

NEWS YOU CAN USE

THE CPM EDUCATIONAL PROGRAM NEWSLETTER

JANUARY 2023: IN THIS ISSUE

In this issue...

Dr. Judy Kysh wins an award

CPM's Site-Based Leadership Program

Supporting EMLs and translanguaging students

And more!



CPM EDUCATIONAL PROGRAM
an educational 501(c)(3) nonprofit

Authors' opinions in articles or links that could be interpreted as political opinion do not necessarily represent political beliefs on behalf of CPM as an organization.

CPM.ORG

MORE MATH FOR MORE PEOPLE

CHANGE TAKES TIME, EFFORT, AND DR. JUDY KYSH

Susan Hoffmier, Auburn, CA, SusanHoffmier@cpm.org

CPM is proud to share that our friend, mentor, and leader Dr. Judy Kysh was awarded the **Edward Begle Memorial Award** at the California Mathematics Council's Annual Conference at Asilomar conference grounds in Pacific Grove, CA, on December 3, 2022. *"The **Edward Begle Memorial Award** recognizes an educator who has been supportive of CMC activities for a sustained period, has offered continual encouragement, and has been actively involved in California mathematics. Judy Kysh exemplifies the spirit of this award with her dedication to serving the mathematics community."*

Being publicly recognized for this award is congruous with Judy's contribution to mathematics education. The guiding principles behind Dr. Begle's work are the same principles that have driven much of Judy's work throughout her professional career. Dr. Edward Begle researched teaching for understanding and he was the Director of the School Math Study Group (MSG, better known as the "New Math"). Thank you, Dr. Begle.

Early on, Judy was uncertain whether she wanted to be a mathematics educator at all, but in 1962, she began teaching at Sir Francis Drake High School (recently renamed Archie Williams High School) in Marin, California. Together with a progressive math team, she helped create a vision of how rigorous mathematics could be available to all students. For the next decade, Judy and her colleagues worked toward that vision, creating new courses and alternative pathways for students, convincing administrators to buy tables to support collaborative group work, attending professional development workshops, and providing workshops for each other. Judy remained in the classroom for 18 years. Sixty years later, she continues to educate the mathematics community that the subject should be understood, not mimicked.

The next stop on her professional journey was becoming coordinator of a program at the Lawrence Hall of Science, working with high school Algebra 2 teachers in Oakland to create a rigorous curriculum for marginalized students.

In 1981, three University of California, Davis mathematics professors, among them Tom Sallee, put out a call to math educators. They wanted to create a mathematics project that would support teachers in transitioning from a traditional teaching approach to teaching for understanding and preparing students to be problem solvers. Judy joined the team and helped create the Northern California Mathematics Project (NCMP). In 1982, she was hired as its Director, and for 17 years, Judy led the project with the conviction that real change happens from within. Under her direction, NCMP empowered teams of classroom teachers to take risks and work towards mathematics instruction focused on problem-solving and understanding. During her tenure, the Project supported over 500 teachers and countless students while making mathematics an all-inclusive discipline.

continued on page 2

JUDY KYSH from page 1

As math teachers working with NCMP started to focus on reasoning, problem-solving, and supporting small learning groups, they ran into a problem. They felt restricted by the demands of their districts to cover all the content in the curriculum, which did not leave time for problem-solving. They needed a change in the way they were teaching!

In 1988, Judy, Tom Sallee, and Elaine Kasimatis submitted a proposal for a California Eisenhower grant. The intent was to create an algebra-geometry-algebra 2 curriculum based on understanding, reasoning, and problem-solving. This curriculum would draw from research and from practicing teachers' experience and would be accessible to all students. With a small cadre of high school mathematics teachers, they conceived an innovative, problem-based curriculum. This was the beginning of CPM. As interest in the curriculum materials grew, the writers realized that teachers needed more than written teacher notes. They started leading workshops, first for each other and then for additional teachers who wanted to use them. Under Judy and Tom's vision and leadership, the CPM curriculum grew from high school courses to include middle school and fourth-year high school courses. Today, CPM is used by hundreds of thousands of students throughout the United States and the world.

In 1999, Judy joined San Francisco State University's faculty as a professor of Mathematics and Education. Throughout her

twenty years as a professor there, she has mentored and helped shape the thinking of teaching candidates, Master's students, current classroom teachers, and site leaders, always connecting her work at the University to the practices of math instruction.

