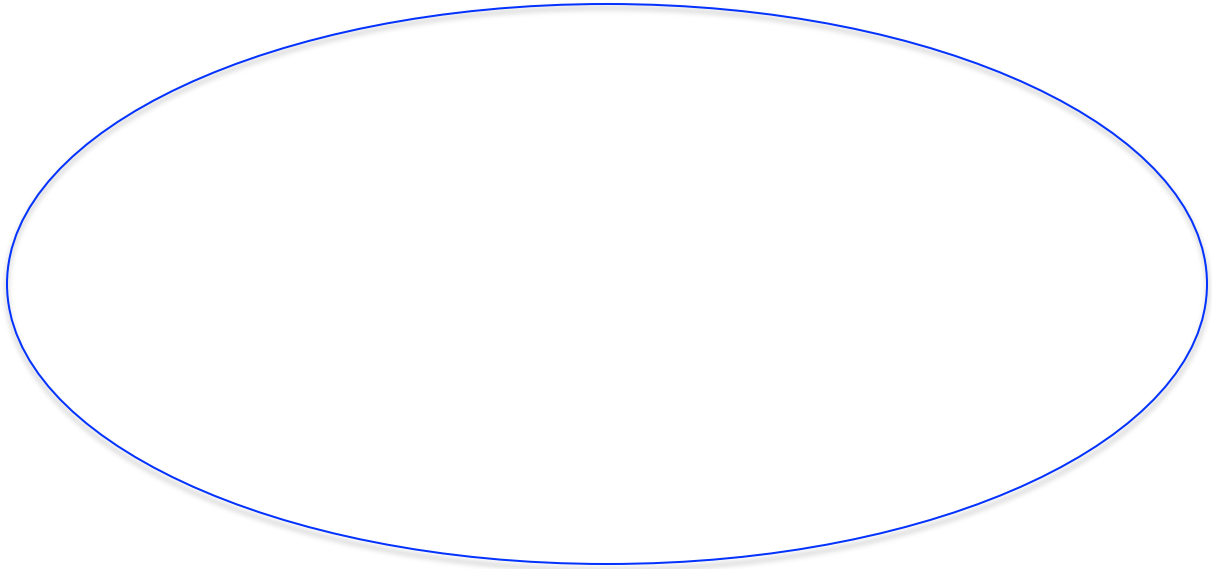
Strengthening Your Math Program:
Creating a Plan for Student Success

Chris Shore
The Math Projects Journal
Temecula Valley USD

shore@mathprojects.com
@MathProjects


Month
Day
CALIFORNIA

Creating the Vision



Current Reality

Strengths	Obstacles

Critical Issues for Team Consideration

Team Name:

Team Members:

Use the following rating scale to indicate the extent to which each statement is true of your team.

1	2	3	4	5	6	7	8	9	10
Not True of Our Team				**Our Team Is Addressing This**					**True of Our Team**

1. _____ We have identified team norms and protocols to guide us in working together.

2. _____ We have analyzed student achievement data and established SMART goals to improve upon this level of achievement we are working interdependently to attain. (SMART Goals are Strategic, Measurable, Attainable, Results oriented, and Time bound. SMART Goals are discussed at length in chapter 6.)

3. _____ Each member of our team is clear on the knowledge, skills, and dispositions (that is, the essential learning) that students will acquire as a result of (1) our course or grade level and (2) each unit within the course or grade level.

4. _____ We have aligned the essential learning with state and district standards and the high-stakes assessments required of our students.

5. _____ We have identified course content and topics we can eliminate to devote more time to the essential curriculum.

6. _____ We have agreed on how to best sequence the content of the course and have established pacing guides to help students achieve the intended essential learning.

7. _____ We have identified the prerequisite knowledge and skills students need in order to master the essential learning of each unit of instruction.

8. _____ We have identified strategies and created instruments to assess whether students have the prerequisite knowledge and skills.

9. _____ We have developed strategies and systems to assist students in acquiring prerequisite knowledge and skills when they are lacking in those areas.

10. _____ We have developed frequent common formative assessments that help us determine each student's mastery of essential learning.

11. _____ We have established the proficiency standard we want each student to achieve on each skill and concept examined with our common assessments.

