

BI-ANNUAL REPORT


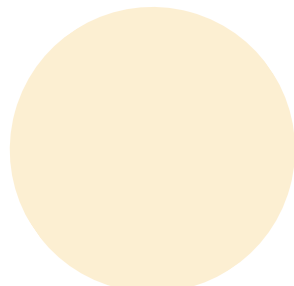
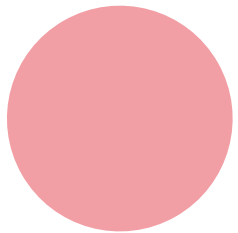


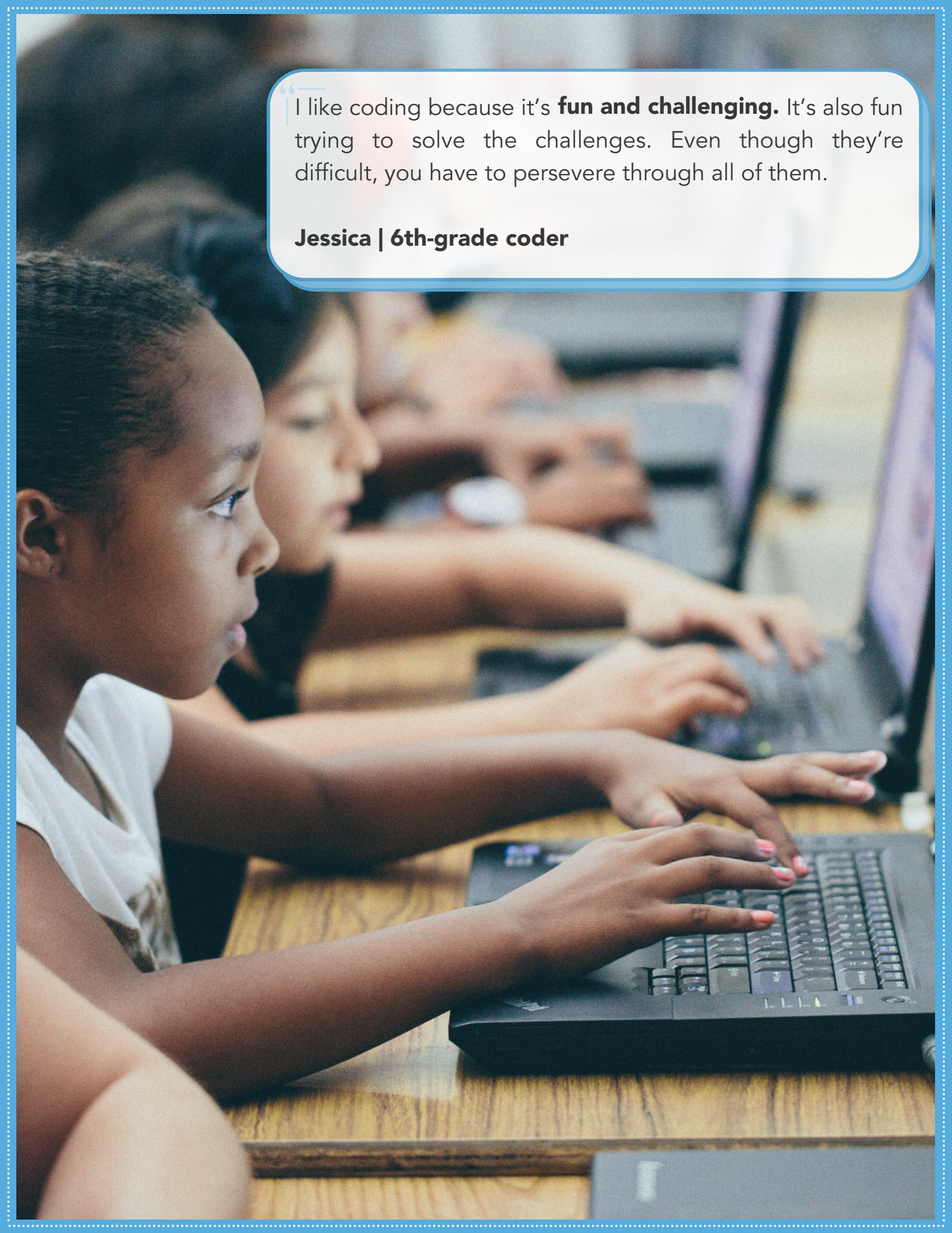
2020-2022



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I like coding because it's **fun and challenging**. It's also fun trying to solve the challenges. Even though they're difficult, you have to persevere through all of them.

