

Empresa Elementary School Model Programs and Practices

School Information

CDS (County District School) Code: 37684526108708

County: San Diego

District (Local Educational Agency): Vista Unified

School: Empresa Elementary School

Demographics

Enrollment: 850 students

Location Description: Urban

Title I Funded: No

School Calendar: Traditional

Charter: No

Overview

At Empresa Elementary School, our vision is to develop active and creative minds within a caring, innovative environment. We serve a population of 850 ethnically and socioeconomic diverse students. We have high academic expectations and results, which we reach through a close relationship within our school community, staff commitment, dedicated parental involvement, and student centered learning environments. Empresa educational goals address the whole student with programs that not only target individual student academic needs with a multitude of opportunities for underperforming students to improve and strengthen their academic skills, but also reach beyond academics. We cultivate a feeling of ownership and family through schoolwide weekly awards/recognition assemblies, a student council, and several volunteer programs; we strive to advance character and social development through counseling groups, community charity fundraising events, and the 8 Keys of Excellence program; we recognize the visual and performing arts as a core subject providing students with weekly art and music classes, and grade level drama performances. We offer a wide variety of afterschool enrichment activities such as an intra-district scrabble competition, a public performance chorus, visual art instruction for all forms of media,

several different instrumental groups and seasonal physical education activities that include soccer, fun to run, and basketball. Our intentions are to design a challenging academic environment, and to make sure our students and families feel connected, respected, safe, and appreciated.

Empresa continually sets the bar for student achievement in our district. A high level of trust between administration and teachers brings about best practices in all academic areas. Teachers are given the freedom to collaborate, design, and implement lessons putting students' academic needs first. Professional developments in language arts, mathematics and growth mindset are designed to provide teachers with the knowledge they need to make sound decisions grounded in research. As a result, CAASPP scores have reported continuous growth in both mathematics and ELA for three consecutive years. Empresa is known for setting the bar for student achievement within our district.

Model Program and Practices

Name of Model Program/Practice: Targeted Instruction in Mathematics

Length of Model Program/Practice: 2–4 years

Target Area(s): Closing the Achievement Gap, Education Supports, Professional Development

Target Population(s): Asian, Hispanic, White, Two or More Races, Socioeconomically Disadvantaged, English Learners, Students with Disabilities

Strategies Used: School Climate, Small Learning Communities, Data-Driven Decision Making, Professional Development, Implementation of Academic Standards Basics (Teachers, Instructional Materials, Facilities)

Description

Empresa's model is distinguished by a unique focus on lessons from University California, Irvine's Math Project. These lessons allowed students time to explore the reasoning behind the mathematics instead of only learning basic algorithms. Lessons were supplemented with Number Talks, Singapore Math Sprints, STMath, and Pearson Realize Math procedural practice pages.

Once Common Core Standards and the eight mathematical practices were introduced in 2012, we knew that our current curriculum, Pearson Envision, did not address the mathematical practices and conceptual understanding that students needed. Teachers began looking outside the curriculum to address these deficits. We found that teachers wanted to improve not just their ability to teach a math lesson, but they also wanted to develop their own understanding about the "why" of mathematics. From this, a relationship with UC Irvine's Math Project (IMP) was born. Through the UC Irvine math lessons teachers and students had the chance to build on mathematical concepts before moving to procedures and problem solving.

With the whole child in mind, we as a community began building our learning environment to meet the new constructs of this curriculum. As a school we have spearheaded and made it a priority to inservice teachers. IMP Inservice included multiple whole staff meetings as well as three collaborative grade level meetings per year. Manipulatives that support this focus were purchased and environments created to support learning outside the classroom. Karajeon Hyde, the co-director of IMP, provided professional development through a hands on, experiential lens. Teachers were guided through conceptual, procedural, and problem solving strategies to address a balanced math program. In an effort to extend the classroom to the outdoors, mathematical tools (number/fraction lines, hundreds chart, multiplication chart, etc.) were painted on our playground for teachers to use for instruction and for students to use during play. From Rekenreks in the primary classrooms to base 10 blocks in upper classrooms, a multitude of mathematical manipulatives have been purchased to support conceptual understanding.

