Aurelia Pennekamp Elementary
Model Programs and Practices

School Information

CDS (County District School) Code: 19753336020325

County: Los Angeles

District (Local Educational Agency): Manhattan Beach Unified

School: Aurelia Pennekamp Elementary

Demographics

Enrollment: 520 students

Location Description: Suburban

Title I Funded: No

School Calendar: Traditional

Charter: No

Overview

Pennekamp Elementary School is one of five elementary schools in the Manhattan Beach Unified School District. Manhattan Beach is a small, beachside community of approximately 36,000 residents, located about three miles south of Los Angeles International Airport. Pennekamp serves nearly 520 students in TK (Transitional Kindergarten) through 5th grade. The school campus has colorful murals, hundreds of California native plants and flowers, and an organic student vegetable garden. Aurelia Pennekamp first opened its doors in 1955 and at that time it was known as Curtis Street School.

Curtis Street School was later renamed Aurelia Pennekamp Elementary School. The new school name was selected to honor Aurelia Pennekamp, who served the Manhattan Beach School District for over thirty years. Miss Pennekamp began her career with the District in 1926 as a nurse at Center School, now Pacific Elementary School.

Our present-day community of learners is made up of outstanding students, an expert and dedicated staff of caring professionals, active and involved parents and a supportive community. Pennekamp strives to develop literate individuals that are socially minded and prepared to embrace the demands of 21st century learning.

At Pennekamp, our goal is to provide a balanced educational program with a focus on the development strong literacy skills to prepare students for future goals. We are an amazing school in every way, shape and form. Our instructional programs are innovative, goal oriented, and driven by an artful balance of academic rigor, service learning, technology and innovation, the arts, and fun. Our mission is to provide students the critical thinking skills and tools necessary for 21st century demands.

Our staff takes pride in the personal, caring relationships that we develop with students and their families. We have a shared sense of what is important for students, a collective commitment to helping students learn, and a deep understanding that our work is only as strong as the partnership between school and home.

Each year, the Pennekamp staff strives for continuous student growth based on each student's needs. Targeted areas include, literacy, mathematics, and social emotional development to support the whole child. We are striving to increase our students' perception of school connectedness and their 21st Century literacy and numeracy readiness skills. As we transition to new styles of teaching and learning, Pennekamp staff is committed to fostering students' critical thinking, creativity, collaboration and problem-solving skills. We want all students to become proficient and enthusiastic readers and writers, compassionate, caring citizens, and lifelong learners.

Model Program and Practices

Name of Model Program/Practice: Differentiated Instruction in Math Using Cognitively Guided Instruction Methodology

Length of Model Program/Practice: Less than 2 years

Target Area(s): Education Supports, Parent, Family, and Community Involvement, Professional Development, Use of Technology

Target Population(s): American Indian, Asian, Black or African American, Filipino, Hispanic, Pacific Islander, White, Two or More Races, Socioeconomically Disadvantaged, English Learners, Students with Disabilities

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

Description

Each Pennekamp (PK) student comes to school with unique learning needs, academic skills, cultural experiences, and attitudes about learning. PK teachers recognize that these factors affect student achievement and are driven by the belief that all students can find success in an environment grounded in differentiated instruction. It is widely accepted that such instruction is a fundamental part of the contemporary classroom (Tomlinson & Murphy, 2015). Therefore, PK's model practice is differentiated mathematics instruction to benefit all students for school-wide achievement.

Tomlinson and Imbeau (2010) describe differentiation as an approach to teaching that requires ongoing evaluation of student needs and mindful attention to planning instructional activities and assessments to address those needs. PK's goal of differentiation is to create educational opportunities that make allowances for learning variances, thus ensuring equal access to academic content.

PK teachers embrace MBUSD's personalized learning model, cognizant of three principles from theory and research that inform instruction- i.e. students differ as learners, teachers must study their students to teach them well, and teachers will respond to student interest and readiness. To bridge research and practice, MBUSD's personalized learning model echoes these principles, in that teachers are called upon to know their learners, provide them voice and choice, use flexible groupings and space, be data informed and utilize technology. Furthermore, this authentic process provides a lens through which to survey resources, design lessons, collaborate, reflect on instructional effectiveness and communicate with stakeholders.

PK students differ in their mathematical thinking. Some struggle to grasp mathematical concepts, while others are natural problem solvers. In order to identify and address the range of skills, PK teachers begin to understand their students' mathematical thinking using the Cognitively Guided Instruction approach to teaching mathematics. Utilizing formative data, PK teachers build on students' natural problem-solving strategies by delivering instruction that supports each student's individual development. With CGI methods, teachers identify specific strategies used by students to guide them toward increased mathematical understanding. Teachers use data to plan daily instruction based on behaviors such as self-selection from number set options and authentically formed small groups. Teachers design instructional resources for the following day's instruction.