Although "half retired," Judy maintains her formidable impact on the mathematics community, challenging educators to refine their craft while keeping the focus on how mathematics should be rich and expansive for all students. She reminds the community that the vehicle to success is the commitment to educating the whole child by using research-based practices, learning from experience, and supporting teachers.

Judy is more than deserving of this award. The mission of the California Mathematics Council is, "*CMC believes that all students can become mathematically competent and confident when provided a rigorous and challenging mathematical program supported by high expectations.*" Judy has embraced CMC's mission throughout her career and touched the lives of countless math educators, schools, and districts.

As a CPM community, let's give Dr. Judy Kysh a collective shout-out for her vision of bringing ***More Math to More People!*** I am sure Dr. Edward Begle is thrilled his name-sake award now honors Judy for her relentless work in improving mathematics education for all.

CPM 2023 TEACHER CONFERENCE

February 25 & 26, 2023

Hyatt Regency — San Francisco, Burlingame, CA

Hurry! Early bird registration ends on the 15th!

Join us in San Francisco for the annual CPM Teacher Conference Saturday and Sunday, February 25 and 26. Including an inspiring keynote address from Dr. Peter Liljedahl and interactive sessions, the conference will offer you ideas and strategies to use immediately in the classroom. Experience two days of sessions led by CPM curriculum writers and professional learning team members, teachers, administrators, and others who will share their experience and expertise, providing insights into best practices in teaching mathematics.

In addition, there will be several Preconference options for Friday, February 24. Full-day session topics include **Building Thinking Classrooms in a CPM Classroom, Inclusion in a CPM Classroom, Leadership Support for Implementation, Emerging Multilingual Learners in the Classroom, Foundations for Coaching, Foundations for Implementation—Day 5 (Assessment), and Building on Foundations.**

Conference registration is open. Register now before the conference sells out! For more information go to the [CPM Conference webpage](#).



2023 Teacher Conference
CPM Educational Program

MY JOURNEY TO DOING BETTER FOR MULTILINGUAL LEARNERS

Danielle Boggs, Champaign, IL, DanielleBoggs@cpm.org With the support of the emerging multilingual learners team—Astrida Lizins (AstridaLizins@cpm.org), Brianna Ruiz (BriannaRuiz@cpm.org), Candice Tyloch (CandiceTyloch@cpm.org), Daniel Henderson (DanielHenderson@cpm.org), Rhonda Pierre (RhondaPierre@cpm.org), and Micheal Marsh (MichealMarsh@cpm.org)

Do you position your multilingual learners for success? If I am being entirely honest, I have not always done this, even when I would have answered *Yes*. I thought I was, but I know now that is not necessarily what I did. I would like to share some food for thought here, as well as hope (and resources) for the future.

As my years in the classroom increased, so did the number of multilingual learners on my roster. I was inadequately prepared for this, but tried many things that were suggested to me—using pictures, making worksheets, grouping multilingual students with others who spoke their home language, and more. Upon reflection, some of these may have been more harmful than helpful. I was oversimplifying assignments and isolating students from their peers. I was inadvertently positioning multilingual learners in my classroom as observers instead of as active participants, doers of mathematics, and leaders, and I was sending a message that they were incapable and did not belong. Although that was not my intention, I realize now that this was a disservice not only to my multilingual learners, but to all students within the classroom community.

Over the last year, I have learned a lot with my colleagues. We have spent a great deal of time sharing our own experiences, exploring research, reading, reflecting, and collaborating on how we can best support teachers and emerging multilingual learners in a classroom using CPM materials. I am not an expert by any means. I am still a learner on this journey to do better, but I am excited to be able to share our work in hopes of helping more students.

In a recent session at CPM's Great Lakes Conference, I was able to present a piece of our team's learning on the Mathematical Language Routines with my colleague and friend, Astrida Lizins. Before we explored several of these routines, we shared a quote from *Teaching Math to Multilingual Students (Grades K-8): Positioning English Learners for Success*, a joint publication from Corwin and NCTM:

"Multilingual learners deserve the same social and academic opportunities to learn and be successful as their English-speaking peers. All students should learn how to interpret the meaning of problems, make conjectures, analyze mathematical thinking and solutions, monitor and evaluate their progress, and understand the approaches of others in comparison with their own." (Chaval et al, 2021, p.xv)

The response to this quote from our participants and colleagues gave me chills. A large number of teachers in the room were affirming this statement, nodding along, and praising the message—many of them multilingual learners themselves. This reaction further stressed the importance of this work. They

understood what it felt like to experience the opposite of this quote, and in that brief moment, I would like to think that they felt seen, heard, and understood.

