



Math CEO: A Mutually Beneficial Partnership between College Mentors and Latinx Youths

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*A week has passed since the last Zoom meeting, and the three middle schoolers—Fernando, Jayden, and Juan—are eager to meet their college mentors. When they join their breakout room, they are surprised to find Aimy and Koen wearing a virtual top hat (courtesy of the Zoom filter!). There is a “Phineas and Ferb” vibe in the air, how cool! Just like the two step-brothers in the television show, Aimy and Koen are ready to embark on a spectacular adventure with their mentees, to make the most of their time with them. Aimy and Koen excitedly announce the “mission” for the day. Using simple lines of code with just four commands (move 1 unit **Forward** or **Backward**, and pivot 90 degrees to your **Left** or to your **Right**), they will be drawing interesting shapes on a digital grid. But the fun will not stop there... A digital app will allow them to “fractalize” their shapes by replacing every occurrence of the **F** command by the existing code. Will the students be able to predict what the fractalized images will look like?*

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Aimy and Koen send the link to the app through the Zoom chat, and share their screen to illustrate how the app can visualize code commands. After letting the students practice generating code(s) for simple images like a cane or a staircase, they are ready to spice things up, and they explain the function of the “fractalize” button. “So, this code is going to repeat itself over and over again?”—Fernando asks. “Yes! That’s it!” Koen responds with excitement. Aimy adds, “And then, that code is going to come up with some image!”

Suddenly, the Zoom meeting is silent, and it’s a good silence. You can feel in the air the buzz of excitement, but what you hear is the quiet of engaged concentration. The students are busy on their apps, trying to create fun images with simple codes. Aimy and Koen can see their eyes at work through the little 3cm² Zoom square box. Abruptly, Jayden raises her hand. She is usually shy about sharing her ideas, but today, her eyes are fixed on the camera and you can tell that she is eager to share her work. “I made a shape of your top hat”—Jayden tells the mentors! Aimy and Koen are moved by the kids’ attempt to model their hats and connect with them across the digital divide. As Aimy and Koen express genuine appreciation for Jayden’s work, their eyes are pointing straight at the camera in a goofy attempt to make eye contact with Jayden over Zoom. This warms up the environment. Encouraged by the mentors’ reaction to the top hat, other students start sharing their code. All of a sudden, the Zoom chat box is filling up with mathematical discussion amongst the students, and multiple hands are raised. “I can’t wait to see what wonders they will draw when they fractalize their shapes”—Koen thinks. “These kids are so amazing.”

INTRODUCTION

This vignette describes an after-school math session at Math CEO during the COVID-19 pandemic, when health-related restrictions forced the program to run online. Fig. 8.1 provides a snapshot of an in-person meeting at Math CEO, bringing together youth and college students for joyful mathematical explorations on a college campus.

The University of California, Irvine (UCI) Math Community Educational Outreach program (Math CEO) is a high-quality university–community partnership that connects faculty and students at the University of California, Irvine, with Latinx families in Santa Ana, CA. Founded in 2014 by Prof. Alessandra Pantano and Li-Sheng Tseng, math faculty at the University of California, Irvine, Math CEO has grown rapidly over the years to become one of the largest informal STEM after-school programs



Fig. 8.1 A snapshot of an in-person meeting at Math CEO

engaging Latinx youth which is focused specifically on mathematics. The program offers weekly after-school math-enrichment sessions for middle-school students from Title 1 middle schools in Santa Ana, CA, as well as STEM-focused field trips to UCI and college-orientation workshops for caregivers. Teacher liaisons at partner schools advertise the program and children participate in it voluntarily.

College students act as mentors of adolescents and take practicum courses at UCI, which integrate principles of culturally responsive math pedagogy with fieldwork experiences in community settings. Twenty-four times in the academic year, the middle-school students board a school bus after school and come to UCI; for the next two hours, they work in small groups with their mentors on interesting curricula designed to enhance understanding and appreciation of mathematics. An hour at Math CEO feels very different from a math class at school. At Math CEO, there is no direct instruction nor didactic learning; students learn informally and collaboratively. In particular, college mentors and middle-school mentees