Jessica | 6th-grade coder

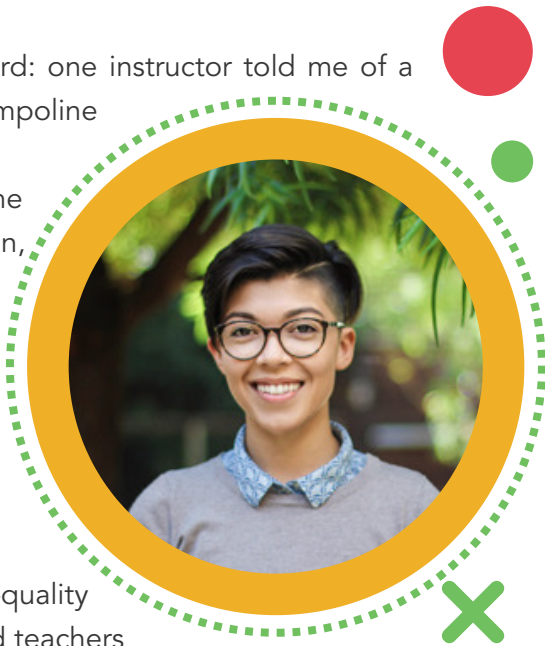
At 9 Dots, it has been core to our philosophy that we learn our most valuable lessons through moments of challenge—and if there is one word to summarize these last two years, “challenge” is certainly a top contender.

In the last two years, we saw nearly everything. We saw the absurd: one instructor told me of a virtual classroom interruption caused by a student jumping on a trampoline (you certainly don’t see that every day). And we saw the downright disheartening—teachers spending large swaths of their personal time prepping for class, students passing long hours at a computer screen, and the exacerbation of systemic inequities affecting our Black and Brown youth. Our community knows that although much of this isn’t new, the challenges of education have risen to new levels of urgency. At times, the weight of that truth feels impossibly heavy.

Yet throughout all of this, we also saw a powerful and humbling sense of resilience shine through our 9 Dots community. Our staff worked tirelessly to ensure that there would be no gaps in the high-quality CS education we would provide for our students. Our principals and teachers continued to share responsibility in this work and prioritized CS despite the many factors that complicated class time. And finally, our donors and supporters rose to the challenge and answered the call during a time of great need.

Thanks to this combined effort—this labor of love and dedication—we served over 8,000 students and trained around 310 teachers by June 2022. Not only did we expand our reach, but we maintained a powerful student experience. Despite the dips in student self-efficacy reported in LA Unified (LAUSD SES), our students continued to find determination and empowerment in the 9 Dots Coding Classroom—70% of our students identified as a coder, and by the end of the year, and 70% wanted more time to learn about coding. Furthermore, 70% of our schools now have a complete K-6th CS pathway. This represents real progress—a CS Education that goes beyond mere enrichment and is instead foundational to our students’ elementary school years.

As we look ahead, we recognize there is still significant ground to make before we can claim the pandemic recovery is anywhere near complete. Learning loss is a reality. Our teachers are understandably feeling burnt out. And our administrators are scrambling to pick up the pieces. This is why now, more than ever, we need to come together as a community to support our students in receiving the high-quality CS Education they both need and deserve.



This world is not waiting. Companies are simultaneously [attempting to define and invest in technologies for the metaverse](#). We're seeing [breakthroughs in AI](#), we're seeing [home robots](#) become a reality, and we're reaching important milestones in healthcare like [hyper-personalized medicine](#). Every year, technology has a more significant impact on our lives. At the same time, philosophers and technologists are [calling for a more human-centered approach to technological innovation](#).

We at 9 Dots believe a human-centered approach starts with the representation of diverse experiences at the decision-making table. The bottom line is if we want to live in a world where technological innovation breeds a more informed, equitable, and inclusive society, we must invest in students from diverse backgrounds, and we must support them from as early as kindergarten.

This is our call to action. Joining the 9 Dots community means taking shared responsibility for the lack of diversity in tech and moving to action, ensuring that all students—especially our girls, students of color, and students from low-income communities—have access to a consistent and sustainable CS education that empowers them to be the technologists and leaders of tomorrow.

With that, I hope you enjoy reading about our work over these past two years. If you are already a 9 Dots community member—whether as a teacher, principal, parent, or donor—know that we see you and we could not do this work without you.

If you are just learning about us now, I invite you to join this call to action and [get involved](#). Our strength as an organization lies in our ability to work together to tackle this big mission of ensuring all students have access to a high-quality Computer Science Education.

I want to conclude by reiterating my gratitude to the 310 incredible caring teachers we partnered with last year who enabled us to reach just over 8,000 students across our 24 partner schools. While it is true that these last two years were imperfect in so many ways, I am incredibly proud of the work we have done, and I feel nothing but hope for the future that we will create together.



OUR MISSION

9 Dots' mission is to provide transformative computer science education for every student. We are a community of educators, researchers, and engineers committed to bringing computer science to all students, particularly those from underserved communities. We believe in creating learning environments that engage every student, foster joy, and promote fearlessness in problem solving. We aim to empower students by transforming the way they voice their ideas, understand their world, and imagine their futures.



OUR VALUES



Build CS Community

We make CS learning magical. We put relationships at the center. We are personally invested. Our passion for CS is contagious. We care deeply about our students, teachers, and principals. We amplify, uplift, and prioritize BIPOC and female voices in CS.