This has been my experience on the journey thus far, and I would like to offer you a few questions for reflection on your own beliefs and classroom practices:

- How do you position your multilingual learners to be successful in the math classroom?
- What are the unique assets and strengths of your multilingual learners?
- How do you support collaboration in a multilingual classroom?
- How might you feel if you were a multilingual learner in your own classroom?

If you are looking to explore these ideas, I would like to offer you guidance and resources compiled by our team in hopes of supporting you on your own journey. Check out any or all of the following opportunities:

- Explore the newly released "[Emerging Multilingual Learners \(EML\) On-Demand Resource Module](#)" in the Professional Learning Portal. This module contains a library of resources, text excerpts, routines, sentence frames, podcasts, and more.
- Register now for the full-day preconference session focused on [Activating Agency for Emerging Multilingual Learners](#) on Friday, February 24, before the 2023 CPM Teacher Conference, and/or attend some of our conference sessions regarding multilingual learners.
- Reach out to your [Regional Professional Learning Coordinator](#) if you are looking to contract virtual or in-person learning focused on positioning multilingual learners for success.
- Be on the lookout for an updated on-demand module with even more resources and tools to add to your toolkit.
- Email me! I would love to chat with you via email or set up a virtual meeting to discuss and brainstorm with you.

Last but not least, I would love to hear from you and learn from *your* experiences and expertise! How are you experiencing success? What have you learned on your own journey? Do you have ideas that you want to share with your fellow CPM teachers? Email me with questions, comments, or ideas at DanielleBoggs@cpm.org.

Now that I know better, I will continue to do better. Thank you for joining me on the journey to bring more math to more people.

IF AT FIRST YOU DON'T SUCCEED, GREAT!

Dan Henderson, Millington, MD, DanielHenderson@cpm.org

I've been thinking about how to normalize students changing their minds in math class. The way I see it, you have to change your mind to learn. That's, like, what learning is. I mean, I've heard Daniel Willingham misquoted as saying that learning is the residue of thought, but that's memory. Memory is the residue of thought. Learning is letting your ideas and conceptions evolve. So I've been thinking about how to normalize the evolution of ideas in math class.

How can I consistently cultivate kaizen (constant improvement) in my students? I have made a few steps in that direction, but no game-changers. I've shown videos praising the elasticity of brains; displayed slogans like "Every expert was once a beginner" and "Mistakes are expected, inspected, and respected;" and preached the power of "yet" on several occasions. But how can I move beyond slogans and one-off interventions toward perpetual progress?

I'm always tempted to declare "Everything is hopeless" at this time of year, but the truth is, it's not. Though it is dark outside, our future is bright. We can do several things to normalize changing minds in math class. Here are a few within our power:

- *Present specialized problems.* Take the first few minutes of class to invite students to change their responses several times in a row with a slow reveal, encourage students to generate insights through trial and error in a dakabibi*, or work out a definition by considering examples and non-examples.
- *Work on erasable surfaces.* Say, "Consider changing your plan" by having students work on whiteboards, chalkboards, windows, laminated paper, sheet protectors, or repurposed shower curtains.
- *Invite metacognition.* Prompt students to revisit ideas and conceptions with journal prompts, self-assessments, and rubrics that provide feedback instead of a grade. Provide plenty of white space in notes for students to annotate solutions and record their own takeaways.
- *Implement routines.* Structure as many interactions as you can around iteration and revision. Call out Rough Draft Talk, use language routines like Stronger and Clearer each time, and incorporate talk moves to help students build on and modify ideas even if they don't have their own starting point.
- *Use teacher moves.* Reframe changing your work as a positive move forward. Ask students to estimate first or give wrong answers only. Bring students into an evolving problem landscape by launching tasks orally and introducing constraints as they come up naturally. Model changing your mind by making declarative statements and having students talk you out of them. Lower the stakes by having students discuss with partners.