12. _____ We use the results of our common assessments to assist each other in building on strengths and addressing weaknesses as part of an ongoing process of continuous improvement designed to help students achieve at higher levels.

13. _____ We use the results of our common assessments to identify students who need additional time and support to master essential learning, and we work within the systems and processes of the school to ensure they receive that support.

14. _____ We have agreed on the criteria we will use in judging the quality of student work related to the essential learning of our course, and we continually practice applying those criteria to ensure we are consistent.

15. _____ We have taught students the criteria we will use in judging the quality of their work and provided them with examples.

16. _____ We have developed or utilized common summative assessments that help us assess the strengths and weaknesses of our program.

17. _____ We have established the proficiency standard we want each student to achieve on each skill and concept examined with our summative assessments.

18. _____ We formally evaluate our adherence to team norms and the effectiveness of our team at least twice each year.

Close the True Gap

21st Century Standards

Goal #2 = True Gap

Focus Gap

Majority Group

Sub-Groups

Guiding Principles for School Mathematics

Full statements of the Guiding Principles follow; *Principles to Actions* elaborates the unique importance of each, as summarized briefly below each statement. The first Guiding Principle, Teaching and Learning, has primacy among the Guiding Principles, with the others serving as the Essential Elements that support it.

Teaching and Learning.

An excellent mathematics program requires effective teaching that engages students in meaningful learning through individual and collaborative experiences that promote their ability to make sense of mathematical ideas and reason mathematically.

Access and Equity

An excellent mathematics program requires that all students have access to a high-quality mathematics curriculum, effective teaching and learning, high expectations, and the support and resources needed to maximize their learning potential.

Curriculum

An excellent mathematics program includes a curriculum that develops important mathematics along coherent learning progressions and develops connections among areas of mathematical study and between mathematics and the real world.

Tools and Technology

An excellent mathematics program integrates the use of mathematical tools and technology as essential resources to help students learn and make sense of mathematical ideas, reason mathematically, and communicate their mathematical thinking.

Assessment

An excellent mathematics program ensures that assessment is an integral part of instruction, provides evidence of proficiency with important mathematics content and practices, includes a variety of strategies and data sources, and informs feedback to students, instructional decisions, and program improvement.

Professionalism

In an excellent mathematics program, educators hold themselves and their colleagues accountable for the mathematical success of every student and for personal and collective professional growth toward effective teaching and learning of mathematics.

Effective Mathematics Teaching Practices
Establish mathematics goals to focus learning. *Effective teaching of mathematics establishes clear goals for the mathematics that students are learning, situates goals within learning progressions, and uses the goals to guide instructional decisions.*
Implement tasks that promote reasoning and problem solving. *Effective teaching of mathematics engages students in solving and discussing tasks that promote mathematical reasoning and problem solving and allow multiple entry points and varied solution strategies.*
Use and connect mathematical representations. *Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving.*
Facilitate meaningful mathematical discourse. *Effective teaching of mathematics facilitates discourse among students to build shared understanding of mathematical ideas by analyzing and comparing student approaches and arguments.*
Pose purposeful questions. *Effective teaching of mathematics uses purposeful questions to assess and advance students' reasoning and sense making about important mathematical ideas and relationships.*
Build procedural fluency from conceptual understanding. *Effective teaching of mathematics builds fluency with procedures on a foundation of conceptual understanding so that students, over time, become skillful in using procedures flexibly as they solve contextual and mathematical problems.*
Support productive struggle in learning mathematics. *Effective teaching of mathematics consistently provides students, individually and collectively, with opportunities and supports to engage in productive struggle as they grapple with mathematical ideas and relationships.*
Elicit and use evidence of student thinking. *Effective teaching of mathematics uses evidence of student thinking to assess progress toward mathematical understanding and to adjust instruction continually in ways that support and extend learning.*

Teaching Students to

THINK, COMMUNICATE, COLLABORATE & CREATE through Effective Teaching Principles

4 Claims:

Concepts & Procedures, Problem Solving, Communicate Reasoning, Modeling & Data Analysis

Math Goals

(Dual Targets)

Content Target:

Practice Target

COMMON CORE STATE STANDARDS INITIATIVE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Representations