Work Together

We are focused on the mission. We collaborate to affect change. We know that teamwork is key to our secret sauce.



Continuously Improve

We tinker. We challenge ideas openly. We create space for learning. We use our past failures to fuel our future successes. We make data-informed decisions.



Rise to the Challenge

We are resilient. We are scrappy. We get things done. We enact bold visions. We step outside of our comfort zone. We see challenges as opportunities.

OUR STORY

9 Dots, named for a classic critical thinking puzzle with an "out of the box" solution, was founded in 2011 as a small after-school program designed to teach STEM skills engagingly. In the following years, 9 Dots explored and test-piloted several innovative STEM and Computer Science (CS) exposure and engagement approaches, including tech equity and leadership workshops (Lead LA), summer and weekend coding camps (DevY), and partnerships with community-based organizations for after-school robotics and coding programs (Tech & Tape).

As 9 Dots began working more closely with local school administrators, it became increasingly apparent that there was a need for equitable access to high-quality, in-school CS education for students in low-income communities throughout Los Angeles. This revelation informed a narrowing of our focus and resulted in the launch of our flagship Get Coding program in 2014. Through Get Coding 9 Dots began partnering with administrators and educators at Title I schools in low-income communities to provide CS and coding classes during the regular school day.

Eight years later, Get Coding exclusively works with Title I K-6 schools, providing everything they need to offer their students an early foundation in the computational and critical thinking skills necessary to pursue future 21st-century educational and professional opportunities. 9 Dots' approach to curriculum development and educator training prioritizes building CS classroom environments where all students can participate and learn to solve problems fearlessly. Our work is grounded in pedagogical theory and informed by findings from our own research initiatives, conducted in partnership with UCLA and UC Berkeley and with the support of the National Science Foundation (NSF).



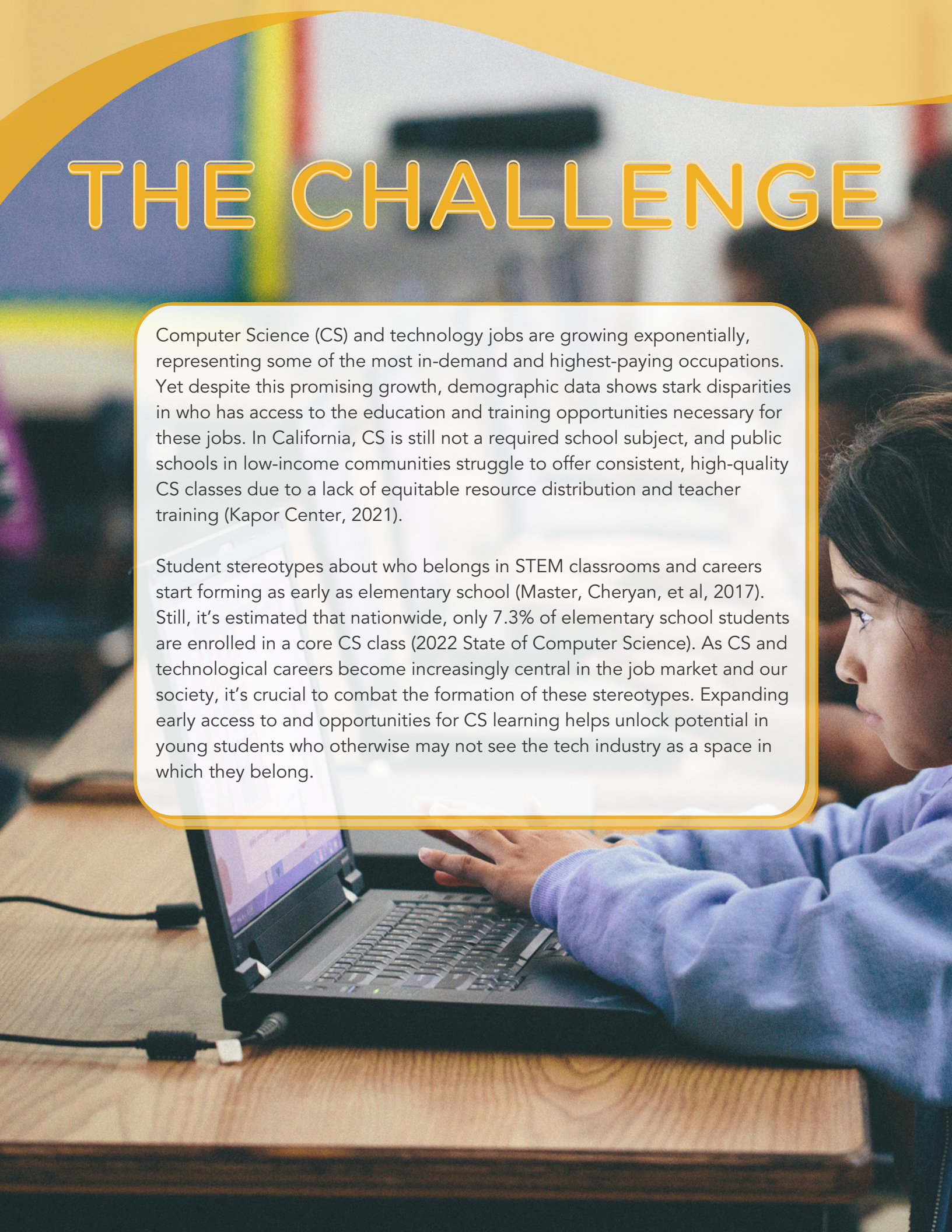
Since the inception of Get Coding, we have used feedback from students, teachers, and CS instructors to continue to fine-tune and improve our curriculum and platform. Through these efforts, we have seen improvements in teacher ease of use, student grade-level coding proficiency, and an expansion of the CS skills we're able to teach to be more inclusive of all aspects of foundational CS learning. Our research and development in this capacity have directly impacted our product, driving growth and innovation that has made Get Coding programming even more robust and user-friendly.