- *Position all contributions as helpful.* Amplify contributions of all types, including those made by students' gestures, pictures, and phrases borrowed from other languages. Make visible how all students' representations connect. We need to go beyond labeling ideas as "brilliant" and "wrong" and recognize that student responses most often represent their best understanding given their current model and information. It is not a misconception, but rather their at-the-moment conception based on their knowledge. Connect misdirected, circuitous, and partial solutions to the learning goal during lesson consolidation. Encourage students to learn from each other using Swapmeet and Stop and Scan (or I Spy) strategies. Say things like, "Sasha, can you share what you said to your team with the class? I thought that was really helpful."
- *Control our own reactions.* Focus students on the process, not the answer. Students need affirmation, not answers; they are often more in need of encouragement than help. Listen to what students say and ask them about it. Respond to questions with questions that push students to think deeper about the problem. Don't be afraid to leave some questions unanswered.

Constant improvement in nature is commonplace, conventional, and even necessary. It is natural that things and ideas evolve. We should anticipate change and growth every day. My quest to renormalize changing minds does not go against the natural grain of learning. Rather, it puts a nice finish on it to protect and accentuate the natural beauty of that process. Each suggestion above moves us in the right direction, and collectively they send a powerful message about what we value.

And that is just a few of the things we can do. I am proud to say that the *Inspiring Connections* courses (available now, ask your Regional Professional Learning Coordinator and/or attend the *Inspiring Connections* session at CPM's National Teacher Conference!) include all this and much more. So, that's what I've been thinking. What are your thoughts? How are you normalizing iteration, evolving ideas, and kaizen?

***Dakabibi**™ refers to a puzzle with a set of numbers and several empty boxes that need to be filled while meeting certain conditions. For example, using the digits 0 through 9 at most once each, arrange the digits to create a true equation.

$$\frac{\square}{\square} = \square.\square\square$$

[Responses may vary. For example, $\frac{1}{4} = 0.25$, $\frac{3}{4} = 0.75$, or $\frac{6}{5} = 1.20$.]

continued on page 5

DON'T SUCCEED from page 4

The term Dakabibi comes from the Twi phrase “adaka a bibiara ɛni mu,” which translates literally to “a box that everything is not inside.” This phrase is shortened to Dakabibi in CPM courses. Twi is a language spoken in Ghana and is one of the more widely used of over 50 languages spoken there. Like other West African languages, Twi is a tonal language; it has several

phonemes that are very difficult for non-native speakers to pronounce. Almost a third of the Ghanaian population speaks Twi as a first or second language. Twi is not the most-spoken language in Ghana, but it is the most-spoken language by Ghanaians in America.

ANNOUNCEMENTS

Teacher Research Corps 10.0

CPM is looking for teachers to join the Teacher Research Corps (TRC) for the forthcoming 2023–24 school year. Over the last nine years, CPM’s 120 Teacher Researchers have conducted more than 85 studies, which have resulted in numerous improvements to our curriculum and professional learning. Teacher Researchers have presented their results at state and national conferences including the annual CPM Teacher Conference, NCSM, NCTM, and AERA. This success has prompted CPM to support the next cycle of advancements, TRC 10.0, by continuing to trust in the intellectual effort and wisdom of teachers. The goal for this next chapter is straightforward: help more students learn more math.

What does a Teacher Researcher do? During our three-day summer meeting, new and veteran Teacher Researchers work in small teams and begin posing questions about their instruction. Teacher Researcher teams work together with the TRC Leadership Team to formulate plans for how to investigate the teams’ ideas. As school begins, teams try out their innovations in the classroom and record results. Teams consult the TRC Leadership Team each month to refine their investigations and analyze the data. The research project concludes as teams work together to summarize results, which culminates in a white paper.

Teacher Researcher teams often choose to build on the work of prior cohorts’ investigations. So far, such further investigations have resulted in three overarching white papers that articulate ways to achieve significant instructional improvement and increase student engagement and learning. These three white papers include *Growth Mindset and Mistakes* by Ilene Kanoff and Penny Smits, *Making Student Thinking Visible With Number Talks* by Angela Kraft and Pam Lindemer, and *Small Goals Yield Big Rewards* by Denise Dedini, Christy McConnell, and Cathy Sinnen. Visit www.imath.us to learn about these studies and new, ongoing studies.

If you would like to join in this endeavor and make a contribution to CPM’s ever-growing encyclopedia of teacher-based knowledge about pedagogical innovation and effective instruction, or would like a copy of any of the further investigation white papers, please contact Mark Coté at MarkCote@cpm.org.