Implementation and Monitoring

Three years ago, Empresa's staff made a commitment to focus on how mathematics was being taught. From CASSPP data, we realized a gap existed in achieving a balanced math understanding beyond simple procedures. This new approach required intensive professional development for teachers as we discovered a deficit for much of our staff in their understanding of mathematics. We found that many teachers were teaching math using basic algorithms and had not built a clear understanding of concise concepts. Students were "doing" the math without really "understanding" the math. Something had to change. Through professional development, teachers began to see the importance of using manipulatives, such as using base 10 blocks, to help students understand the reasoning behind regrouping. Students worked in groups where they had time to play with mathematical concepts and make sense of their learning.

The transformation in the way we taught math began with Number Talks in every classroom. Through Number Talks, teachers engaged students in mental math activities designed to encourage them to think differently. Number Talks also required students to begin sharing the way they thought about math. Math conversations began to happen among students about ways they were composing and decomposing numbers. Students shared how they solved word problems using mental math and used multiple strategies to solve open-ended problems. Teachers also reflected on homework, its impact, and what students were being asked to do. For years, parents had shared their frustrations when helping students complete homework based on concepts students had learned that day. Teachers began providing a spiral review of past math concepts. Now, homework provided students with the chance to re-explore concepts multiple times throughout the year, further developing their foundation for deeper understanding.

The use of computer programs, like ST Math, embedded problem solving and helped students to tackle math problems, recognize patterns, and build conceptual understanding. ST Math is a non-linguistic program which makes learning accessible to all learners, especially our English Learners and students with disabilities.

As teacher confidence in teaching mathematics grew, student knowledge grew. Students began to feel more confident sharing their answers. Students shared multiple strategies for solving the same problem. Teachers and students were applying the Mathematical Practices daily in how they approached mathematics. From their newly developed confidence, teachers planned lessons which gave students time to explore and discover mathematics in new ways. Students used math journals to write about their thinking, bringing an awareness and understanding to their own thought process. Students began to see math in everyday opportunities and over time, teachers started teaching the “why” of math to students instead of the “how” and, with this shift, came a rise in student achievement.

Results and Outcomes

Through the use of common assessments and monitoring, Empresa staff systematically reviewed student growth in mathematics resulting in significant gains and overall high scores on state testing. To achieve this end result, teachers monitored students through district-wide paper assessments as well as on nationally normed STAR Math taken on the computer. From these results, teachers identified high need areas, adjusted instruction, and worked with classes as a whole in addition to working with students in targeted small group instruction, ensuring deep understanding in concepts, procedures, and problem solving. Grade levels planned collaboratively at a minimum of once per week. Additionally, fifth grade teachers received professional development with the sixth grade middle school teachers focusing on vertical articulation. Through collaborative planning and reflective analysis of data, teachers were able to carefully monitor students. A sense of community responsibility for each child continued with bi-annual data meetings where the teacher, administration, educational specialists, and the school psychologist discussed student growth and opportunities for improvement. The collaborative monitoring process ensured all students deepened their mathematical understanding.

Empresa experienced a three year net gain of 18% on the Mathematics portion of the CAASPP. We grew from 50% standard met/exceeded in 2015 to 68% standard met/exceeded in 2017. Data for subgroups showed progress in closing the achievement gap. Scores for males grew by 20% and scores for females grew by 16%. Students with disabilities more than doubled growing from 21% to 40% in standard met/exceeded. English Learners grew by 10% over the three years. Students reclassified as fluent grew 25% from 40% to 65% standard met/exceeded. Empresa’s equity shows strong outcomes for economically disadvantaged students growing from 29% to 47% standard met/exceeded. All ethnic subgroups grew significantly with Asians scoring 87% standard met/exceeded, 30% growth for two or more races, 18% growth for Filipinos and Hispanics, 17% growth for Whites. Even duplicated students identified with a significant ethnic subgroup and economically disadvantaged grew 22% over the three years. With that said, every group that had disaggregated data on the CAASPP showed growth, allowing Empresa to become the number one scoring school in the district, far surpassing the district average of 33% in math.

In a culture shifting from accepting comments such as, “I’m not good at math” to developing a climate in which math competence is valued, Empresa realizes the importance of developing students strong in mathematics through a balanced program of concepts, procedures, and problem solving. We believe the data supports our effort in creating a balanced math program and plan to continue the professional development partnership with the Irvine Math Project.