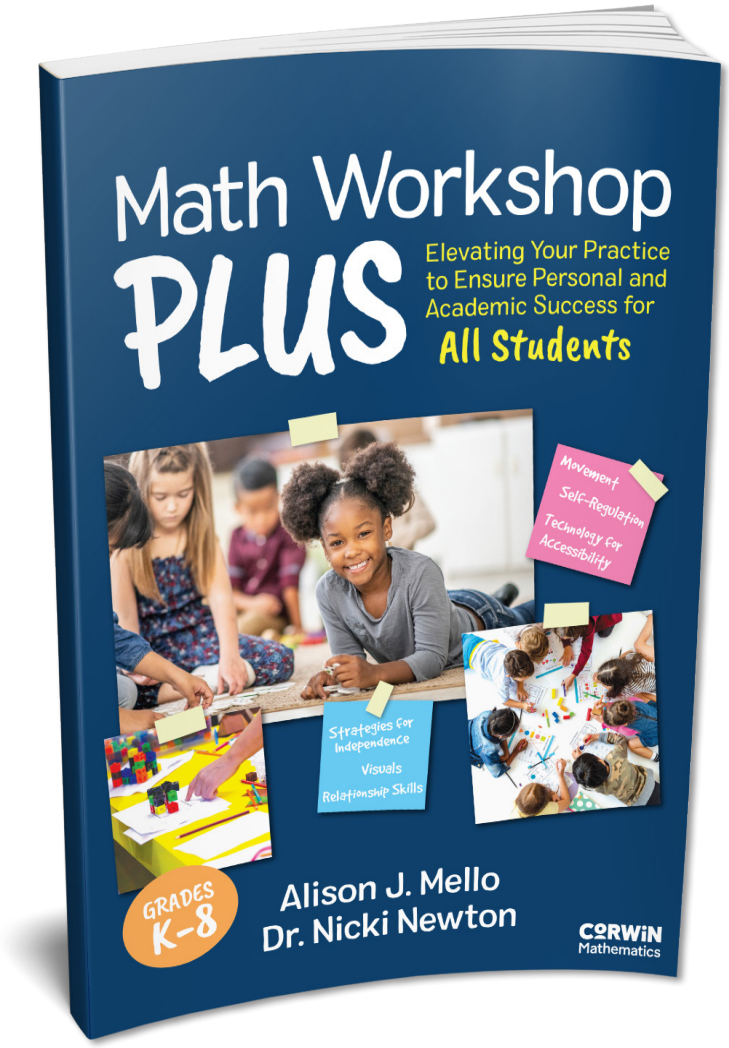


Thank you

FOR YOUR INTEREST IN CORWIN

Please enjoy this complimentary excerpt from Math Workshop Plus, Grades K-8.

LEARN MORE about this title!

CORWIN

Chapter 1

The Big Ideas of Math Workshop, Universal Design for Learning, and Social and Emotional Learning

Question to Teachers: What is your biggest challenge?

Teachers: TIME. There are not enough hours in the day to meet the needs of students!!

If you are a teacher, you know some hard truths. Each year, you receive a new batch of students and often add or lose a few during the year. There always seems to be a new program, and there are countless initiatives being cast your way, which you may or may not understand. You have so many standards to teach, and there's never enough time in the day to get everything done. You work hard, but the results don't always reflect your efforts. When this happens, it's frustrating.

For many, teaching is a labor of love. It's a continuous cycle of learning, and every day and year is different. Teaching has never been simple, and in recent years, it's become more complex. Classrooms are filled with students who have unique needs, varied experiences, exposures to different types and levels of trauma, and a wide range of strengths and challenges. Diversity can take many forms:

- Neurodiversity
- Racial Diversity
- Socioeconomic Diversity

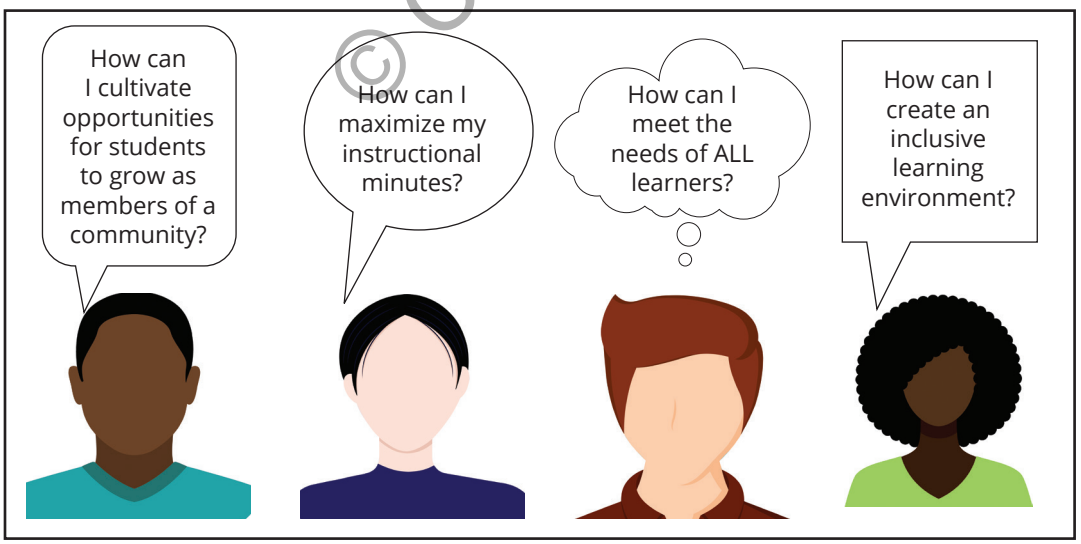
- Gender Diversity
- Cultural Diversity

Reframing differences as assets helps to reveal the strengths in all students. The first step is recognizing, embracing, and leveraging the variability of our learners. When we embrace learner variability and create environments conducive to learning for all students, we educate the *whole child* (Darling-Hammond & Cook-Harvey, 2018). Key findings in the research related to teaching the whole child indicate that:

- Development is malleable.
- Variability in human development is the norm, not the exception.
- Human relationships are the essential ingredient that catalyzes healthy development and learning.
- Adversity affects learning—and the way schools respond matters.
- Learning is social and emotional, as well as academic.
- Children actively construct knowledge based on their experiences, relationships, and social contexts.

To successfully teach the whole child, we must pay special attention to the learning environment we create. You can start by asking yourself the questions in Figure 1.1.

Figure 1.1 • Questions to Help Teachers Foster a Holistic Learning Environment



Source: icons from left to right: by istock.com/Vector DSGNR; istock.com/Maria; istock.com/KRdesign; istock.com/bortonia

Students *need* more, parents *expect* more, schools and districts *demand* more, and there is only *one of you.* The need to make instruction more *efficient*, *effective*, and *easy* is real, and making it more *equitable* is one of the keys. These 4 Es will serve as our beacon as we reimagine how you and your students experience math.