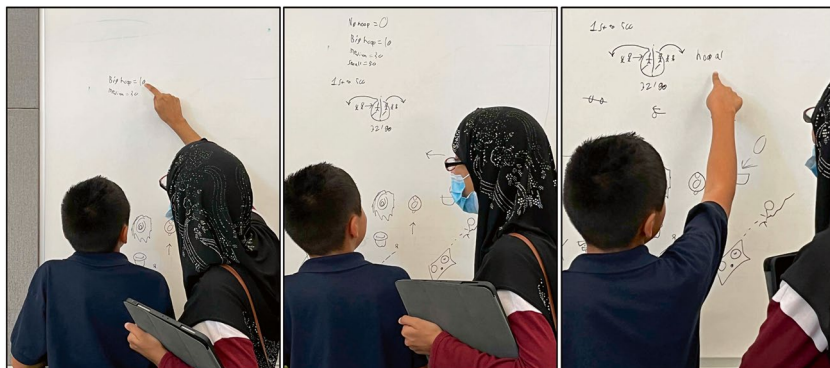


Fig. 8.2 Intergenerational learning at Math CEO

learn *with* each other and *from* each other (Fig. 8.2). The math activities are fun and engaging and exploratory in nature; they are designed for collaboration and allow noisy play. Indeed, the goal is for students to learn how to think mathematically and to come to appreciate mathematics, rather than to learn a specific skill. Students use their own ideas and their peers' explanations to reason; this helps develop a durable understanding in math for the future, which can transfer to other domains.

At Math CEO, we pose special attention to social aspects of learning, and we intentionally create and diligently maintain an informal and positive climate where youth can develop academically, socially, and emotionally. Building connections with middle schoolers is regarded as a fundamental priority for college mentors, and a prerequisite for learning. The positive relationships that develop in the program elevate the role of college students from facilitators of math activities to mentors and role models.

During the 90-minute Math CEO after-school sessions, middle schoolers gain confidence in tackling challenging math problems. They also develop close bonds with UCI students, many of whom are also from historically marginalized groups, and learn about their experiences in college. By serving as tangible models of success in college pursuits and in STEM, undergraduate mentors can positively impact youth's attitudes towards school achievement and their interest in STEM. By providing emotional support and positive feedback, mentors can also enhance youth's ability self-concept, which, in turn, is related to more positive

perceptions of scholastic competence and school-related achievement and behavioral outcomes.

Since 2016, Math CEO has been the setting for a rigorous mixed-method research study led by Dr. Sandra Simpkins, a professor in the UCI School of Education and a long-term collaborator with University-Community Links (UC Links). (Sandi and Mara, co-editor of this volume, were both graduate students at UC Riverside and worked together as site coordinators for the Riverside Trolley UC Links program described in the Introduction.) This study has shed light on mentoring strategies to promote collaborative learning and math motivation among Latinx adolescents in a STEM after-school program (Soto-Lara et al., 2022; Yu et al., 2020, 2021, 2022). Results from this research have informed the practice at Math CEO by providing invaluable insights on the program structure, by offering careful evaluation of program impact through surveys and interviews, and by training college mentors on evidence-based informal pedagogical practices.

The research presented in this chapter was led by Dr. Sandra Simpkins, in collaboration with Dr. Mark Vincent B. Yu, Dr. Stephane Soto-Lara, Dr. Ta-yang Hsieh, Glona Lee, Dr. Su Jiang, Dr. Yangyang Liu, Dr. Kayla Puente, Perla Carranza, Dr. Nestor Tulagan, and the author of this chapter, Dr. Alessandra Pantano, director of Math CEO.

My collaboration with Dr. Simpkins, and the integration of research and practice, has fueled the development of the Math CEO program. Systematic research and evaluation of Math CEO has allowed me to continuously improve the program and enhance its impact on the community. Engaging in research, teaching, and service at Math CEO has become a central component of my job as Professor of Teaching at UCI and has allowed me to sustain this outreach work over the years. At the same time, by serving as the stage of rigorous scholarly studies, Math CEO has provided invaluable training opportunities for graduate students and postdocs in Dr. Simpkins' lab. As a genuine research-practice partnership, Math CEO has benefited all parties involved. Most importantly, it has had a profound impact on the community. Our program has engaged 1310 youths and 838 college students since Fall 2016 (when we started to keep attendance records) and has changed many lives.

PROGRAM CONTEXT

Community is a core value at Math CEO. This quote by a college mentor effectively describes the atmosphere in the program:

During the quarter I was in Math CEO I genuinely met and worked with wonderful mentors and students. In the time working with the students, we all felt a strong connection with the students we had. The community within this program provided support and relationships with everyone involved with the program. The mentors not only got to know a variety of students but also coordinators and leaders that are compassionate people who love to help students of all kinds, even college students. This program will leave mentors with an idea of how much they can affect a student's life in a positive way.