Our innovation continues as we look forward to the next iteration of the Get Coding curriculum and platform. In 2021, we launched the planning and preparation phase for our next generation of the Get Coding curriculum and a new teaching/learning platform centering on game-based learning strategies that will allow students to play their way through a foundational CS education. We've also begun improving our teacher professional development tools to fit the needs and wants of our partner public school teachers. As we look to the future, we center our 9 Dots value, "continuously improve," and are committed to growing Get Coding in the most impactful and sustainable ways possible.

THE CHALLENGE

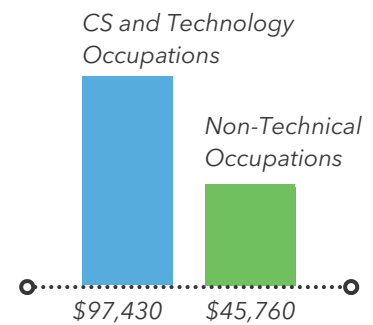
Computer Science (CS) and technology jobs are growing exponentially, representing some of the most in-demand and highest-paying occupations. Yet despite this promising growth, demographic data shows stark disparities in who has access to the education and training opportunities necessary for these jobs. In California, CS is still not a required school subject, and public schools in low-income communities struggle to offer consistent, high-quality CS classes due to a lack of equitable resource distribution and teacher training (Kapor Center, 2021).

Student stereotypes about who belongs in STEM classrooms and careers start forming as early as elementary school (Master, Cheryan, et al, 2017). Still, it's estimated that nationwide, only 7.3% of elementary school students are enrolled in a core CS class (2022 State of Computer Science). As CS and technological careers become increasingly central in the job market and our society, it's crucial to combat the formation of these stereotypes. Expanding early access to and opportunities for CS learning helps unlock potential in young students who otherwise may not see the tech industry as a space in which they belong.



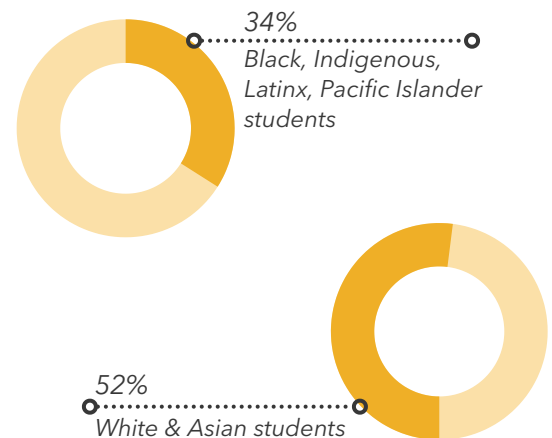
CS and Technology Workforce

Computer Science and technology occupations represent some of the highest-paying jobs in our economy, with a median salary of \$97,430, which is 53% higher than the median annual wage for all other non-technical occupations (\$45,760) ([BLS, 2022](#)).



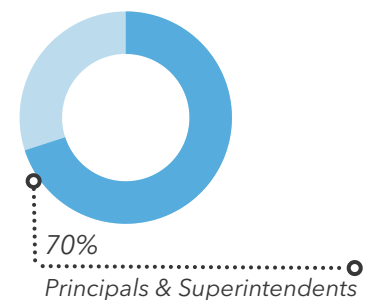
Lack of Equitable CS Education Access

Schools serving low-income communities are 3x less likely to offer core CS courses than schools in higher-income neighborhoods. In a 2021 study, only 34% of schools serving high proportions of Black, Indigenous, Latinx, and Pacific Islander students offered CS courses compared to 52% of schools serving a larger proportion of White and Asian students ([Kapor Center, 2021](#)).



School Administrators Find Value in CS Courses but are Resource-Constrained

School administrators in CA support expanding Computer Science education opportunities: more than 70% of principals and superintendents surveyed think CS is just as or more important than required core classes. They cite a lack of funds for hiring and training teachers as one of their most significant barriers ([Gallup, 2020](#)).