What Is Math Workshop? Why Should I Use It?

> Since we started implementing Math Workshop, the biggest change that I've noticed is the students' love for math! I see fist pumps . . . excitement . . . joy. The kids love it! It's freeing to them; it's freeing to the teachers. Being able to choose what they want to work on as opposed to a certain workbook page has changed their worlds. They are playing games to practice. They are talking about math in ways that I never imagined. Sometimes I have kids just come and tell me that they love math, just to tell me, and that is so cool!
>
> We had our highest achievement on state testing ever, and I 100% believe that it is because of the Math Workshop model. Students are getting what they need, being challenged at the right levels, and feeling successful every day!
>
> —Meghan Zwolenski (math specialist, Massachusetts)

Math Workshop is a student-centered instructional approach designed to meet students where they are, maximize your minutes, and foster independence. It can be paired with any math curricular program and is effective whether your math block is 45 minutes or 90. It won't look the same in all grades and classrooms, but the structure within a lesson consistently includes four elements:

- Interactive Launch (5–10 minutes)
- Whole-Group Mini Lesson (10–20 minutes)
- Small-Group Instruction and Workstations (time varies)
- Whole-Group Debrief

Math workshop on its own is not new. You may already be quite familiar with it. We believe that Math Workshop holds the key to getting more done, in less time, with greater outcomes for all students. Math Workshop empowers you to maximize

math minutes through small-group instruction and differentiated workstations. By beginning with accessible routines, you cultivate an environment that develops positive math dispositions and encourages risk-taking.

We believe that Math Workshop holds the key to getting more done, in less time, with greater outcomes for all students.

Rather than "one-size fits all" instruction, Math Workshop offers options through menus, playlists, choice boards, or station rotations. Math Workshop actualizes Vygotsky's social learning theory and situates learning in the Zone of Proximal Development (Vygotsky, 1978) for each learner. Within Math Workshop, students can do all these things:

- Set goals
- Engage in purposeful practice
- Collaborate with peers
- Experience personalized instruction

Math Workshop provides opportunities for intervention, extension, acceleration, practice, and independence. It makes math interactive, differentiated, engaging, and fun!

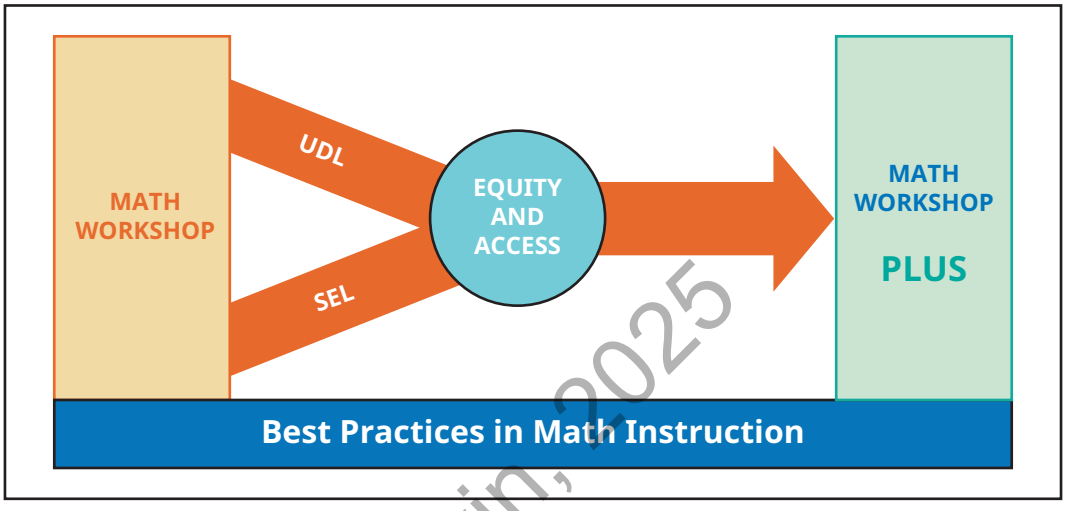
What Is Math Workshop *Plus*?

As mentioned, Math Workshop is not new. Known by some as Guided Math, it gained mainstream popularity around 2009 with the publication of *Guided Math: A Framework for Mathematics Instruction* (Sammons, 2009). On its own, Math Workshop is an excellent way to differentiate instruction and help students develop a deeper understanding of math concepts, but it has always felt like it was missing a particular intentionality when it comes to equity.

Math Workshop Plus is therefore additive—it is designed with equity, access, and *excellence for all students* in mind. It is an elevated version of Math Workshop that infuses Universal Design for Learning (UDL) and social and emotional learning (SEL). As illustrated in Figure 1.2, Math Workshop Plus aims to instruct the whole child. It grows from the desire to humanize math and make it accessible for all. It considers the role of SEL competencies in learning. It

recognizes that students learn differently and commits to teaching mathematics without ceilings, labels, or limits. It provides a learning environment that is safe and equitable.

Figure 1.2 • Moving From Math Workshop to Math Workshop Plus



Adding this equity lens ensures that when Math Workshop is used, it gives all students greater access to grade-level content while *simultaneously building capacity in lagging skills.* In other words, *Math Workshop Plus* is an equitably designed space to build capacity in math *and* in language, social skills, self-regulation, time management, and personal responsibility.

Math Workshop enacts best practices and challenges ideas traditionally associated with math instruction. It stands in stark contrast to timed tests, answer-getting, and one-size-fits-all instruction. It shifts the focus from the teacher to the students and is active rather than passive. Unlike "drill and kill," thinking, talking, playing, questioning, and understanding are encouraged and valued.

When we add UDL to Math Workshop, we amplify the impact by cultivating a more inclusive environment and more equitable experiences. UDL removes barriers and creates opportunities to fortify skills. It leverages student strengths and recognizes proficiency in different forms. A universally designed Math Workshop also embeds opportunities to build and practice social and emotional competencies. Students negotiate partners, take turns, help, share space and materials, communicate, discuss, and the list goes on. It's Math Workshop PLUS a whole lot more!

Before adding the "plus," let's unpack the elements of Math Workshop, UDL, and SEL individually so that you can see them each on their own and then how they come together. Whether Math Workshop is new to you or you've been at it for years, we are honored that you are here and can't wait to help you design the most effective, accessible, and joyful math classroom you've ever led!

Math Workshop 101

Let's start with some FAQs about Math Workshop:

Q1: What is Math Workshop?

Math Workshop is a structure that breaks up your math block to create opportunities for more differentiated instruction.

Q2: Why do it?

It maximizes instructional minutes, puts data to work, and better meets the needs of your students.

Q3: Will it work with my math program?