Math CEO mentors have the opportunity to develop strong connections with their middle-school mentees ("The best part of being a mentor was helping and bonding with the kids"), and also with faculty and fellow undergraduates ("Math CEO has helped me meet people with similar interests to my own and slowly but surely feel more at home at UCI"). Similarly, the middle-school students grow very attached to their mentors and look forward to seeing them every week ("The best part [of Math CEO] is the feeling of having to come here every week, talking to someone that you can trust because I have a lot of trust in my mentor"). The white broad drawings in Fig. 8.3 are a testimony to the youths' affection towards their mentors. The drawing on the left shows a petition crafted by youths at Math CEO to demand that their mentors would not graduate from college before they themselves had a chance to graduate from middle school, thus maximizing their time together. Shown on the right are joyful portraits of mentors drawn by their mentees.

While being a good mentor requires a lot of effort and dedication, being able to develop strong mentorship relationships with youth constitutes a great reward. When asked to provide some advice to future mentors in Math CEO, a college student responded: "I would tell each individual that Math CEO definitely requires time, patience, and a passion for both helping students and mathematics; though, it becomes rewarding when the students look forward to seeing you every week". As shown in Fig. 8.4, Math CEO college and middle-school participants are not just doing math together, they also practice "team-work" and "communication" together and share "friendship," "fun," "laughter," and "kindness."

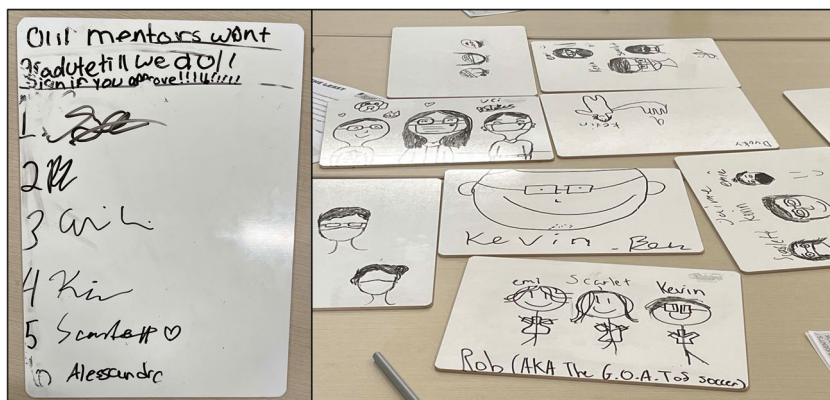


Fig. 8.3 Drawing from youths demonstrate attachment to their mentors



Fig. 8.4 “What we have together”: Art submissions from a youth and mentor participants

College Students as Mentors of Adolescents

While facilitating mathematics’ learning for youth is their primary focus, the undergraduates participating in Math CEO are intentionally referred to as “mentors” as opposed to “tutors.” This choice reflects the fundamental understanding that the role of a college student at Math CEO goes beyond engaging with youth to navigate math activities and solve complex problems. The undergraduates at Math CEO act as friends, helpers, and role models. In the words of a mentor:

The most important lessons about teaching and/or mentoring that I learned through this experience in Math CEO is that the students look up to the mentors. This means that my students view me as a friend and role model. With each after school session, I hoped to build a more positive relationship with my students and help them become more confident in their abilities to solve the math puzzles as a team.

Joyful Math Activities and Intergenerational Learning

While rather unique in its specific focus on mathematics enrichment, similarly to all its fellow UC Links programs (<https://uclinks.berkeley.edu/programs>), Math CEO is rooted in joyful after-school activities, collaboration, and intergenerational learning. The goal of the Math CEO math-enrichment sessions extends beyond the development of procedural knowledge of mathematics. At Math CEO, we seek to promote conceptual understanding of mathematics through inquiry and exploration.

Intentional efforts are made to build interest and appreciation for mathematics by designing math activities which are fun and relevant to youth and by engaging students in a social process of learning. Youths are constantly encouraged to share their ideas and explain their approach to mentors and peers. College mentors learn math *with* the middle-school students and co-construct knowledge together (“I did not expect that I would be learning alongside those kids as we explored the fun games and activities of the packets. I’m happily surprised that I was able to enhance my math skills as well”). The weekly coaching sessions expose mentors to new mathematical ideas and new representations (“I saw math through bar graphs, number trees, and games that changed my perspective on how numbers can be manipulated. It made me excited to share these new tricks with the students”). Mentors also learn *from the* youth, who occasionally surprise them with creative and novel approaches to problem solving.