Lack of Diversity in Tech

Women of color remain grossly underrepresented in higher education Computer Science studies and the technology workforce. Despite making up more than 16% of the general population, Black, Latina, and Indigenous Women make up only 5% of CS degree recipients and 5% of the CS workforce ([rebootrepresentation.org](#))

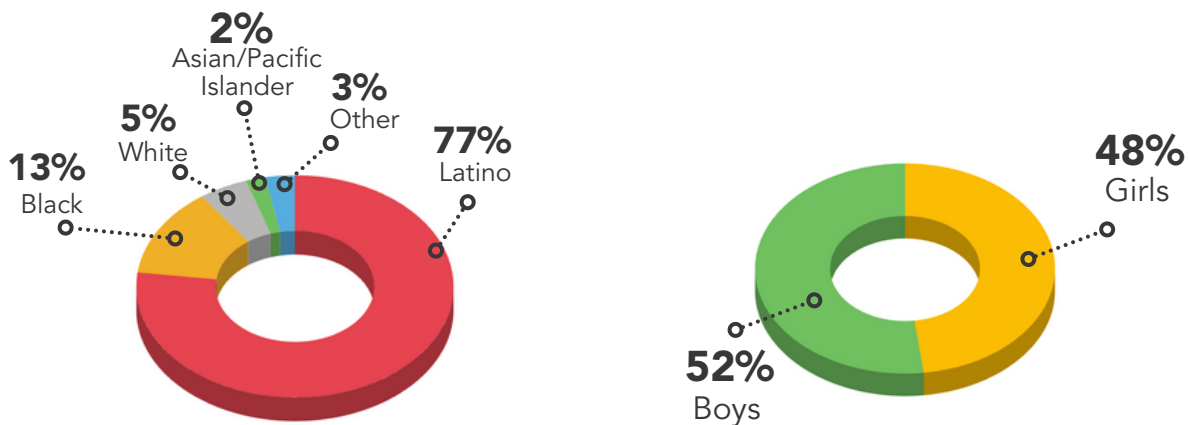


In partnership with Los Angeles County Title I elementary schools, 9 Dots helps schools in low-income communities provide their students with a high-quality K-6 Computer Science education by providing curriculum, training, and on-site support to teachers through Get Coding.

9 Dots provides schools and teachers with everything they need to offer engaging and rigorous weekly coding classes to students during regular school hours. Our Get Coding platform offers a fully mapped-out, year-long CS curriculum for students and timely learning analytics to help teachers track student progress, mastery, and interest in CS concepts.

To ensure that every teacher feels confident delivering the 9 Dots curriculum to students, we utilize a three-step gradual release process during which teachers receive support from Coding Coordinators both inside and outside the classroom. All teachers partnering with 9 Dots receive regular, comprehensive professional development, including training workshops each semester and 1:1 coaching and in-class support from 9 Dots Coding Coordinators. Once teachers become independent coding instructors, 9 Dots staff remains available online for coaching and troubleshooting support as needed.

STUDENT DEMOGRAPHICS



OUR PARTNER SCHOOLS

Through Get Coding, we partner with Title-I elementary schools throughout Los Angeles County, most of which are [located](#) within the boundaries of Los Angeles Unified School District (LAUSD) and Compton Unified School District (CUSD).

CUSD

Mayo Elementary School
Clinton Elementary School
Jefferson Elementary School
Washington Elementary School
Tibby Elementary School
Ralph Bunche Elementary School
McKinley Elementary School
Anderson Elementary School
Kelly Elementary School
Roosevelt Elementary School
Longfellow Elementary School
Emerson Elementary School
Dickison Elementary School
Dr. Ronald E. McNair Elementary

LAUSD

Alexandria Elementary School
Vista Del Valle Dual Language Academy
Sylvan Park Elementary School
Yorkdale Elementary School
Hollywood Elementary School
Cheremoya Avenue Elementary School
Ninety-Sixth Street Elementary School
118th Street Elementary School
Grant Elementary School
Frank Del Olmo Elementary School
Beethoven Street Elementary School
Vine Street Elementary School

CHARTER

New Los Angeles Charter Elementary School

GET CODING 2020-2021 SCHOOL YEAR

The circumstances of the Coronavirus pandemic presented a unique set of challenges across the school day that impacted student attendance, learning, and engagement in unprecedented ways. In March 2020, the effects of COVID-19 closed schools and forced teachers and students to adopt virtual learning in lieu of traditional brick-and-mortar schooling.

9 Dots joined teachers and students in virtual classrooms each week, adjusting the Get Coding curriculum to be taught and learned through videos and asynchronous direct instruction. Despite the non-traditional nature of the school year, 9 Dots is proud to have adapted in a way that allowed us to continue to provide students with joyful CS learning during a challenging and confusing time for school communities.