Yes! (more on this later)

Q4: What do I need to get started?

The right mindset and some basics like cards, dice, manipulatives, and simple games.

Q5: Will this be a lot of work?

At first, but once you get organized, establish your systems, and get in a routine, it will be *less* work.

Q6: Is Math Workshop ability grouping?

NO. This is one of the biggest misconceptions about Math Workshop (more in Figure 1.2).

Q7: If Math Workshop can better meet the needs of all students and work with any math program, what stops some people from trying it?

We believe that misconceptions about Math Workshop may be the issue. Let's explore Table 1.1 to clarify what Math Workshop is and what it is not.

Table 1.1 • What Math Workshop Is and Is Not

Math Workshop Is	Math Workshop Is Not
Flexible	Ability grouping
Student-centered	Teacher-centered
Data-informed	Random
Discourse rich	Teacher talk
A structured approach	A program
Differentiated	One-size-fits-all

Key Components of Math Workshop

Math Workshop is not a program, a fad, or ability grouping in a pretty package. It's an instructional model designed to make instruction more efficient and effective. Math Workshop condenses whole-group instruction so you have time to meet with students in small groups, and there is more time to develop and practice essential skills. It chunks your math block into four clearly defined parts that support engagement, independence, and differentiation.

Opener

Math Workshop opens with a routine or energizer that gets students thinking, talking, and engaged. It lasts a few minutes, promotes reasoning and discussion, and allows all students to begin with a positive experience. It also offers a chance to listen to what students know and understand. As opposed to a typical "do now" where students silently push a pencil, students begin their math experience with enthusiasm, energy, and success!

Mini Lesson

The mini lesson is the whole-group instruction component of Math Workshop. Focusing on the learning target keeps it 10 to 20 minutes in length. While this takes practice, it helps to remember that the goal is not mastery for all students in that moment. Since Math Workshop includes small-group instruction and a variety of practice opportunities, students who need more time will receive it, and those who are ready to move on can do so.

If keeping lessons mini is challenging, shift to focusing on the students who *do* understand rather than those who *do not*. These students often have their needs neglected—and sometimes exhibit challenging behaviors out of boredom—because they sit through lessons that they don't need. A good rule of thumb is to wrap it up when you see two-thirds of your class has the concept.

Workstations and Guided Math Groups

Following the lesson, students may complete a "must do," such as an exit ticket or practice page from your instructional materials, before transitioning to Guided Math groups and workstations. To run groups without interruption, students must know what to do, who to work with, how to check their work, and what to do if they get stuck. Through a mix of games, task cards, and technology, students can revisit prior learning regularly, which results in greater retention and transfer (Agarwal et al., 2021; Emeny et al., 2021). Stations can also offer practice with current content, preview future learning, and support vocabulary. Workstations give students what they need, when they need it, and often allow them to make choices and dictate their own pace.

Guided Math groups may be heterogeneous or homogeneous and should meet a specific learning target. The formation of these groups is informed by real-time data, making them fluid and flexible. While a group *may* focus on the current lesson, another group may revisit a prior skill, explore an extension, or fill in prerequisite skills. Workstations allow learning to continue even when students are not working directly with you, so you need not see every student in a small group every day. Strive for balance so you meet with all students throughout the week. This will help avoid the tendency to see just certain students. Using data is critical to ensure that students don't remain in the same groups for long. This is not the goal and should be avoided.

Debrief

Math Workshop closes with a debrief. This is sometimes called the "share" because students share what they learned. It takes 2 to 5 minutes and allows you to hear, directly from students, what they learned. It's also a chance to see if there are any lingering misconceptions and to come back together as a community of learners. During the debrief, we love seeing students share affirmations and encourage each other.

If it's helpful to have a quick reference guide for each component of Math Workshop, take a quick photo of Table 1.2. It includes descriptions, examples, and reminders.

Table 1.2 • Key Components of Math Workshop

Component	Examples/Definitions	Minutes
Routine or Energizer (Interactive Launch)	Examples: • Number Talks, I Have Who Has, Guess My Rule, Target Number, True or False, Which One Doesn't Belong	5–10
Mini Lesson	• Whole-group lesson • Focused on specific learning target • Involves some form of explicit instruction • Student-centered and hands-on when possible	10–20
Guided Math Groups	• 3–5 students • Groups change often ○ Learning targets informed by current data • Intervention, extension, reinforcement, acceleration	Time varies (5–15 min per group)

Workstations	• Students choose based on their goals
	• Purposeful practice
	  ○ Rigorous
	  ○ Essential standards
	• Differentiated
	• Games, projects, adaptive technology
	• Self-checking
	• Artifacts (for accountability)
		Time varies

Debrief (The "Share")	• Return to whole group
	• Share learning of the day
	• Tips to keep it brief
	  ○ Have students turn and talk first
	  ○ Select 4–5 students to share with the whole group (equity sticks are great for this)
	  ○ When short on time, have students write on a sticky note or in their journal
		2–5

Although the components are consistent, Math Workshop looks and feels different in every classroom. Find what suits you, such as station rotation versus menu, which will be explained more later. Determine what noise level works and what student accountability will look like. Through trial and error, find the right organizational system, how much choice is comfortable, and how you'll manage paper and supplies. Decide how to take notes during Guided Math groups and how frequently to change workstations (we recommend weekly or biweekly). Experiment with routines, practice keeping lessons mini, and try the debrief. Once you feel good, you're ready for the *plus*.

Math Workshop Plus takes you to the next level. It aims to close opportunity gaps and open doors. It requires tenacity, planning, and your belief that every student can and will succeed when the right supports are embedded in the learning environment. The magic of Math Workshop Plus comes from creating conditions for all students to effectively communicate their thinking, strategies, and solutions. It comes from ensuring resources and tools are readily accessible. It comes from anticipating student needs and planning for them. The magic is UDL, and it will change your workshop in all the best ways.

What Is Universal Design for Learning?

> Universal Design for Learning (UDL) is a teaching approach that works to accommodate the needs and abilities of all learners and eliminates unnecessary hurdles in the learning process. This means developing a flexible learning environment in which information is presented in multiple ways, students engage in learning in a variety of ways, and students are provided options when demonstrating their learning.
>
> *Cornell University Center for Teaching and Innovation*

Universal Design is a concept developed by Ron Mace of North Carolina State University. His vision grew from the architecture world as a method to design products and environments that met the conditions of the Americans with Disabilities Act (ADA) while also serving everyone without making adaptations. Examples include curb cuts and large restroom stalls. Both were designed to accommodate wheelchairs but also serve strollers, shopping carts, and more. As the term implies, the design is universal, so the function can help everyone.