2023 Academy of Best Practices

Each year the academy staff looks forward to this event, which is a highlight of all the work they do. They love spending time with teachers, and the groups brought to Seattle for this event have been, and will continue to be, a collection of engaging, diverse, passionate educators. If you want to bring math to more people, this event is for you! CPM is committed to offering this event the week of August 14–18, 2023.

This 5-day New Teacher Institute is designed to help new math teachers develop into future leaders, to aid their professional growth both in the classroom and in the field of education, to increase their resources, and to form a countrywide network of teacher support. This institute is open to math teachers who have been in the education field for **five years or less**, teaching any mathematics curriculum.

In addition, CPM is excited to offer an **Academy of Best Practices for Veteran Teachers**. This 5-day institute (held the same week and at the same location as the New Teacher Institute) is designed to inspire and re-energize teachers who have been teaching **CPM for six years or more**. Along with being engaged in discussions of issues facing educators today, teachers will learn more about the depth and richness available in CPM lessons and have the opportunity to connect to other CPM teachers from across the country.

CPM supports teacher participation by providing travel to and from Seattle (from within the U.S.) as well as the room and meals at Seattle University. Participants have the option to purchase graduate credit.

THE SITE-BASED LEADERSHIP PROGRAM IS LIVE!

Jocelyn Dunnack, Columbia, CT, JocelynDunnack@cpm.org

Curriculum-based professional learning must be ongoing and sustainable, which means it cannot be led solely by outside experts. Schools and districts must plan for the future by building in-house expertise and leadership pipelines. (Short & Hirsh, 2020)

The Site-based Leadership Program is a collaborative network of local instructional leaders and CPM's Professional Learning Team. The program was developed to help maintain professional relationships, guide successful curriculum implementation, support student learning and achievement, and build in-house leadership. After a pilot year, the official program launched in September 2022 with live, virtual events each month. Between events, site-based leaders connect to pose questions and share solutions. CPM's Professional Learning Team is developing a resource library to help support sites in the program on five important themes:

- Promoting Equity
- Supporting New Hires
- Supporting Effective Teacher Teams
- Classroom Implementation Support
- Networking Opportunities

Each live monthly event features a guest speaker and discussion topic. So far this school year, site-based leaders have been joined by:

- Dr. Judy Kysh, CPM Founder—Change from Within: History of CPM and the ongoing vision for site-based leadership.

- Dr. Leslie Dietiker, former CPM Director of Curriculum—Curriculum as the Foundation: The story behind CPM's curriculum materials.
- Sharon Rendon, CPM Director of Professional Learning—Professional Learning Starts with Shared Visions Brought to Life: Change management and meshing our vision with our reality.
- John Hayes, CPM Professional Learning Specialist—Assessment that Energizes Students and Teachers: How shifting our focus can help us use our assessment energy more usefully.

Community is important for sustaining change. Site-based leaders have shared:

- *"I have used the 90-Day Doc and Implementation Progress Tool to start conversations in my math team meetings and asked my principal to start using the Implementation Progress Tool to give teachers feedback!"*
- *"It's nice to hear/see other people going through similar struggles post-covid and trying to get back to normal."*
- *"I always leave with renewed energy for the next day. Either to try something new or just know to keep doing STTS and pushing forward."*

- *"I don't recommend trying to make dinner while participating in a breakout room!?"*

CPM's mission is to empower mathematics students and teachers. Not only does CPM provide exemplary curriculum and professional learning, but also seeks to recognize and foster teacher expertise and leadership in mathematics education. Change takes time, effort, and support. The Site-Based Leadership Program is a great place to give and receive all three. For more information about the program and how to get involved, check out cpm.org/sbl.

References

Short, J., & Hirsh, S. (2020). *The elements: Transforming teaching through curriculum-based professional learning*. The Carnegie Corporation of New York.

NOTICE AND WONDER

Show your students this image and ask, *What do you notice? What do you wonder?* Do they know what it is? Your students might have heard about the James Webb telescope, launched on Christmas day, 2021. This is one of the images captured from the telescope. Students might wonder, How big is the telescope? How big is the reflecting mirror on the telescope? What is the length out in space that this image is capturing?



AN INTERVIEW WITH A TEACHER

Nicholas A. Love, Chicago, IL, NickLove@cpm.org

CPM teacher Lauren Hall created a buzz among CPM's Professional Learning staff in December of 2022. "So this is amazing," was the message I received in Slack when Lauren started [posting about her Intervention Throwback Thursday](#) on Twitter.