As described, PK's model practice of differentiating math instruction aims to benefit all students and affect school-wide achievement. The implementation of this model practice, outlined in the following section, continues to be both challenging and inspiring as teachers embrace the district-wide call for a departure from the traditional textbook approach to teaching.

Implementation and Monitoring

The implementation of PK's model practice of differentiated instruction in math requires a major shift in the thinking and habits of teachers. It calls into question fundamental assumptions and asks teachers to embrace new ways of approaching teaching. Though the transition has presented challenges, teachers have experienced the positive impact of differentiation on student achievement. PK's ongoing process of change is supported by professional development, fiscal resources, a commitment from leadership, and the support the MBUSD community.

At the outset, MBUSD created a math committee to research and recommend the Standards of Mathematical Practice as the district's math philosophy. The committee approved Balanced Mathematics/Cognitively Guided Instruction as the district's mathematics instructional methodology. Over the course of a year, teachers attended five days of CGI workshops presented by consultants in order to facilitate more student-centered instruction in math.

Teachers had the opportunity to visit other schools that had fully implemented CGI practices. MBUSD has since provided training and resources for CGI through the work of an elementary math committee led by a Teacher on Special Assignment (TOSA). PK is represented on this committee that created grade level, standard-centered curriculum maps, which include a variety of resources for planning purposes. PK teachers participate both in grade-level and individual sessions with the TOSA, engaging in discussions that blend theory and research with practical implementation strategies.

CGI is an authentic approach to teaching math that fosters differentiation. In PK classrooms, students are encouraged to self-select strategies to solve real life scenarios, and also pick "just right" number sets at their level. The teachers, supported by the TOSA, continue to grow the number problems and resources available to draw upon daily planned instruction based on student responses and performance. During CGI, PK students work on real world problems often times personalized by teachers. Student engagement is high because math is not perceived as "math"; students see the work as a problem to be solved. PK teachers also understand that allowing students to self-select number sets, help write problems, and participate in creating three act task video problems promote interest, increase motivation, and communicate that teachers value the knowledge each child brings to the classroom.

Through the implementation process, the need for ongoing support has been recognized by teachers and parents. This piece of the model distinguishes PK from the rest of the district. Some teachers at PK have opened their classrooms to colleagues districtwide to participate in focused training and discussions to build momentum toward full CGI implementation. Additionally, PK's model includes parent workshops to address the nature of the shift and to familiarize families with CGI instructional practices.

Results and Outcomes

Both quantitative and qualitative data are analyzed to demonstrate student outcomes of the PK model practice. The quantitative data to follow is based on Smarter Balanced Assessments (SBAC) scores that show achievement overtime for the cohort of 4th and 5th grade students in 2017. The qualitative data to be presented relies on anecdotes from students, teachers and parents. Together, this data provides a comprehensive picture of the results of PK's model practice.

The results of the math portion of the SBAC for the 4th and 5th grade cohorts from 2017 demonstrate growth. Overall, both cohorts of students have shown improvement in the achievement level distribution over time. The 4th grade students collectively grew from their mean scale score of 2488.1 in 2016 to 2536.9 in 2017. The 5th grade students also collectively grew in their mean scale score of 2484.3 in 2015 to 2558.4 in 2016 to 2580.8 in 2017. PK's instructional staff is encouraged by this data, given that the school's model practice is still fairly new.

The qualitative data collected presents with mixed reviews from students, teachers and parents. Upper grade teachers report they observe growth in student approaches to mathematics and share that students are more open to try new ideas, whereas before, only one algorithmic method was taught. Teachers also report that students are using academic language to show reasoning when explaining their strategy of approach. In primary grades, teachers express excitement and disbelief in the gains their students have made as problem solvers. Student stamina in math is much stronger, especially in the K–2. Primary students are approaching real world problems using multiple strategies and are also able to articulate their thought process. These positive changes encourage PK teachers to continue this challenging work. They are motivated to use results to adjust their practice in pursuit of ongoing improvement. On a daily basis, teachers examine student products as formative assessment to drive individual instruction and help each student achieve his/her highest potential. This qualitative data shows that PK teachers believe differentiated instruction in math is successful.

Parents share their concerns about the departure of the algorithm based instructional model, primarily because they feel uncomfortable providing home support. Many parents, once at ease in helping with homework, now struggle with the task of understanding this new approach to instruction.

PK's model practice of differentiating instruction in math addresses meeting the needs of a broad spectrum of learners. Teachers continue to study their students, recognize they differ as learners, and create learning experiences that respond to student interest and readiness. By embracing these tenets of differentiated instruction, teachers can ensure that all students have equal access to academic content and will provide the best environment for them to grow as problem solvers.