Universal Design for Learning (UDL) is a framework inspired by Mace and based on the work of Vygotsky (1962). In education, accessibility refers to many

things, but let's take a simple example. Many classrooms install amplification systems for those with impaired hearing. These systems also benefit students who struggle with attention, have auditory processing issues, or sit in the back of the classroom. They even help teachers preserve their voices! Everyone benefits without the need for additional adaptations. The result is increased accessibility for more students without additional work for the teacher. Less work with better outcomes? Yes, please!

The UDL framework is divided into three principles, which outline how the three networks of the brain work together when learning. The domains examine these three characteristics:

1. Recognition—the *what* of learning
2. Skills and strategies—the *how* of learning, and
3. Caring and prioritizing—the *why* of learning.

In simple terms, effective learning involves knowledge, skills, and enthusiasm, and putting them all together is the recipe for success.

In July 2024, the Center for Applied Special Technology (CAST) debuted the UDL Guidelines 3.0. As seen in Table 1.3, the goal is learner agency. The graphic is structured around Engagement, Representation, and Action & Expression, each with specific guidelines and considerations to elevate access, support, and executive function. This book will touch upon most of them. Explore Table 1.3 and consider how the guidelines and considerations align with the vision of Math Workshop Plus. You can see CAST's version of this table at https://udlguidelines.cast.org/.

Many ideas in the framework have the potential to improve outcomes in math, yet in 2021, Lambert et al. found that the framework itself was not enough to transform teaching and learning. They noted that "the potential of UDL rests in its power to redesign classrooms, curriculum, and systems to work better for students with disabilities" (p. 57) and all other students as well. After exploring the connection between design thinking and UDL in relation to mathematics education, they concluded that UDL is general. Thus, applying it in content areas requires intentional action. To support this, Lambert (2021) developed the UDL Math Design Elements framework to connect the principles of UDL with mathematics education research. As seen in Table 1.4, the hope is to shift the perception of UDL as a "thing," or a noun, to an "action," or a verb. Many ideas in the graphic intersect with Math Workshop and SEL, and there is a strong theme of equity. This graphic may help to synthesize ideas within the chapters, so you may want to flag this page.

Table 1.3 • Universal Design for Learning Guidelines 3.0

	Design Multiple Means of **Engagement** 	Design Multiple Means of **Representation** 	Design Multiple Means of **Action & Expression** 
Access	Design Options for **Welcoming Interests & Identities** • Optimize choice and autonomy • Optimize relevance, value, and authenticity • Nurture joy and play • Address biases, threats, and distractions	Design Options for **Perception** • Support opportunities to customize the display of information • Support multiple ways to perceive information • Represent a diversity of perspectives and identities in authentic ways	Design Options for **Interaction** • Vary and honor the methods for response, navigation, and movement • Optimize access to accessible materials and assistive and accessible technologies and tools
Support	Design Options for **Sustaining Effort & Persistence** • Clarify the meaning and purpose of goals • Optimize challenge and support • Foster collaboration, interdependence, and collective learning • Foster belonging and community • Offer action-oriented feedback	Design Options for **Language & Symbols** • Clarify vocabulary, symbolic, and language structures • Support decoding of text, mathematical notation, and symbols • Cultivate understanding and respect across languages and dialects • Address biases in the use of language and symbols • Illustrate through multiple media	Design Options for **Expression & Communication** • Use multiple media for communication • Use multiple tools for construction, composition, and creativity • Build fluencies with graduated support for practice and performance • Address biases related to modes of expression and communication
Executive Function	Design Options for **Emotional Capacity** • Recognize expectations, beliefs, and motivations • Develop awareness of self and others • Promote individual and collective reflection • Cultivate empathy and restorative practices	Design Options for **Building Knowledge** • Connect prior knowledge to new learning • Highlight and explore patterns, critical features, big ideas, and relationships • Cultivate multiple ways of knowing and making meaning • Maximize transfer and generalization	Design Options for **Strategy Development** • Set meaningful goals • Anticipate and plan for challenges • Organize information and resources • Enhance capacity for monitoring progress • Challenge exclusionary practices

Source: Adapted from CAST, 2024. Universal design for learning guidelines version 3.0. Retrieved from https://udlguidelines.cast.org. Used with permission.

Table 1.4 • UDL Math Design Elements

Strategic sense makers: Are students constructing identities as strategic sense makers in math?		
Engagement	Meaningful mathematics	Is the math in your class meaningful to students? Do students regularly engage in sense making?
	Supportive classroom environments	Do your students feel safe enough to take mathematical risks? Are they building relationships in and through math?
Representation	Multimodal	Is math content accessible? Multimodal? Can students choose how they solve problems?
	Focus on core ideas	Does the design of your class guide students to understand and remember core mathematical ideas?
Strategic action	Equitable feedback	Does feedback help students grow as mathematicians? Is assessment equitable for all learners?
	Understanding self as a math learner	What do your students learn about themselves as math learners? How do you support that development?

Source: Adapted from Lambert, 2021. Used with permission.

Why a Universally Designed Math Workshop?

The goal of UDL is "learner agency that is purposeful and reflective, resourceful and authentic, strategic, and action-oriented" (CAST, 2024). This goal is aligned with Math Workshop, where we cultivate conditions to support student

collaboration, independence, and engagement. Reflect on the learning environment in your classroom. How motivated are students? What do they know about how they learn? Do they believe math is about sense-making, or answers? Can they utilize resources such as anchor charts and math tools? Do they? Do they self-start or wait to be guided through steps? Are there opportunities for choice? Do they know where they are on the learning continuum? Are they attuned to what they know? Do they know what they need to learn? Do you?

In Math Workshop, students are clear on their purpose, and teachers are comfortable giving students more control in the classroom. In this environment, choice is normalized, and agency is fostered. Motivation improves when students feel in control of their learning (Code, 2020) and can decide what to do, where to do it, and for how long. Choice is a cornerstone of UDL, and that extends to having options to demonstrate proficiency. Typically, math proficiency is measured by written work, especially paper-and-pencil or computer-based assessments. Within Math Workshop Plus, students may demonstrate proficiency in a variety of ways.

Agency is fostered as students access and use the resources and tools they prefer, as they persevere and work with others to overcome obstacles and also as they set goals and monitor their progress. Students know where they are on the learning continuum, where they are going, and why. We enter these classrooms and ask students not what they are *doing* but what they are *learning*. Try it and you may be surprised by the responses!

Adding UDL to Math Workshop means anticipating learner variability and planning to remove barriers (Murawski & Novak, 2019). It means being *proactive* versus *reactive.* If this sounds like more work, chances are you already include some UDL elements, so taking your practice to the next level could be as straightforward as shifting how you prep and plan. Teachers who plan with a UDL lens ask themselves questions that help them provision for differences. This increases accessibility for all students and decreases the need for individual modifications, which results in *less* work.

Try It!