OUR REACH

STUDENT ACHIEVEMENTS



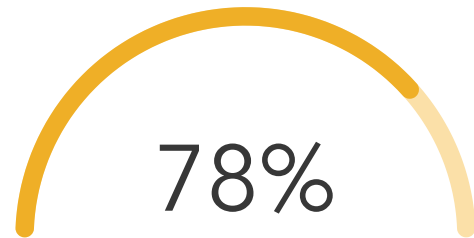
20 Title I Elementary Schools



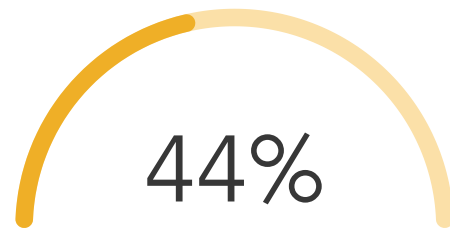
8,072 Kindergarten - 6th Grade Students



290 Public School Teachers



78%
of students identified as coders in year-end surveys



44%
of students achieved grade-level coding proficiency*

**Due to the COVID-19 pandemic, we saw lower rates of student log-in and course completion than normal. We believe this had a direct impact on student proficiency scores.*

GET CODING 2020-2021 SCHOOL YEAR

TEACHER & ADMINISTRATOR ACHIEVEMENTS

89%

of teachers believe coding is important for their students' futures

87%

of teachers would recommend that their principal renew Get Coding for another year

100%

of partner schools renewed Get Coding for another year

100%

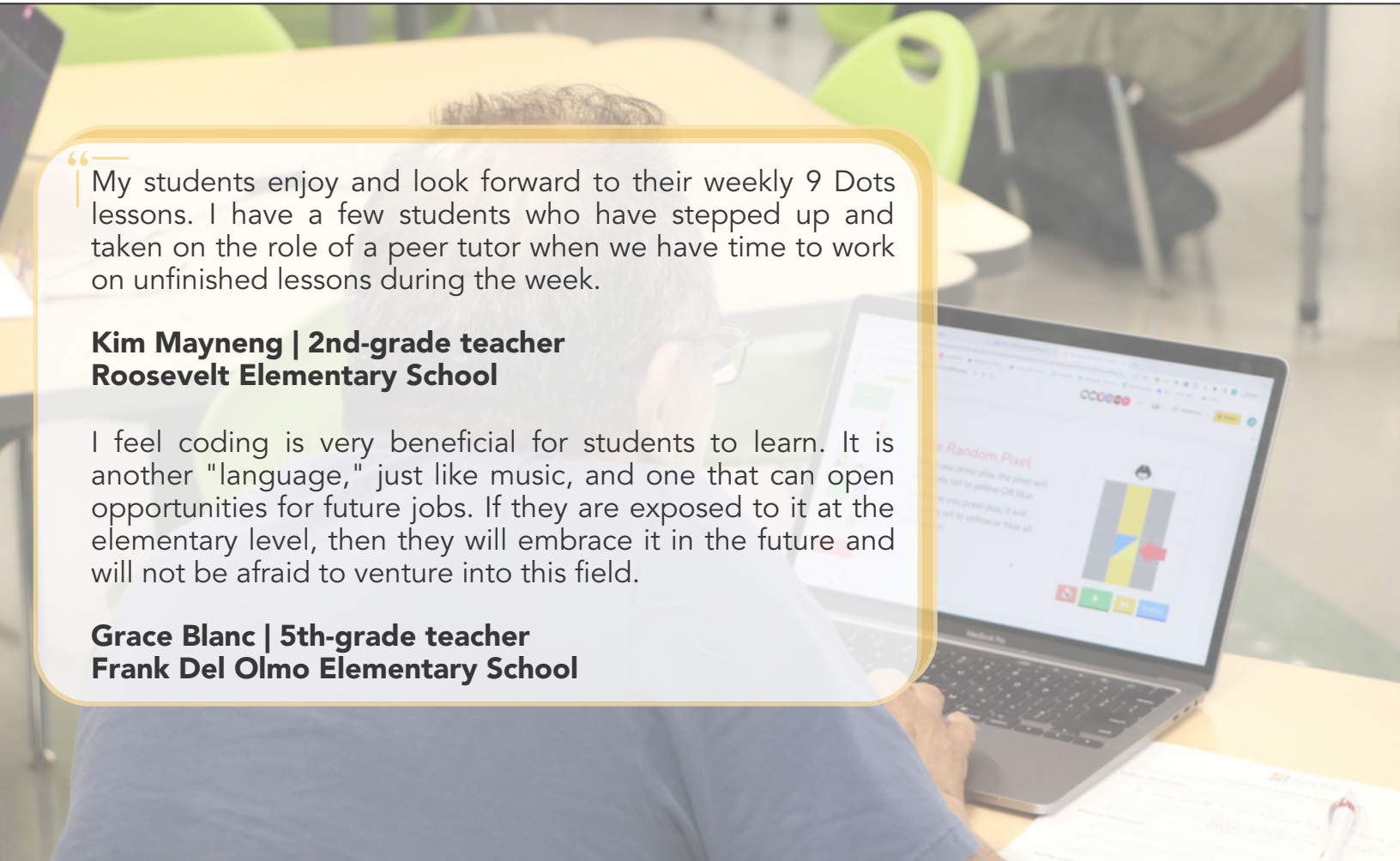
of surveyed administrators felt 9 Dots' distance learning offerings were sufficient in helping their school reach its coding goals

“My students enjoy and look forward to their weekly 9 Dots lessons. I have a few students who have stepped up and taken on the role of a peer tutor when we have time to work on unfinished lessons during the week.