After we shared the Twitter thread with more CPM staff, I knew we had to reach out to Lauren and learn more about her math story, what drives her creativity, and how she ended up with students posting videos about math on TikTok.

Not only did we hear back from Lauren, but from some of her students as well! So enjoy this window into a CPM classroom—and make sure you read all the way to the end of the interview for some teachers-helping-teachers encouragement.

Q: *What are your math teacher and CPM origin stories?*

A: This is my 8th year teaching high school math. I started teaching at a private school for 3 years, where we did traditional math classes like I grew up taking (pre-algebra, algebra, geometry, etc.). Then, I moved to a public school that had recently adopted the CPM curriculum, and I immediately fell in love!

This is my 5th year teaching with CPM, and I have attended CPM conferences, presented at the 2022 CPM [Teacher] Conference, and I am presenting at two sessions at the upcoming 2023 conference. I have learned so much about math since I was a student as I've been teaching with the CPM curriculum and facilitating the learning of my students.

Q: *How do you keep your students engaged and excited about math?*

A: Student Makaela says of Lauren, "You make learning fun. You turn everything into a game. Keeps people competitive and active."

Q: *How do you keep yourself engaged and excited about math?*

A: I get inspired on Twitter by seeing different ideas people share. I love talking with other math teachers, and just other teachers in general, about cool things they are doing in their classrooms. Our Tech and Innovation Team at our district does a great job of facilitating training and [professional development] where I have learned about incorporating [the] Voice and Choice [protocol] regularly within my classroom.

Q: *Can you share about your process and inspiration behind activities like the Parent Function Dance and the Taco Bell Choice Menu Board?*

A: I was inspired to do the Parent Function Dance because of the Teacher Notes in the CPM textbook for section 2.2.3

in Integrated Math 3; the suggested lesson activity is to do function aerobics. So I thought that instead of doing it as a class, give them a choice to make a TikTok.

I was inspired for my Taco Bell Choice Menu because it was the first week of the new trimester with a new group of students in Math 3. They had all come from a variety of teachers, and I didn't know all of them and wanted to meet them where they were at in their learning of quadratics. I had read somewhere, probably Twitter, that instead of calling problems "easy," "medium," or "hard," you can call them mild, medium, and spicy. This immediately made me think of Taco Bell, and I quickly created the Taco Bell Choice Menu on Canva.

Q: *How did your students respond to the Parent Function Dance?*

A: Only about two groups of students from each class chose to do the Parent Function Dance activity on TikTok. But they had a lot of fun, and once they shared the link with me, I shared it the next day with all of my classes, and everyone enjoyed watching the videos.

Student Faith explains, "I found it very entertaining and engaging to watch."

Q: *There are many demands on class time these days. How do you balance pacing and covering content with doing extra activities (like the dance challenge)?*

A: I have attended a lot of [professional development] from our Tech and Innovation Team at our district that emphasizes [the] Voice and Choice [protocol]. Since we came back from distance learning, I have incorporated "Intervention Days" into my pacing calendar for each course. I try to have one every other or every third week. This is a day when I can see where my students are struggling, and I can put together some sort of playlist of different activities that students can choose to work on. While they are working on the activities of their choosing, I meet with every student and work one-on-one with them on a specific topic that I choose for that day.

Q: *What encouragement would you share with your fellow math teachers?*

A: There is always time to allow for Voice and Choice! Plan for intervention days when you pace out your curriculum. Sometimes it is worth doing a double lesson on one day just to have a flexible day for targeted interventions. Also... beg, borrow, and steal. Very rarely do I come up with ideas all on my own or create anything from scratch. I get inspired by things I hear about on Twitter, blog articles, or from my colleagues and ask for a copy and tweak it to make it my own to fit my and my students' needs.

TRANSLANGUAGING IN THE MATHEMATICS CLASSROOM

Jillian Mendoza, Stockton, CA, JillianMendoza@cpm.org

It is the middle of the night, and my phone is buzzing. It is the family group chat, and our family members in Manila are starting their day.

Julie: Dumating na po yung mga pinadala nyo nila Tom and we just want to say maraming salamat po! Unfortunately, I can't search Tom sa msgr kya paksibi na lang din po sna sa kynang na we really appreciate mga pinadala nyo po. Ingat po kayo palagi dyan!