Proactively Designing Options for Engagement, Representation, and Action & Expression

Try this short exercise using the bullet points in Table 1.3. Think "How can I proactively design options for (fill in the blank)?":

Engagement

- ✓ Welcoming interests and identities
- ✓ Sustaining effort and persistence
- ✓ Emotional capacity

Representation

- ✓ Perception
- ✓ Language and symbols
- ✓ Building knowledge

Action & Expression

- ✓ Interaction
- ✓ Expression and communication
- ✓ Strategy development

If we expect students to own their learning during Math Workshop Plus, it is helpful to pause and reflect on where they often get stuck. When we do this, we can proactively adjust. This prevents them from getting stuck in the future, gives them confidence when confronted with other barriers, and builds stamina, perseverance, and independence.

Whether you are already engaged in this work, just getting started, or thinking about it, this book is filled with practical, research-informed, and easy-to-implement ideas to help maximize every opportunity to support all learners. As you think about your students and your classroom, consider the following questions, and add others you may have. Jot them down and be on the lookout for answers as you read.

Try It!

Reflecting on My Classroom

Can all students access the language?

How can I make the concept more visual?

What tools can students use to support their thinking?

Is there more than one way to demonstrate proficiency?

What questions should you consider when planning a universally designed lesson, workstation, or Guided Math group? CAST has developed the following guide to activate your thinking about learner variability and spark ideas to proactively plan for differences. After reviewing Exhibit 1.1, we encourage you to jot down your thoughts in the space provided and share them on your social media platform of choice using #mathworkshopPLUS.

Exhibit 1.1 • Key Questions to Consider When Planning Lessons

Think about how learners will engage with the lesson.

Does the lesson provide options that can help all learners:

- regulate their own learning?
- sustain effort and motivation?
- engage and interest all learners?

Think about how information is presented to learners.

Does the information provide options that help all learners:

- reach higher levels of comprehension and understanding?
- understand the symbols and expressions?
- perceive what needs to be learned?

Think about how learners are expected to act strategically and express themselves.

Does the activity provide options that help all learners:

- act strategically?
- express themselves fluently?
- physically respond?

Source: Adapted from CAST, 2024. Universal design for learning guidelines version 3.0. Retrieved from https://udlguidelines.cast.org. Used with permission.

So far, we have explored the connections between Math Workshop and UDL, but you may have noticed a connection to social and emotional learning (SEL). We certainly did!

What Is Social and Emotional Learning (SEL)?

> Social and emotional learning (SEL) is an integral part of education and human development. SEL is the process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions.
>
> SEL advances educational equity and excellence through authentic school–family–community partnerships to establish learning environments and experiences that feature trusting and collaborative relationships, rigorous and meaningful curriculum and instruction, and ongoing evaluation. SEL can help address various form of inequity and empower young people and adults to co-create thriving schools and contribute to safe, healthy, and just communities.
>
> *CASEL, 2020*

You are likely familiar with the SEL competencies developed in 1997 by the Collaborative for Academic Social and Emotional Learning, better known as CASEL. The presence or absence of these competencies can color the culture and climate of your classroom, and lagging social and emotional skills can inhibit academic potential (Immordino-Yang, 2016). Let's examine the SEL competencies through the lens of the Math Workshop Plus and identify opportunities to strengthen these skills.

Math Workshop Plus aspires to create a more accessible and equitable learning environment for all students. In 2020, CASEL refined their definition of social and emotional learning to highlight the role of SEL in fostering equity in schools and classrooms. The revised definition—shared at the beginning of this section—also emphasizes "student agency," which is the goal of UDL and a key element of Math Workshop.

Did you make any connections? If access and equity are the "plus" we are adding, our classrooms and learning experiences must reflect that. As we make decisions, prepare lessons, and build our toolboxes, we should be thinking of our students as individuals. By design, Math Workshop does this. It moves us away from one-size-fits-all and empowers students to own their learning. Since this may be a new experience for students, we must provide guidance and support. If we remind ourselves that they are still in the process of developing as humans *and* as learners, we can leverage Math Workshop Plus to build and strengthen SEL competencies.

Try It!

Connecting Math Workshop Plus and SEL

As you read the definition of SEL, what connections can you make to Math Workshop Plus? It may be helpful to revisit Figure 1.2 as you examine how UDL and SEL come together to foster the access and equity that put the "plus" in Math Workshop Plus.

We believe that *all* learning is social and emotional. Much of our growth as humans comes from lessons learned through our exchanges with peers, friends, and the people we interact with daily. Returning to the idea of teaching the whole child, Darling-Hammond and Cook-Harvey note (2018) that "human relationships are the essential ingredient that catalyzes healthy development and learning." The following quote from Dr. James Comer, shared by Rita Pierson in her viral TED Talk (2013), captures this perfectly:

"No significant learning happens without a significant relationship."

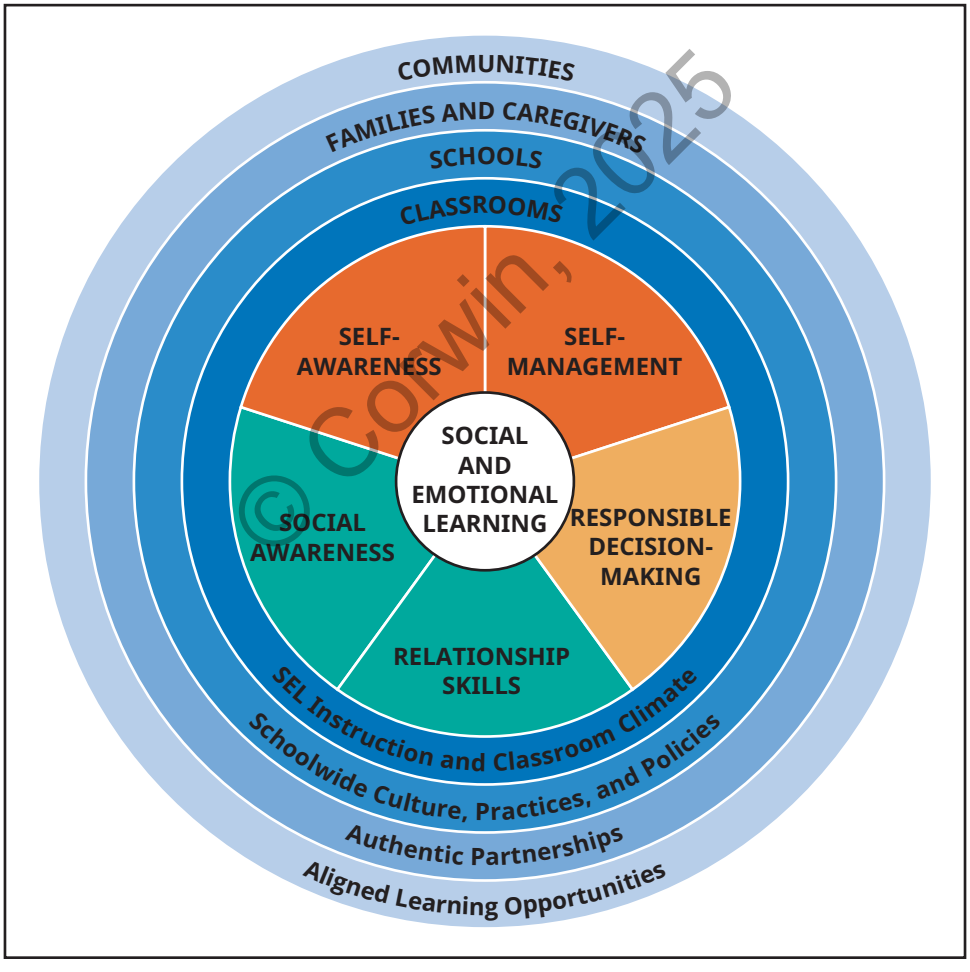
Math Workshop is fertile ground for relationship building. It positions you to work in closer proximity to students in Guided Math groups, which allows you to observe student thinking in real time, discuss conceptions as they develop, and address misconceptions before they grow. Through skilled questioning, students reflect, ponder, and revise their thinking. Teachers who implement Math Workshop often report feeling more effective, efficient, and empowered to support students as individuals. Students report feeling seen, heard, and valued as their teachers highlight what is *right* about their thinking while pushing them to persevere through challenges. This is a stark contrast to handing in a paper and getting it back days or weeks later, with red ink indicating wrong answers.