**Kim Mayneng | 2nd-grade teacher
Roosevelt Elementary School**

I feel coding is very beneficial for students to learn. It is another "language," just like music, and one that can open opportunities for future jobs. If they are exposed to it at the elementary level, then they will embrace it in the future and will not be afraid to venture into this field.

**Grace Blanc | 5th-grade teacher
Frank Del Olmo Elementary School**



GET CODING 2021-2022 SCHOOL YEAR

In August 2021, students, teachers, and 9 Dots Coding Coordinators returned to school campuses full-time for the first time in over a year. Though the school year was imperfect, complicated by necessary COVID-19 protocols and high teacher and student absenteeism rates, 9 Dots was excited to have Get Coding function as intended again, bringing coding classes to students and teachers in classrooms each week.

OUR REACH



24 Title I Elementary Schools

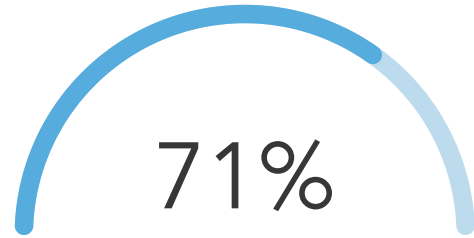


8,029 Kindergarten - 6th Grade Students

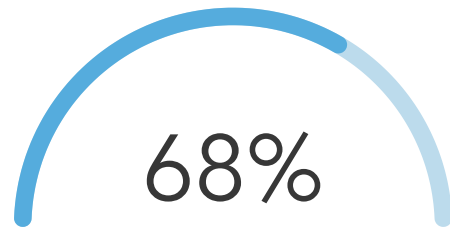


310 Public School Teachers

STUDENT ACHIEVEMENTS



of students identified as coders in year-end surveys



of students achieved grade-level coding proficiency

GET CODING 2021-2022 SCHOOL YEAR

TEACHER & ADMINISTRATOR ACHIEVEMENTS

89%

of teachers believe coding is important for their students' futures

83%

of teachers would recommend that their principal renew Get Coding for another year

98%

of partner schools renewed Get Coding for another year

100%

of surveyed administrators were happy with the Get Coding program at their school

“ I sincerely believe that 9-Dots/coding makes my students well-rounded scholars. I have seen a parallel with success in 9-Dots and success in the core subjects, especially mathematics.

**Edgar Ayala | 4th-grade teacher
Mayo Elementary School**

9 Dots is helpful for all students. It incorporates utilizing math, following directions, reading organization and is a way to success in the future.

**Bertha Solis | 2nd-grade teacher
Emerson Elementary School**

CS EDUCATION HEROES



I like coding because it really **challenges you** to use your brain during the code and whenever you have a problem, you have to debug. It really challenges you to try to go step by step to figure out which code is the problem. Then you can also use your brain more to figure out how to get to your goal in the code. I also like it because it **teaches you how to help other people.**

- Eric, 6th-grade coder

CS EDUCATION HEROES

Across LA County, 9 Dots partners with hundreds of public school teachers to implement our Get Coding curriculum in classrooms. Each year, through the 9 Dots CS Education Heroes Awards, we seek to thank and congratulate a subset of these teachers for going above and beyond. We recognize these teachers for their creativity, determination, and consistency in implementing the Get Coding curriculum in their classrooms and their commitment to bringing CS education to their students.

The CS Education Heroes Awards honor the dedication and hard work of exceptional CS educators who create learning environments that engage every student, foster joy, and promote fearlessness in problem-solving and perseverance in coding. Our 2020-2022 CS Education Heroes Awards Ceremonies took place virtually, allowing us to celebrate the accomplishments of these teachers alongside our school partners, external stakeholders, and students and their families.

