

FALL 2024

Computing - Science Technology Engineering Math



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Transformative Learning in Math, Computer Science, and Robotics

More than 180 people attended the 14th Annual C-STEM Conference on October 4, 2024, at the UC Davis Conference Center. Among them, representatives from our very own HLPUSD shared our remarkable C-STEM math success stories, highlighting Mr. Kien To, a 7th-grade teacher at Sierra Vista, and Mrs. Imelda Rodriguez a 3rd-grade teacher at Wedgeworth.

The plenary panel session showcased our district’s innovative work. The panelists included Board President Christine Salazar, Board Vice President Nancy Loera, Dr. Alfonso Jiménez, Dr. Rosa Perez-Isiah, Joanne Chan, Imelda Rodriguez, and Kien To, and the session was moderated by Mary Nicely, Chief Deputy Superintendent of the California Department of Education (CDE). We shared our C-STEM journey and successes, as well as how our school board, administrators, and teachers can work together to transform STEAM education with coding and robotics through both academic and summer programs.

During the panel, Mr. To shared his incredible C-STEM math success story. The state math standard SBAC test scores in 2023 for these same students as 5th graders and in 2024 as 6th graders are shown in the table below. In 2023, only 16% of the students met or exceeded the expected standard on the state test. In a C-STEM math class in 2024, 71% of the same students met or exceeded the state standards at the end of the year, including one student who improved from Not Met Standards to Exceeded Standards.

344% Improvement for 6th Grade Students Meeting or Exceeding State Math Standards in Mr. To’s Class

	2022-2023 (5th Grade Results)	2023-2024 (6th Grade Results)
Exceeded State Standard	6%	52%
Met State Standard	10%	19%
Nearly Met State Standard	32%	19%
Didn't Meet State Standard	52%	10%

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Excellence in C-STEM Education Awards: Honoring Outstanding Teacher, Administrator, and School



continued from page 1

This remarkable increase from 16% to 71% represents a 344% rise in students meeting or exceeding the standard! For most students, this was the first time they met or exceeded math standards.

Mr. To explained "There are so many strategies I employ that enable me to assess student performance daily, such as reaffirming success and ability. It's about building confidence in small increments until students believe in themselves.



And believe me, 99.9% of students have zero confidence. C-STEM gave me, as an educator, a platform to reinforce their success and build upon even more complex methodologies and pedagogies. When students understand a concept, they'll enjoy anything you throw at them. C-STEM gave me a tool to further enhance their knowledge of robotics while simultaneously reinforcing mathematical concepts."

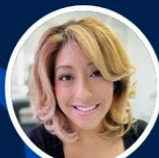
Congratulations to Mr. To for his extraordinary effort and success, and for his well-deserved recognition as the C-STEM Teacher of the Year!

UC DAVIS
C-STEM Center


14th Annual C-STEM Conference
October 4th, 2024

Plenary Panel with Hacienda La Puente USD


Transformative Learning in Action: Pathways to Success with C-STEM



Christine H. Salazar
Board of Education President



Dr. Alfonso Jiménez
Superintendent




Nancy Loera
Board of Education Vice President




Dr. Rosa Isiah
Assistant Superintendent



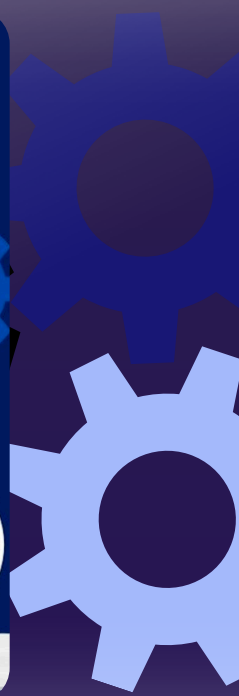
Joanne Chen
Coordinator, Ed Services



Imelda Rodríguez
Teacher



Kien To
Teacher



C-STEM Programs at HLPUSD

Professional Development



- Integration of C-STEM across grade levels
- 51 Teachers
- 18 Schools
- Grades K-12
- Afterschool PDs

CS Supplementary Authorization



- Shortage of CS Teachers
- AB 2097 Guarantee Access to CS for All Students; HS Grad Requirement 2030-31
- 18 Teachers (K-12) Eligible and Completed
- CTC CS Grant