Participation in Math CEO increases mentors’ pedagogical skills and their interest in pursuing a teaching career. It also influences their perception as future educators in regard to *who can* do mathematics. The many benefits of intergenerational learning at Math CEO are unpacked throughout the chapter.

KEY IDEA: IMPACT ON YOUTH

The UCI Math CEO program was originally created with the goals of improving youths’ math proficiency and motivation and boosting their familiarity with college settings. Pre- and post-quantitative surveys of youth show that Math CEO has been successful on both accounts (Fig. 8.5). Qualitative research reveals that Math CEO mentors also play an important role in promoting positive youth development.

Math Outcomes

In-depth interviews of middle-school participants show Math CEO can have a positive influence on youth’s math skills (“I learned new strategies to find and solve equations. Now I’m able to think of new and easier ways

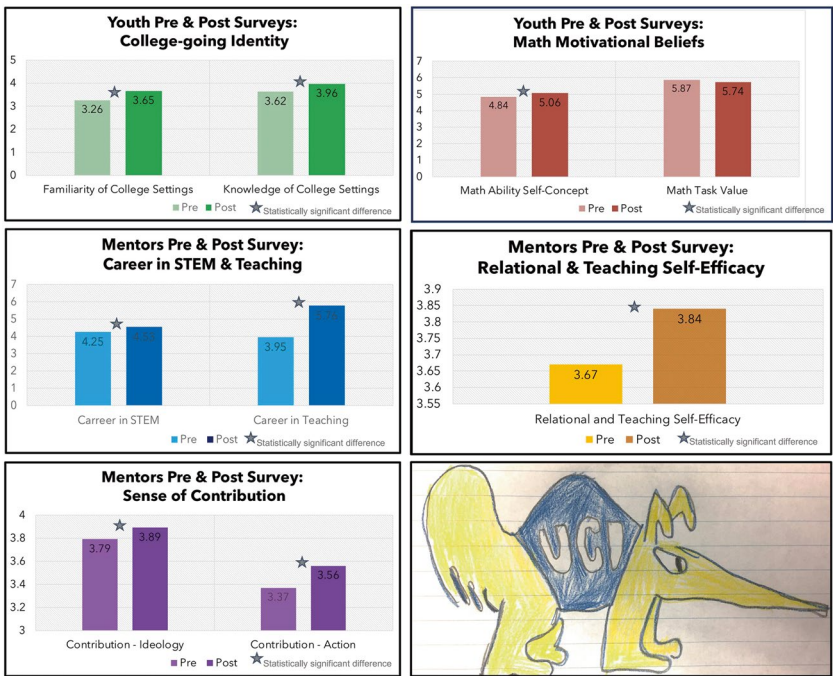


Fig. 8.5 Quantitative analysis of youths’ and mentors’ outcomes at Math CEO

to solve things, not only the ones they teach me at school”). This impact may transfer to the school domain (“I think [my view of math] has changed because now I pay more attention to my math class”) and lead to increased proficiency on school’s standardized tests (“I have been growing and growing in my Mathematics. It has helped my MAP score go off the charts”). Math CEO mentors witness the youth’s mathematical growth with pride (“As the quarter progressed, I saw my group grow in confidence when doing math problems”).

By acting as mentors to the middle-school students—and not just tutors—and by framing mathematics as a collaborative and playful activity, Math CEO can also enhance youth’s interest and motivation towards math. In the words of a youth: “I didn’t really like math. It would be the worst subject in school. Coming to UCI helped me a lot. Math CEO showed me that like math was actually fun, even if it seemed hard.”

This sentiment is echoed by the caregivers of participating middle schoolers. For example, in the course of an in-depth interview, Itzel (all names are pseudonyms) recognized how Math CEO is “trying to make math fun, instead of boring” for her daughter, Luna. Itzel further elaborated: “She’s like, ‘Oh, I like math. I like the way that they [Math CEO mentors] are teaching us without getting boring, [that] there is another way to learn math.’” Later on, she added: “I’ve noticed now that she starts talking more about math ... And it was a surprise that she was even talking about it because ... she never liked to talk about anything to do with math.”