2020-2021



MS. MARLA PIZZUTO

Level 1 | 3rd-6th Grade Teacher
Grant Elementary (LAUSD)

2021-2022



MS. ANABEL HERNANDEZ

Level 2 | 4th Grade Teacher
Anderson Elementary (CUSD)



MS. ISABELLA RAMOS

Level 2 | Kindergarten Teacher
Dickison Elementary (CUSD)



MR. ALDO GARBELLINI

Level 2 | 2nd Grade Teacher
Frank Del Olmo Elementary (LAUSD)



MS. TU KHUE DUONG

Level 3 | 5th Grade Teacher
Longfellow Elementary (CUSD)



MS. SELENNA LORETO + MR. LEONELL MORALES

Level 3 | 4th Grade Teachers
Vista De Valle Dual Language Academy (LAUSD)



OUR FINANCIALS



2020-2021 FINANCIALS

INCOME

4000 Revenue from Direct Contributions	289,035.75
4200 Revenue from Non-Government Grants	1,311,750.00
4500 Revenue from Government Grants	140,876.47
5100 Revenue from Program Related Services & Fees	385,315.00
6810 Other Revenue	113,279.97
Total Income	\$2,240,257.19

Gross Profit	\$2,240,257.19
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EXPENSES

7200 Salaries & Related Expenses	1,667,636.82
7500 Contract Service Expenses	136,098.66
8100 Non-Personnel Expenses	7,853.61
8200 Facility & Equipment Expenses	50,915.07
8300 Travel & Meeting Expenses	417.27
8400 Hiring Expenses	2,250.54
8500 Other Expenses	57,450.17
8600 Business Expenses	171.99
Total Expenses	\$1,922,794.13

Net Operating Income	\$317,463.06
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OTHER INCOME

9600 Investment Income	324.24
Gain/Loss on Sale of Fixed Assets	400.00
Total Other Income	\$724.24

Net Other Income	\$724.24
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Net Income	\$318,187.30
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2021-2022 FINANCIALS

INCOME

4000 Revenue from Direct Contributions	211,168.51
4200 Revenue from Non-Government Grants	1,723,001.01
5100 Revenue from Program Related Services & Fees	442,547.97
6810 Other Revenue	12,595.00

Total Income **\$2,389,312.49**

Gross Profit **\$2,389,312.49**

EXPENSES

7200 Salaries & Related Expenses	1,385,250.41
7500 Contract Service Expenses	77,116.78
8100 Non-Personnel Expenses	12,072.66
8200 Facility & Equipment Expenses	168,825.67
8300 Travel & Meeting Expenses	18,351.18
8400 Hiring Expenses	6,724.50
8500 Other Expenses	70,498.09
8600 Business Expenses	453.51

Total Expenses **\$1,739,292.80**

Net Operating Income **\$650,019.69**

OTHER INCOME

9600 Investment Income	3,340.64
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Total Other Income **\$3,340.64**

Net Other Income **\$3,340.64**

Net Income **\$653,360.33**

MOVING FORWARD

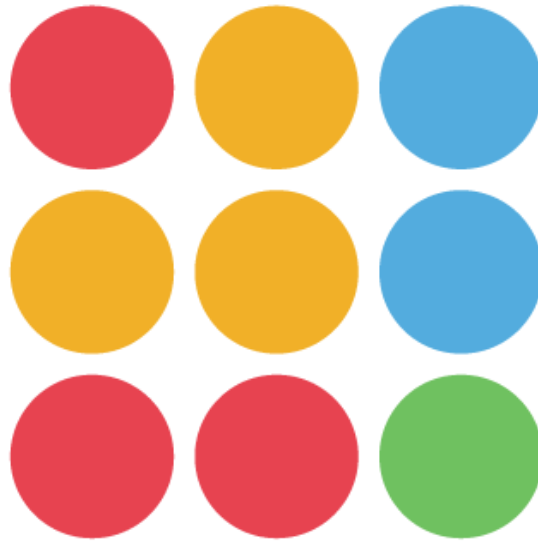
The past two years have been wrought with uncertainty, unpredictability, and unprecedented challenges for 9 Dots and our school partners. Despite that, 9 Dots has continued to serve our students and school communities with joy, perseverance, and a strong emphasis on partnership. We have much to look forward to as we continue our work in Los Angeles County.



During the 2022-2023 school year, 8,838 K-6 students will have access to Get Coding curriculum in their classrooms, and we will be partnering with 27 Title I elementary schools and nearly 350 teachers to make it happen. We've repeatedly seen that Get Coding impacts students positively, from improved grit and problem-solving skills to new ideas about what they'd like to be when they grow up. We've seen our Get Coding students leave their coding classes excited, motivated, and with bigger dreams about the future.

Our long-term goal is to serve 1000 Title I elementary schools in the next 20 years. We know this will take time, and we will not sacrifice quality as we grow. That's why we will be focusing our energy on continuously improving the Get Coding experience for students and teachers alike. We are revamping our student curriculum to be more comprehensive and engaging. And we're redesigning our teacher professional development to be quicker and more effective. Through all these efforts, we remain committed to situating 9 Dots as the best option for a quality Computer Science education.

As our society moves steadily into a tech-consumed future, it's more important now than ever to ensure that every child has the tools and knowledge they need to navigate our ever-changing world and become the next generation of great problem solvers. The key to creating a diverse and inclusive future tech industry is ensuring that all children have access to Computer Science learning opportunities **today**.



9 DOTS

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