As you run Guided Math groups, the other students engage in workstations. Many teachers are skeptical about this and reluctant to offer choice. There is a genuine concern, and often for good reason, that autonomy within workstations

will devolve into chaos. While possible, we know from years of experience and success that, when expectations are clear, routines are explicitly taught and rehearsed, and accountability is high, workstations offer effective opportunities to practice math and much, much more. This component of Math Workshop develops, strengthens, and applies SEL skills.

What are these skills, and how do they fit into Math Workshop Plus? As outlined in Figure 1.3, the SEL competencies include self-awareness, self-management, responsible decision-making, relationship skills, and social awareness.

Figure 1.3 • CASEL Social and Emotional Learning Framework



Source: CASEL, 2020. For more explanation, the framework is available for free at https://casel.org/casel-sel-framework-11-2020/.

Let's zoom in on each of the five competencies, understand what they mean, and think about how they can be developed, practiced, and strengthened through Math Workshop Plus.

As defined by CASEL in 2020, the five SEL competencies are as follows:

Self-Awareness

The abilities of students to understand their thoughts, emotions, and values, and how these things influence their decisions and behavior in different situations. Self-awareness encompasses the ability of students to recognize their strengths and limitations and possess a solid sense of confidence and purpose.

Self-Management

The abilities of students to effectively manage their emotions, thoughts, and behaviors in a variety of situations to achieve their goals. Self-management encompasses having the ability to manage stress, delay gratification, and have motivation and agency to reach individual and group goals.

Social Awareness

The abilities of students to show empathy and understand the perspectives of others, including people who are different from them. Social awareness includes feeling compassion for others, understanding social norms and behaviors appropriate for different settings, and accepting the resources and supports available from the school, community, and family members.

Relationship Skills

The abilities of students to form and maintain supportive, healthy relationships and effectively work with diverse people in different settings. Relationship skills encompass clear communication, active listening, cooperation, collaborative problem-solving, and constructive conflict resolution. This includes navigating situations with different social and cultural expectations, offering leadership, helping others, and pursuing help for themselves when needed.

Responsible Decision-Making

The abilities of students to make constructive and caring choices related to personal behavior and social interactions in a variety of diverse situations. Responsible decision-making encompasses considering safety and ethical concerns and assessing the benefits and consequence of actions in relation to social, personal, and collective well-being.

We've heard from countless teachers that too often the "L" in SEL gets lost in the conversation and that SEL is often treated as a separate thing. Since research notes the role of these five key social and emotional competencies in learning (Dusenbury et al., 2020), our goal is to capitalize on opportunities *within* the context of learning rather than *outside* of it. Let's explore how the competencies promote or impede learning and highlight where they are utilized in Math Workshop Plus.

Opportunities to exercise SEL skills are abundant in Math Workshop. Workstations offer partner, group, and independent learning options. They allow students to practice how to speak with each other, how to respect the thinking of others, and how to build their decision-making muscle. Students must make choices to progress along the learning trajectory. They must regulate their emotions when they lose a game, wait their turn, or can't work with their desired partner. Students are *trusted* to oversee their learning and experience authentic outcomes of their actions and decisions.

As you familiarize yourself with Math Workshop Plus, consider what role this model can play in developing SEL competencies. Throughout each chapter, we will note connections to SEL and offer strategies to cultivate and maximize opportunities within this enhanced universally designed version of Math Workshop.

A Glimpse of SEL in Action at the Launch of Math Workshop Plus

Here is a glimpse into a Math Workshop Plus launch that illustrates how the classroom community looks, feels, and sounds. The teacher begins with this Which One Doesn't Belong routine (Figure 1.4).

Figure 1.4 • Which One Doesn't Belong

Source: Andrew Gael, WODB talkingmathwithkids.com.

Mrs. Kye: Decide which coins don't belong. Take a moment to notice and wonder and really think about it. Be prepared to explain WHY you made your selection.

(allows for think time)

Cole: I think the dimes don't belong.

Mrs. Kye: Who agrees with Cole? (many students signaling that they agree) OK, Cole, why don't they belong?

Cole: They don't belong because they total 50 cents, and the others total 25 cents.

Mrs. Kye: Hmm . . . is that a valid argument? Do you agree? (students signaling that they agree) How can we check?

Maria: Well, we can count the collections: 5 nickels are 25 cents; 25 pennies are 25 cents; a quarter is 25 cents; 5 dimes are 50 cents—he's right!

Mrs. Kye: Do we agree? (yes, yes, yes) Did anyone make a different choice? (many hands go up) Carla, what did you pick?

Carla: Well, I thought that the quarter did not belong.

Mrs. Kye: Did anyone else pick that one? (students smiling and agreeing) OK, Carla, why did you select the quarter?

Carla: Well, what I noticed was that it was the only one that had just one coin.

Mrs. Kye: Hmmm . . . is that a true statement? Do you agree? (students signaling that they agree) Can both Cole and Carla be correct? Why?

Juan: Yes, because they gave a good reason, a true reason why they didn't belong. I didn't pick those, but I see what they are saying, and I agree with them!

Mrs. Kye: Oh . . . that makes sense. Wait, you said you didn't pick the dimes or the quarter, so which one did you think did not belong?