Beyond boosting proficiency and interest in mathematics, participation in Math CEO can also help youth gain appreciation for the utility of mathematics and its relevance to their daily lives. Quoting a student: “Without math, I won’t be able to know how to solve problems, and I won’t find a good job because every job wants people to know math.”

Like all other UC Links sites, Math CEO is rooted in collaboration and intergenerational learning. Math CEO mentors co-engage in the math activities with the youths. They model persistence on hard tasks and demonstrate reasoning in the context of problem solving; quoting a student: “When my mentor doesn’t know how to do the activity, she always figures it out. She’s always trying many things to solve the problem.”

In the weekly coaching sessions, Math CEO mentors learn pedagogical strategies to promote students’ reasoning skills and involve them in the critical thinking process. In addition, they practice effective ways to motivate youths, navigating the fine line between challenging students and making them feel supported. Quoting a student: “[The best part of Math

CEO] is when the mentors help you when you don't get something and they motivate you so you could understand it, the problems ... Because when they motivate me, I think I could do the things."

According to Vygotsky (1987), as children and their more knowledgeable peers co-construct knowledge, the child seeks to understand the actions or instructions provided by the tutor, then internalizes the information, using it to guide or regulate their own performance. This mechanism helps create *a zone of proximal development* (Vygotsky, 1987). By engaging in productive struggle with their mentors, youths learn how to persist on mathematical tasks ("Math will never get easier, but if you keep trying and trying it won't feel hard at all") and become more willing to accept those challenges ("Some of the problems challenge me but that is good, for if they challenge me, I can learn more!"). Most importantly, this sense of persistence appears to transfer beyond the study of mathematics and becomes a life skill. Quoting a middle-school participant: "They [the mentors] influence us to try hard math and not to give up. UCI wants us to know that we can do amazing things in life. We can do anything we want as long as we try."

Future Aspirations

By acting as role models to middle-school students, college students have the potential to influence youth's future aspirations and inspire them to work hard in pursuit of their dreams. Quoting a middle schooler:

Math CEO has made me think a lot. I know I'm still young and everything, but it really makes me think that there's such a big future ahead of me. I could do so many things with my life. Math CEO, my mentors, push me to work harder to get one of those choices to become reality.

Some of the youths participating in Math CEO begin to envision STEM careers as part of their future ("Well, now I know, actually confidently know, that I'm going to do something with math. I want to go into a STEM career"). Similarly, some caregivers are starting to point their hopes towards a future career in STEM for their children ("You never know what he wants to be when he grows up, hopefully something that's going to use math a lot [laughs] because that's his strength").

At Math CEO, youth do not only learn math, they are also acquiring knowledge and familiarity with college settings, which are statistically

significant predictors of Latinx college enrollment (e.g., Sánchez Gonzalez et al., 2019). Quoting a middle-school participant: “I’ve been here for almost two years now, and it’s been great. We get to learn more about college campuses [like UCI]. I think that it’s amazing.”

In her comprehensive review of the literature on barriers to college access for Latinx adolescents, Gonzalez (2015) posed that barriers can be clustered into three main categories: *relational* (e.g., limited access to college role models; overestimation of costs of college; low education completion of caregivers; family socioeconomic status; limited knowledge of college application processes), *individual* (e.g., low levels of English language skills, math proficiency, or study skills; individual experiences of discrimination and culture-based experiences; fluctuations in motivation or educational aspirations), and *systemic* (e.g., school tracking; limited access to rigorous academic curriculum or to counseling resources; lack of educational outreach programs; rising costs of college and reductions in the availability of financial aid).

Math CEO has a comprehensive approach to increasing youth’s access to college by engaging students in a rigorous math curriculum designed to boost students’ math proficiency and motivation, providing caring mentors who model successful college pathways, hosting weekly meetings on a college campus and welcoming the youth for a yearly, whole-day, STEM-focused field-trip to live the life of a college student for a day, and running college-orientation workshops for caregivers. This comprehensive approach has proven successful in fostering a college identity in participating youth (“UCI also influenced me to go to college because I see all different types of people who are hungry for learning and I want to become one of them”) and enhancing their familiarity with college (“Being in a university makes me feel prepared for what to expect”).