Summer Robotics Camp



- Extension of Classroom Learning
- Third Year Implementation
- Growing Demand & Enrollment
- 700 Students
- K-8 Grades

IM1, IM2 with CS



- 4 HS Math Teachers
- 4 Comprehensive HS
- Grades 9-12
- Afterschool PDs

COURSE 1: INTRO TO TEACHING COMPUTER SCIENCE

OUR VISION

Increase Equity and Access for ALL students in Math, Computer Science, and Robotics with transformative learning experiences



Equip diverse educators and students to thrive in a Computer Science, Robotics, and AI-driven global economy



Our incredible HLPUSD teachers spent their Saturday on October 12, 2024 diving into UC Davis C-STEM Course 1 Training – 8 hours of math, coding, and robotics! This is just the beginning of a 30-hour course, with five more asynchronous afterschool sessions to complete Course 1. Once they complete Course 1, they will have the option to begin the Computer Science Supplemental Authorization Credential, in conjunction with UC Riverside Extension, UC Davis, and the CTC. To earn this credential, they will need to complete four to five more courses, depending on their current credentials, with an expected completion date of July 2025.

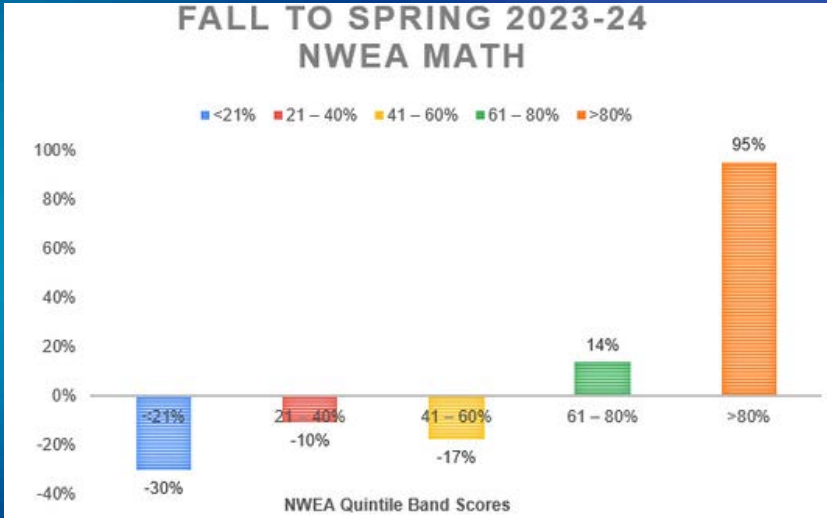
A big thank you to Principal Octavio Perez for hosting at Mesa Robles, to Executive Director of Facilities, Mr. Leonard Hernandez Jr., for providing a clean and safe space, and to Board Members Ms. Nancy Loera and Mr. Gino Kwok for being there to support the teachers. Their dedication to student success is truly inspiring!





PROGRAM IMPACT

MATH GROWTH IN LOCAL ASSESSMENTS NWEA MAP IN C-STEM



- 22 C-STEM Teachers
- 30% decrease on average of students scoring on <21 Percentile
- 10% decrease on average of students scoring on 21- 40 Percentile
- 17% decrease on average of students scoring on 41- 60 Percentile
- 14% increase on average of students scoring on 61- 80 Percentile
- 95% increase on average of students scoring on >80 Percentile

This chart highlights the performance data of 22 C-STEM teachers and shows significant improvements in student performance in math on local assessments, specifically the NWEA MAP, in the comparison from Fall to Spring in the 2023-24 school year.

- Decrease in Lower Percentiles:
 - There is a noteworthy 30% decrease in the average number of students scoring below the 21st percentile, indicating that fewer students are performing at the lowest levels.
 - Additionally, there is a 10% decrease in the average number of students scoring in the 21st to 40th percentile range, reflecting a trend of students moving away from lower achievement brackets.
 - A 17% decrease in the average number of students scoring between the 41st and 60th percentiles also highlights a positive shift in student performance, showing movement toward higher achievement levels.
- Increase in Higher Percentiles:
 - Conversely, there is a 14% increase in the average number of students scoring in the 61th to 80th percentile. This shift indicates that more students are reaching levels of proficiency and above.
 - Most notably, there is a remarkable 95% increase in the average number of students scoring above the 80th percentile. This significant growth suggests that a considerable number of students are not only achieving proficiency but are excelling in their mathematical skills.