Juan: I chose the pennies.

Mrs. Kye: Hmmm . . . OK, everyone, turn and talk with your group or think to yourself why Juan may have chosen the pennies. See what reasons you can come up with.

Mirko: Can we share?

Mrs. Kye: Well, first let's see what Juan's reason was. Juan?

Juan: Well, I noticed that they were a different color. The others are silver.

Mirko: Yes!! That's what we thought too. At first, we noticed that they were brown, and all of the others were silver.

Mrs. Kye: So . . . is that a valid argument? (class saying yes excitedly; Juan looks happy)

Mirko: (excitedly) But we came up with two more reasons. Can we share them?

Mrs. Kye: I wonder if other groups had the same ones? Did other groups come up with more than one reason for the pennies not to belong? (students very excitedly saying yes, yes!)

Mrs. Kye: Should we let Mirko share and then see if there are any other ideas? (class says yes)

Mirko: We noticed the pennies were the only ones in an array. Like, it's the only one with rows and columns (some saying that's what we said!)

Mrs. Kye: Do you agree? Is that a valid reason? Do you see the rows and the columns? Where? (student shows) Is it an array? (class shows and agrees) Mirko, is your group all done? (yes) OK, do any other groups have a reason for the pennies?

Shelby: Yes! We noticed they were arranged in equal groups—5 groups of 5.

Mrs. Kye: Interesting . . . is that a true statement everyone? (class agreeing as pointing and chatter spreads)

Mrs. Kye: OK, anything else with the pennies?

Nick: Well, this isn't really mathy or anything, but we noticed the face was pointing right and the other faces are to the left.

Mrs. Kye: Hmmm . . . you are really looking closely! Class, is that a true statement? (YES! Others noticing) Wow! Do you think there may be even more things we haven't noticed? (yes!!)

Yeshi: (interrupting) Wait! We didn't talk about the nickels, and that's what I chose!!

Mrs. Kye: Hmmm . . . OK, class, without saying it out loud, decide why you think Yeshi picked the nickels. Take 10 seconds. (wait) OK, Yeshi, why did you pick the nickels?

Yeshi: I picked the nickels because they were the only ones on the tails side!! (class erupts . . . yesssss!!!)

Can you feel the excitement, engagement, and energy? Can you see how each idea was valued, honored, and shared? That is how a Math Workshop always begins. Students are thinking, wondering, sharing, and getting their brains activated! In this example, students didn't need knowledge of coins to participate. They could notice color, arrangement, size, or mathematical things like values, quantities, and equal groups. The routine is visual, auditory, and oral, and there isn't one "correct" answer.

Did you notice how students learned from each other? The academic vocabulary didn't come from the teacher. Instead, the teacher facilitated discussion by asking questions to move thinking forward. Rather than focusing on the answer, the teacher probed for student thinking. Students supported each other, and the classroom as a community of learners was strengthened. SEL competencies were developed, modeled, fortified, and practiced.

The example illustrates how students can authentically develop, practice, and strengthen their SEL skills all while engaging in math, particularly the math practices. When looking at the Standards for Math Practice through the lens of SEL, examples of opportunities to strengthen these competencies may jump out at you. As you encounter examples, consider how to incorporate them, maximize them, and how your students could benefit from them. Consider how a commitment to agency, UDL, and independence can influence math disposition and self-efficacy. Also consider the role of these things in creating an equitable learning environment. According to CASEL,

> SEL advances educational equity and excellence through authentic school–family–community partnerships to establish learning environments and experiences that feature trusting and collaborative relationships, rigorous and meaningful curriculum and instruction, and ongoing evaluation. SEL can help address various forms of inequity and empower young people and adults to co-create thriving schools and contribute to safe, healthy, and just communities.

SEL as a lever for equity may not be as obvious as UDL, but when you think about what students with lagging SEL skills often miss out on, it makes

sense. Students with weak SEL skills often struggle with relationships with peers and adults, experience poorer academic achievement, and suffer consistent and sustained behavior problems (McDonald et al., 2018). Their behaviors may result in missed instruction, a negative disposition toward math, and/or a lack of motivation to persevere when faced with rigorous problems. As previously noted, we view equity as a call to action. We see Math Workshop Plus as a space designed for equitable access but know that to fulfill that promise we must constantly reflect on our decisions, systems, and expectations to ensure that all students have the tools to succeed within the learning environment.

How Does Math Workshop Plus Support Equity?

How do you define equity? How about your colleagues and administrators? Does everyone define equity the same way? What practices support equity? What practices impede it? How do we define equitable math instruction? What does equity look like in Math Workshop?

Equity is a word that means different things to different people, yet it is frequently spoken about in education as if everyone defines it the same way. For this reason, we want to examine equity through the lens of math instruction and develop a common definition to use for the purpose of this book. The National Council of Teachers of Mathematics (NCTM) notes the following practices that support equity:

> These practices include, but are not limited to, holding high expectations, ensuring access to high-quality mathematics curriculum and instruction, allowing adequate time for students to learn, placing appropriate emphasis on differentiated processes that broaden students' productive engagement with mathematics, and making strategic use of human and material resources. When access and equity have been successfully addressed, student outcomes—including achievement on a range of mathematics assessments, disposition toward mathematics, and persistence in the mathematics pipeline—transcend, and cannot be predicted by students' racial, ethnic, linguistic, gender, and socioeconomic backgrounds.

Consider the situations in the following list that describe "invisible" barriers to equity. How do they reflect the practices described by the NCTM? How might they result in opportunity gaps for some students? Do any of these situations exist in your classroom, school, or district?

1. Some teachers and classrooms within the same school/district have more manipulatives than others.
2. Some students receive pull-out math support while the rest of the class is having Math Workshop (or math instruction).
3. Some students meet with both the classroom teacher and the special educator or interventionist, leaving little time for games or other workstations.
4. Some students do not speak English, so they are given practice pages of computation problems, or they leave during math time.
5. Some teachers use different instructional resources than their colleagues, which may include different vocabulary, different models, and/or different assessments.
6. Some students have the opportunity to try "challenge problems," but others do not.
7. Students may only use the manipulatives that the teacher selects when the teacher distributes them for a specific lesson.
8. Some grade levels, schools, or classrooms have more instructional minutes designated for math than others.

Throughout this book, we propose elevating Math Workshop through UDL to minimize inequities. You may notice an inherent relationship between UDL and equity, but in recent years, there have been more intentional efforts to apply UDL to ensure access for diverse learners. As the needs of students, including SEL needs, continue to vary and expand, it is imperative that we intentionally design and maintain learning environments that create conditions for success.

> Equitable learning environments "respond to the diversity of a school or classroom community, intentionally create rich opportunities for student action and reflection, attend to young people's psychological experience of learning, and develop their feelings of competence, connectedness, and purpose." SEL implementation both contributes to and depends upon an equitable learning environment where all students and adults feel respected, supported, and engaged.