Most of the caregivers of Math CEO youth participants did not have the opportunity to pursue a college education; nonetheless, they have successfully instilled in their children the value of education and the desire to attend college:

My dad says all that matters to him is that I do get an education because he didn’t get a good one. My mom didn’t go to college because she had me. My dad didn’t finish high school because he came here. They just want me to be able to be more of something than they were not able to do because financially, we struggle. They wish they would have finished school or gone to college.

This finding is consistent with the literature that states that immigrant caregivers of Latinx adolescents have high expectations for their children's educational achievement, as this is often a primary reason for immigration to the United States (Suárez-Orozco & Suárez-Orozco, 1995). For some youths at Math CEO, going to college is an achievement for the whole family:

I believe I can do anything, by not giving up and trying my best, because I'm doing this for my whole family. Not all of them went to college. I will keep on trying because I think I can do something in my life.

Math CEO is entering its ninth year. Many students from the early cohorts are now in college. Some are actually at UCI, participating as mentors for a new cohort of Math CEO youths. We are thankful to the families for planting the seed of college aspiration into their children; at the same time, we recognize that undergraduate mentors can play an important role in modeling successful college pathways and increasing youth's familiarity with the college experience.

Positive Youth Development

In response to the question "What did you learn from your mentor?" during in-depth interviews, some youths answered:

To respect someone for who they are not on the outside but on the inside.

To treat people good. Because I'm not the nicest person out there but over the years I see them acting nice to everyone even if some don't deserve it ... I try to follow and do the same.

To be a generally nice person.

To help others instead of only thinking of ourselves.

The ability of Math CEO to impact youth at such a deep level was a crucial discovery for the leadership team. Since then, the program has been more intentional about supporting students' socio-emotional learning. In particular, during the COVID-19 pandemic, fostering youth's wellness by promoting a sense of connection with both mentors and peers



Fig. 8.6 Mentors and youths learn together at Math CEO

became a priority. Math CEO has evolved significantly over the years; without any doubt, the most substantial change was broadening the program mission from (only) promoting math outcomes and college knowledge to supporting the whole child, by (also) fostering wellness and socio-emotional learning of participating youths. The new vision has influenced the structure of the Math CEO program at many levels, from the design of the math activities to the coaching of the mentors. Key to this transformation is an intentional effort to create a welcoming, collaborative and stimulating learning environment that capitalizes on the cultural, social, and academic assets of each student (Fig. 8.6).

KEY IDEA: IMPACT ON COLLEGE STUDENTS

Mentors at Math CEO learn critical academic and career skills, feel rewarded, and gain a sense of belonging within the larger university setting. This is consistent with the findings of the body of literature which explore the positive impacts that mentoring youths (Anderson & DuBois, 2023) or peers (Amaral & Vala, 2009) can have on adult mentors. Citing Kira Banks (2010): “Mentoring is often considered a gift of time and resources that a mentor gives to a mentee. However, research suggests that mentoring has benefits specifically for the mentors.”

Analysis of quantitative data collected through pre- and post-surveys of college mentors reveals that participation in Math CEO leads to a statistically significant increase in (1) interest towards careers in STEM and in teaching; (2) teaching and relational self-efficacy; and (3) sense of contribution (Fig. 8.5). Qualitative analysis of mentors' in-depth interviews, paired with coding of end-of-the-quarter mentors' reflections, allows us to unpack these results and understand the impact on undergraduate mentors.

Interest in Teaching Careers

Mentoring youth at Math CEO can help college students appreciate the profound impact of a career in teaching ("Being able to connect well with [my mentees] really showed me how important and rewarding teaching can be"). The experience may lead some undergraduates to discover an interest for careers in teaching ("I am currently undeclared and came into college with a sense of impending dread at choosing a major and career. Now I know with a large degree of certainty that I'd like to be a teacher"). Participation in Math CEO may also influence the career direction of undergraduates who are already interested in teaching, for example by providing an opportunity to narrow down what grade or subject they would like to teach, or by exposing them to alternative career choices (e.g., after-school operations or programs focused on curriculum design and implementation as opposed to traditional, classroom teaching).