Overall, the data indicates substantial improvement in student outcomes in math, as evidenced by the reductions in lower performance brackets and the increases in higher performance brackets. This trend underscores the progress being made in fostering student growth and success in mathematics.

Correlation Between SBAC Math Score and Consistent Use of C-STEM Math Lessons

C-STEM Percentage Average Met or Exceeded Standards (2023-24)	61%
HLPUSD District-Wide Percentage Average Met or Exceeded Standards (2023-24)	36.93%

teachers have logged more hours than other C-STEM teachers. These figures do not include K-2 teachers, as those are non-SBAC grade levels, C-STEM electives and Science teachers, as they do not use Math, or high school IM1 teachers, since SBAC Math in grade 11 covers IM2 and IM3. The California SBAC Math assessments are administered to students in grades 3 through 8 and grade 11.

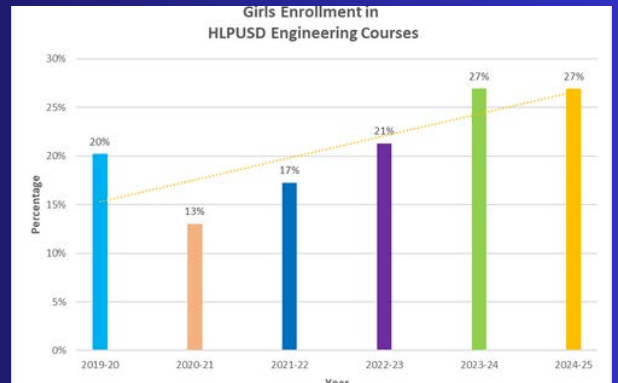
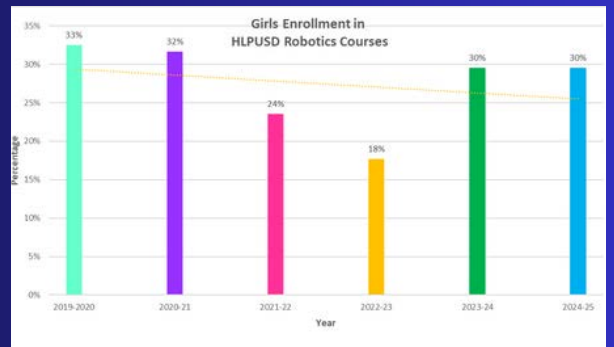
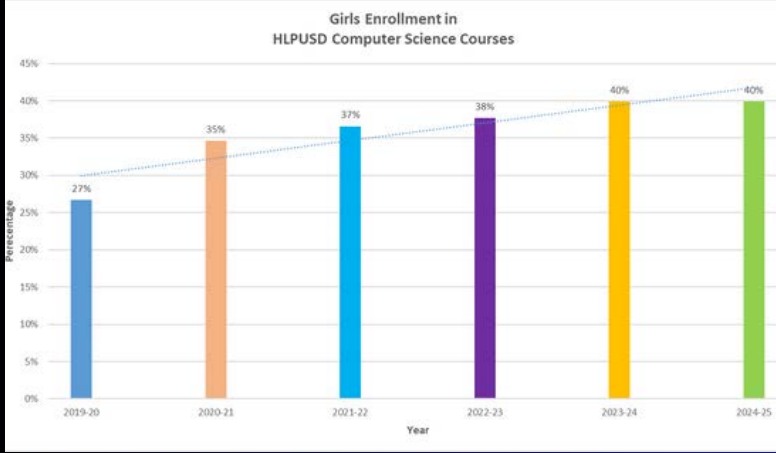
The C-STEM Percentage Average for students who Met or Exceeded Standards in 2023-24 is 61%, compared to HLPUSD District-Wide Percentage Average of 36.93%. In five classes, 61% of students who completed more than 30 C-STEM math lessons assigned by their teacher in RoboBlocky met or exceeded Math standards on the SBAC assessments. Additionally, these

IMPLEMENTATION OF C-STEM

- Assign 30 or more RoboBlocky Math lessons aligned with district-adopted HMH Math Curriculum
- Attend ongoing PD sessions
- Participate in coaching and classroom observations
- Use data to guide instruction with ongoing support and monitoring

Closing the Gender Gap: Advancing Equity in MS & HS STEM Courses

Since implementing C-STEM programs at HLPUSD in 2019, there has been an increase in student interest in Computer Science pathways. Although a direct correlation cannot be claimed, enrollment of girls in Robotics, Engineering, and Computer Science courses has gradually increased since the post-pandemic school year.