Jay Rick: Thank you po Tito Gerardo sa mga binigay nyo po sa amin! Please say thank you rin po to Thomas and Jill! Grateful po kami palagi sa inyong lahat. God bless po :)

Gerardo: Very nice po, I am glad the gifts made it to Manila and I'm glad you enjoyed them!

What is Translanguaging?

If you speak multiple languages, then my family group chat exchange may feel familiar. For those who are unfamiliar, translanguaging encompasses the language practices of multilingual people. While “code-switching” implies an on/off switch (Celic & Seltzer, 2013), “translanguaging” recognizes the fluidity of speaking, thinking, writing, and listening without conscious regard for the named languages. According to Celic & Seltzer, “translanguaging takes as its starting point the language practices of bilingual people as the norm, and not the language of monolinguals, as described by traditional usage books and grammars” (p. 1).

Translanguaging in mathematics classrooms

Supporting translanguaging in mathematics is a key lever in educators' work toward equitable and culturally sustaining classrooms. Aguirre & Zavala (2012) state that “culturally responsive mathematics teachers leverage mathematical learning by expanding children's mathematical thinking, building bridges between previous knowledge and new knowledge, supporting bilingualism and academic language development, fostering connections with cultural funds of knowledge and experiences” (p.168). Gutiérrez (2007) foregrounds the importance of recognizing the assets of students' language practices as an aspect of their identity. In order to promote mathematics as a cultural practice, there must be space for students to access and utilize their full language repertoire in the classroom. Furthermore, Gutiérrez states that it is harmful when students have to downplay aspects of their cultural, personal, and linguistic capacities in order to participate in mathematics (p. 3). As mathematics educators, we must encourage students to bring their whole selves, and their whole language repertoire in particular, into our classrooms.

Translanguaging also supports an asset-based approach to teaching multilingual learners. Maldonado Rodriguez et. al.

(2020) share that “a translanguaging stance in a mathematics classroom means designing a space in which the teacher views and understands the complexity of multilingual students' language practices, recognizing that they are a powerful resource to draw upon and connect to mathematical learning” (p.17). States across the U.S. also recognize the need to support multilingualism in mathematics.

Where to start?

The practice of translanguaging helps make content accessible to multilingual learners and strengthens students' understanding of the underlying content. According to Celic & Seltzer (2013),

Translanguaging as a pedagogical strategy offers more direct ways to teach rigorous content, at the same time that academic uses of language are developed. By using collaborative group work and multilingual partners, translanguaging extends and deepens the thinking of students. The expansion of available multilingual resources for teaching opens up worlds, experiences, and possibilities. And the ability to read and write multilingual texts enables students to gain different perspectives. Translanguaging simply has the potential to expand thinking and understanding. (p. 2)

If you have had limited opportunities to reflect on your own translanguaging practices, it may feel daunting to get started with new classroom practices. There are small tweaks and changes you can make to your classroom structures and routines to support more translanguaging in your classroom. Some suggested starting points for developing translanguaging in your class, adapted from CPM's new middle school curriculum, *Inspiring Connections*, and from *Translanguaging: A CUNY-NSIEB Guide for Educators* are included on the following page.

With all the above suggestions, it is important to invite multilingual students to contribute to the ways their language is used and highlighted in the classroom to the extent they are comfortable. Multilingual students may belong to one or more marginalized groups, so getting to know their comfort with and preferences for sharing their language experiences is central to ensuring students feel supported and as though they belong in mathematics classrooms. Furthermore, these practices support teachers and students to share authority in the classroom by encouraging teachers to learn from their students and more fully draw on students' multiple funds of knowledge.

continued on page 9

Classroom Practices	Questions to Consider	Suggestions
Classroom Greetings	How do you greet your students, and how do they greet one another?	Encourage students to use greetings from their family's heritage.
Classroom Signals	How do you use gestures and/or verbal signals to communicate transitions within a lesson?	<p>Incorporate multilingual transitions. Showing a genuine interest in your students' language repertoire signals to your students that all language is valuable.</p> <p>Additionally, learn which of your common gestures, such as the 'thumbs up', are considered vulgar nonverbal signals outside of your culture.</p>
Table Names	Do you have names for your groups, tables, or stations?	Include labels and names that represent your students' language repertoire.
Multilingual Word Walls	How do you support literacy development? Do you support literacy through an English-only or English-first lens?	Incorporate multilingual words on the class word wall. This could mean all words are displayed in languages familiar to your students because they contribute to the word wall.