Teaching Skills

While the initial teaching competency level of Math CEO mentors may vary, most Math CEO mentors report a significant increase in their teaching skills. In particular, mentors report learning:

- **Self-confidence**

From being a mentor, I've gained more confidence. Before I would always be scared to lead the way for the activities, but over time I felt that I gave myself more trust in what I was doing. I learned to not hesitate in my abilities. (A Math CEO mentor)

- **The importance of engaging youth in joyful learning activities**

This program not only taught me useful skills for my upcoming career as an educator, but it taught me the importance of making

school exciting for students. When students join programs, they expect it just to be more learning, but in Math CEO it was much more than that. (A Math CEO mentor)

- **The importance of prioritizing the quality of learning over the quantity of material learned**, because at Math CEO, fostering deep mathematical understanding is more important than covering all the activities included in the weekly teaching manual.
- **How to build positive connections with youth** (“I became more outgoing and talkative to break the awkward moments in the first few weeks. I also become more caring and friendly to my students”).
- **How to promote youth’s engagement** by bringing positive energy and a caring attitude to the math-enrichment sessions (“Smiling and being overall energetic will rub off on the students as well in the meetings”).
- **How to engage youth in productive struggle**, while also providing effective scaffolding and continuing to make youth feel supported.

So when it came to my turn to teach and try and help these students, I would work with them as a group but also individually, in the sense that I would help each student where I noticed they needed help, but also allowed them to face challenges where I knew it would provide them with a learning experience. (A Math CEO mentor)

- **How to navigate group dynamics where youths exhibited different skill sets**, by asking the students with a better grasp of a mathematical activity to explain the task (and the corresponding problem-solving process) to fellow students who need more help, prior to stepping in to explain the activities themselves.
- **How to increase student engagement in online instruction** by leveraging technology and exploring new platforms such as Pear Deck or Google Jamboard.

Most importantly, Math CEO mentors realize the importance of developing positive relationships with youth. Not only does it promote a sense of community in the program, which benefits college mentors and middle schoolers alike, but it also fosters better communication, mutual understanding, and mutual enthusiasm for engaging together in the math activities. Quoting a mentor: “The most rewarding part of this experience is getting the students to start warming up to us mentors, as they gradually start participating more and helping each other more in the lesson.” As

Bayer et al. (2013) pointed out, relationships as the “active ingredient of mentoring.”

Getting to know youths at a more personal level also allows mentors to make math tasks more relevant to students. For instance, when using storytelling to introduce a mathematical activity, mentors can use their knowledge of youths’ interests to set the task in a context that students care about, thus increasing their engagement. As mentors become more familiar with the mathematical strengths and weaknesses of their mentees, they also learn how to individualize instruction to better support each individual student in their group: “With every meeting, I got to know these students better and, with my fellow group mentors, come up with ways that we can alter our teaching methods to suit the needs of each student.”

During the weekly coaching sessions, Math CEO mentors learn how to create an intellectually and emotionally safe space where youths can explore new math concepts without fear of making mistakes. In the process of developing and maintaining this space, mentors build meaningful connections with their mentees that humanize the learning experience. Figure 8.7 depicts joyful interactions between mentors and mentees (and among youth) at Math CEO.



Fig. 8.7 Learning with joy at Math CEO

DISCUSSION

Math CEO research shows that participation can positively influence mentors' sense of contribution to society and their commitment to helping their community. While some mentors originally join Math CEO with the precise intention to give back to their community, others choose to engage in the program for a different purpose; for example, to increase their competence in teaching or to earn units or fieldwork hours. Nonetheless, through mentoring, college students establish deep connections with both adolescents and fellow mentors, which give a new sense of purpose to their experience at Math CEO, as indicated by the following mentor quote:

Personally, being a mentor at Math CEO makes me feel like part of a bigger picture. I love seeing the students excelling, and it is great to be able to use what I have learned and my experiences to help and relate to this new generation of students.

The sense of reward gained from mentoring youth at Math CEO may grow into a continuous commitment to engage with the community: "I am sad that I joined the program so late into my undergraduate career but I am so lucky to have found something that I love doing. I know I have had a few challenges this quarter but for my last quarter, I vow to make it the best and grow even more as a mentor so that I am able to apply these skills so that I am able to stay involved in community service even after graduation."

In addition to valuing their own personal contribution to supporting minoritized youths, some mentors report an increased appreciation for UCI as a research institution that is committed to making a positive impact on the community. Quoting an undergraduate student: "Math CEO has changed my overall perception of UCI. It's programs like this that make me proud to be a UCI student."

In closure, we want to thank all the youths and college mentors who have been part of the Math CEO family over the years. Together, they helped co-construct a safe and joyful learning community, where so many of us have found a space to grow, engage in authentic learning of mathematics, and feel connected and supported.

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