CDE TODAY

State Superintendent of Public Instruction **Tony Thurmond**

October 11, 2024

CDE Today is a weekly newsletter from CDE Communications designed to provide you with clear, consistent updates on what is important to California schools and the education community.

Moving the Needle on K-12 Math Education



Chief Deputy Superintendent Mary Nicely participated in the 14th Annual C-STEM Conference on October 4 at the UC Davis Conference Center. The science, technology, engineering, and mathematics (STEM) conference was packed with inspiring speeches and hands-on sessions about UC Davis C-STEM and its partners' collaborative work on transforming K-12 math education through coding and robotics. Nicely also presented the award certificates to all recipients of the C-STEM Teacher of the Year, C-STEM Administrator of the Year, C-STEM Superintendent of the Year, and C-STEM Distinguished School awards for their extraordinary pioneering work on transforming K-12 math education. Photo courtesy of UC Davis C-STEM.



The HLPUSD team was featured in the CDE Today weekly newsletter on October 11, 2024. CDE will also schedule a webinar to be recorded and broadcast to educators across the state of California, sharing HLPUSD's success and the experiences that could benefit others.



CELEBRATIONS

CHAN'S CHAT

Message from Your Coordinator

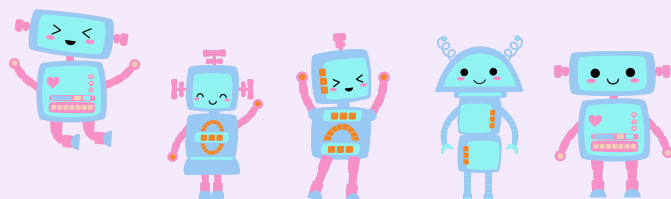
I am thrilled to witness the incredible progress our students and educators are making in integrating coding and robotics into our math curriculum. The success stories shared at the recent C-STEM Conference highlight the transformative power of our programs, empowering students to build confidence and achieve remarkable academic growth. I am also excited to announce that we are collaborating with the UC Davis C-STEM Center and C-STEM teachers to launch our very first district-wide C-STEM RoboPlay competition this spring.

Furthermore, I'm proud to share that 18 teachers completed coursework for a Computer Science Supplemental Authorization over the summer and are working with CTC, UC Riverside Extension, and UC Davis to obtain their authorization. Currently, we have 15 educators in Cohort 6 participating in the Computer Science pathway. Our district is committed to addressing the shortage of computer science teachers in California and ensuring access to computer science for all students, as outlined in the AB 2097 Guarantee Access to CS for All Students and the high school graduation requirement by 2030-31.

Currently, we have 51 teachers across 18 schools implementing C-STEM, and for those interested in learning more about our programs, we will host a C-STEM information session sometime in December—more details will be shared soon.

Best,
Joanne Chan

$$1 + 2 = 3$$



AFTER SCHOOL PD

On October 16, our C-STEM teachers gathered for their monthly professional development session to collect student math assessment data from Spring and Fall 2024. This data will be analyzed in future sessions to track student progress and inform strategies for integrating coding and robotics into math instruction.





CONGRATULATIONS TO OUR C-STEM SUPERSTARS!



C-STEM Teacher of the Year
Mr. Kien To
Sierra Vista Middle School



C-STEM Admin of the Year
Mr. Gilbert Barraza
Sparks Elementary



C-STEM School of the Year
2023-24
Los Altos Elementary School

UPCOMING EVENTS

AFTERSCHOOL PD

- Oct. 23, 2024

C-STEM INFORMATION SESSION

- Dec. 2024 TBD

COURSE 1: INTRO TO TEACHING COMPUTER SCIENCE

- Oct. 22, Oct. 29, Nov. 5, Nov. 12
- 4:15 p.m. - 6:15 p.m.

COURSE 2: PROGRAMMING & INTEGRATION OF CS INTO STEAM TEACHING

- Saturday, Jan. 18, 2025
- 8:30 a.m. - 4:30 p.m.



WANT TO LEARN MORE ABOUT C-STEM?



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Rabeka Fitzgerald-Pacala