Is it becoming clear that Math Workshop Plus strives to create such environments? Creating learning spaces where everybody gets what they need is an ideal actualized through this model. In a high-functioning Math

Workshop, there are no labels or levels, no high groups or low groups, and no judgement or assumptions. It is a safe space for students to share ideas, think, persevere, collaborate, fail forward, and explore. It is a structure that values and embraces differences, champions individuality, and recognizes that competence and proficiency in math are not defined by speed but by evidence of understanding that may be demonstrated with objects, pictures, explanations, or in writing.

We believe that Math Workshop Plus teaches students to be respectful of the ideas shared by peers, values the thinking of all members of the classroom community, and celebrates connectedness by affirming when different people share the same ideas. The environment highlights that there is more than one correct way to approach and solve problems and encourages students to use strategies that work best for them. In this way, students become more metacognitive. When students understand themselves as learners, they can more effectively advocate for themselves and own their learning. As we explore ideas such as goal setting, progress monitoring, and learning trajectories, we hope you see that Math Workshop Plus is not about comparisons to other students or grades on report cards. Math Workshop Plus is about advancing the learning of each student by supporting all students on their individual journeys.

Math Workshop Plus is a powerful structure for all that:

- Simultaneously empowers both students and teachers
- Intentionally removes barriers to learning
- Ensures that all students get what they need
- Offers options for all types of learners
- Embraces variability as an asset to the learning community
- Focuses on the whole child
- Creates an environment of respect for all

Where Will We Go From Here?

What made you pick up this book? Are you reading it because you're a Math Workshop believer looking to take your practice to the next level? Are you reading it because you are curious about Math Workshop and want to know

how it works? Maybe it was the SEL connection that piqued your interest, or perhaps you want to know more about UDL. Regardless of why you are here, this book provides all of that and more. Our goal is to help you maximize instructional minutes, meet the needs of all students, and sharpen your focus on accessibility, equity, and the role of social and emotional competencies in learning.

You may be wondering how so much information will come together in a way that makes sense and how prepared you will be to make this a reality in your classroom. Understanding how the book is constructed and how to use the tools within each chapter will help make the ideas actionable.

The design of this book takes you on a journey to build an understanding of the UDL Guidelines through the lens of Math Workshop. With each chapter, you will gain more insight into the specifics of each dimension of the UDL framework and discover concrete examples to enact them in your classroom. If that sounds daunting, you'll find similar examples and strategies in different chapters due to some overlap within the Guidelines. We hope that the repetition helps solidify ideas and feeds your action plan.

As a reminder, the UDL Guidelines are organized into three areas: Engagement, Representation, and Action & Expression, each of which have a set of three unique guidelines. A chapter will be dedicated to each guideline. For example, under Engagement, the first guideline is on Welcoming Interests & Identities, which is comprised of these considerations:

- Optimize choice and autonomy
- Optimize relevance, value, and authenticity
- Nurture joy and play
- Address biases, threats, and distractions

As illustrated in Exhibit 1.2, each chapter will zoom in on the considerations within each guideline and illustrate them through concrete examples, resources, and strategies to make them a reality in your math workshop. The figure is intended to support your understanding of how each chapter uses that structure and how it relates to the UDL framework, SEL, and equity.

Exhibit 1.2 • How This Book Is Organized

Math Workshop Plus is organized around the UDL framework.

The UDL Guidelines are organized into three principles:

Provide Multiple Means of		
Engagement	**Representation**	**Action & Expression**

Each of these principles is broken down into specific guidelines. For example, within the principle of Engagement, there are three guidelines:

Engagement
Welcoming Interests & Identities
Sustaining Effort & Persistence
Emotional Capacity

Each of these guidelines is broken into considerations. For example, the Sustaining Effort & Persistence guideline includes five considerations.

Engagement
Welcoming Interests & Identities
Sustaining Effort & Persistence
Clarify the meaning and purpose of goals
Optimize challenge and support
Foster collaboration, interdependence, and collective learning
Foster belonging and community
Offer action-oriented feedback
Emotional Capacity

Each chapter in Math Workshop Plus is dedicated to a specific guideline. Within the chapter, we will zoom in on the considerations and illustrate them using concrete examples, resources, and strategies to bring them to life in your Math Workshop. Our hope is that this intentionality creates a road map for you that frames the UDL Guidelines like small shifts, slight adjustments, or easy upgrades you can make to what you already do that will result in greater access and better outcomes for all students.

In addition to the UDL principles, each chapter will include callouts along the way—highlighted by icons—to highlight reflection moments to help you consider more about them:

- **Connections to SEL** and what it looks, sounds, and feels like in Math Workshop Plus.
- **Equity Checks** to determine what creates equity in your classroom.
- **Action Plans** to prompt you to take immediate action in your next lesson.
- **Try It!** opportunities to engage in self-assessment related to the chapter.
- **Connection** moments, encouraging you to share what you are thinking, planning, or doing with the math Workshop Community, using #mathworkshopPLUS on your social media platform of choice.

Math Workshop Plus offers a dynamic approach to math instruction that aspires to build proficiency in math, while developing the whole child. By designing for multiple means of engagement, representation, and action and expression, and by enacting the UDL Guidelines to anticipate and remove barriers, students are empowered, confident, and play an active role in their growth. This alternative to a one-size-fits-all approach to instruction fosters inclusive, accessible learning environments for all learners. As students make decisions, interact with peers, build awareness of their thinking, and monitor themselves, they organically and authentically strengthen their SEL competencies. As you continually reflect on your actions, decisions, and systems, you become more attuned to the experiences of your students and how your classroom supports or inhibits equity and access.

Math Workshop Plus offers a space to maximize your impact and for students to be more independent, solve their own problems, and work with others. This model creates pathways for equity, access, and success for *all* learners within a safe environment where students flourish in their development as mathematicians and people. If you never have enough time, are challenged to meet a wide range of needs, and want to give every student what they need without compromising your personal sanity, this model is a dream come true!

Reflection Questions

1. How satisfied are you with your current math instruction?
2. How comfortable are you giving students more ownership over their learning?
3. What are your biggest takeaways from this chapter about the roles of SEL, UDL, and equity in math instruction?

Action Plan

Assess your current math block. How do you use your minutes?

Try It! Barriers and Opportunities

Make a list of your top five frustrations and identify which ones Math Workshop Plus could mitigate or eliminate.

Try a routine, such as Which One Doesn't Belong, and compare the experience with the example in the chapter.

Connections

Start a journal to track your progress as you move through the book. On page one, write your reason for wanting to implement this model and what you are thinking right now. Commit to share your journey with a colleague or connect with someone on the same journey via social media using #mathworkshopPLUS.