References

- Aguirre, J., & del Rosario Zavala, M. (2013). Making culturally responsive mathematics teaching explicit: A lesson analysis tool. *Pedagogies: An International Journal*, 8(2), 163–190.
<https://www.tandfonline.com/doi/abs/10.1080/1554480X.2013.768518>
- Celic, C., & Seltzer, K. (2013). *Translanguaging: A CUNY-NSIEB Guide For Educators*. CUNY-NSIEB.
<https://www.cuny-nysieb.org/wp-content/uploads/2016/04/Translanguaging-Guide-March-2013.pdf>
- California Department of Education. (n.d.). *English learner roadmap principles overview*. CA Dept of Education. Retrieved December 9, 2022, from <https://www.cde.ca.gov/sp/el/rm/principles.asp>
- Gutiérrez, R. (2007). *Exploring Mathematics Education in Context*. University of Nevada, Reno.
<http://www.pmena.org/pmenaproceedings/PMENA%2029%202007%20Proceedings.pdf>
- Maldonado Rodríguez, L., Krause, G., & Adams-Corral, M. (2020). Flowing with the translanguaging corriente: Juntos engaging with and making sense of mathematics. *Teaching for Excellence and Equity in Mathematics: Special Issue on Multilingual Learners*, 11(2), 17–23.
<https://www.todos-math.org/assets/documents/TEEM/TEEM11-No2FINAL.pdf>

CPM EDUCATIONAL PROGRAM CONTACTS

Contact us via email by using **FirstnameLastname@cpm.org**. We look forward to hearing from you.

PROGRAM COORDINATORS

Curriculum & Assessment

Karen Wootton

Professional Learning

Sharon Rendon

Technology

Carol Cho

Curtis Fuhriman

support@cpm.org

Pilots & Adoptions

Carmel Draper, pilots@cpm.org

Research

Lara Jasien, Ph.D.

Business Administration

Debbie Jacobs

Executive Director

Elizabeth Coyner

WORKSHOP REGISTRATION

CPM.org/workshops

Anna Poehlmann, cpmworkshops@cpm.org

PROFESSIONAL LEARNING PORTAL

professionallearning.cpm.org

BUSINESS CONTACTS

submit purchase order: orders@cpm.org

status of current order: orderstatus@cpm.org

place order online: shop.cpm.org

request quote: quotes@cpm.org

submit AP invoice: ap@cpm.org

eBook license questions: ebooks@cpm.org

phone: 209.745.2055

fax: 209.251.7529

REGIONAL PROFESSIONAL LEARNING COORDINATORS

1 California: Mícheál Marsh

2 Northwest: Jenni White

3 Southwest: Sara Thompson

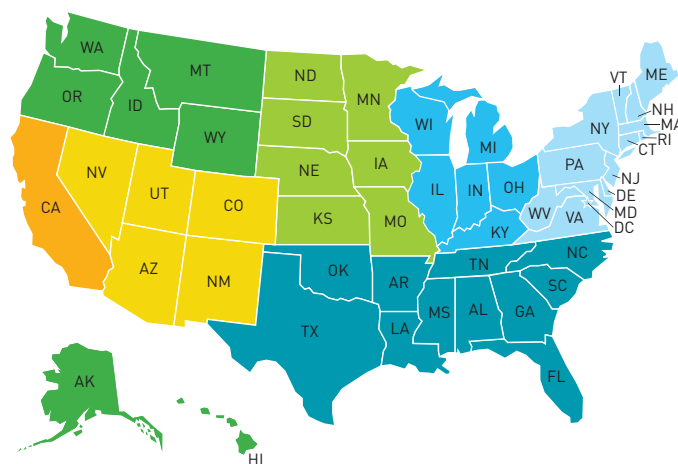
4 Great Plains: Lisa Comfort

5 Great Lakes: Bruce Brusoe

6 Southeast: Gerry Long

7 Northeast: Jocelyn Dunnack

International Teacher Mentor: Susan Hoffmier



CPM EDUCATIONAL PROGRAM / an educational 501(c)(3) nonprofit

Empowering mathematics students and teachers through exemplary curriculum, professional development, and leadership