(Multiple Representations)

Meaningful Discourse

(Feedback)

Purposeful Questioning

(Dig Deeper & Reach Higher)

Procedural from Conceptual

(Progression)

Tasks & Access

(Engagement & Low Floor/High Ceiling)

Productive Struggle

(Monitor & Adjust)

Evidence of Student Thinking

(Collect & Reflect)

Rigor: Fluency, Deep Understanding, Application, Dual Intensity

Unit 6: Quadratics
(Mar 5 - May 4 , 7 weeks)

Big Idea	The family of quadratic functions has equations of the form $y = ax^2 + bx + c$, which can be solved by many methods, and graphs as parabolas.

Essential Questions	Classroom Activities/ Tasks	Prerequisite Skills
1. How do you use different forms of a quadratic function (standard, factored, vertex/completing the square) to graph the function and identify key features? 2. How do you solve a quadratic equation using the most efficient method? (inspection, square roots, factoring, completing the square, and quadratic formula) 3. What are the key features of parabolas in context?	● Pearson PT9: Area of a Sign ● Mission to Mars Assessment ● CIA Unit 6:	● Determine Linearity ● Rules of Exponents ● Rational Exponents ● Translation of Graphs ● Evaluating Expressions

Unit Topics / Concepts	Content Standards	Resources
Graphing Quadratic Functions ● Characteristics of a Parabola ● From Standard Form g(x) = $ax^2 + bx + c$ ● Vertex, x-intercepts, zeros, roots, maxima, minima, axis of symmetry, (parabola) ● Find Vertex ● Use Table ● From Factored Form ● From Vertex Form g(x) = $a(x - h)^2 + k$ ● Interpret Various Forms; Quadratic Functions ● Transforming between forms. ● Create a Quadratic given a table of values. **Solving Quadratic Functions** ● Solve by Factoring	*** F.IF.7.** Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases. a. Graph quadratic functions and show intercepts, maxima, and minima. **F.IF.4.** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior. (COMPARE TO LINEAR; EXPONENTIAL;) ***F.IF.8.** Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function a. Use the process of factoring and completing the square in a quadratic	CA Framework: Algebra 1 Critical Areas Algebra 1 Pearson Textbook Pearson Realize Login Chapter 9 Get Ready Ch 9 9-1 to 9-6 Concept Byte 9-2 Math Modeling: The Long Shot Teacher Info Student Handout Chapter Test 9 Lessons & Tasks ➢ Clothesline ➢ 4-Digit Problem ➢ Number Tricks ➢ Farmers Fence ➢ Hotties: Quadratics ➢ Home Run ➢ Math in Careers 6 Divers ➢ Mission to Mars ➢ Review Solving Quadratics by Graphing

● Solve by Square Roots ● Completing the Square ● Solve by Quadratic Formula	function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. *** A.SSE.3.** Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. a. Factor a quadratic expression to reveal the zeros of the function it defines. b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. *** A.REI.4.** Solve quadratic equations in one variable. a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form. b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. ***A.SSE.2.** Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 – y^4$ as $(x^2)^2 – (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2–y^2)(x^2+y^2)$. **A-APR.3.** Understand the relationship between zeros and factors of polynomials. a. Identify zeros of polynomials when suitable factorizations are available. (cubic and quadratics that have linear factors) *** ACED.1.** Create equations and inequalities in one variable and use them to solve problems. Include equations arising from quadratic functions.	Desmos Marble Madness Dan Meyer Hit the Hoop?

***Reaching & Teaching "Those Kids"* with Chris Shore**

Resources

Online Boot Camp Numeracy Activities

The Math Projects Journal. Chris Shore, mathprojects.com
Clothesline Math. Chris Shore, clotheslinemath.com
Number Tricks. Chris Shore, numbertricks.net
Estimation 180, Andrew Stadel, estimation180.com
Pure Number, purenumbers.tumblr.com
Todos, todos-math.org
Would You Rather, John Stevens, wyrmath.wordpress.com

Online Tasks

The Math Projects Journal. Chris Shore, mathprojects.com
101 Questions, Dan Meyer, 101qs.com
Glenrock Publishing, Robert Kaplinsky, robertkaplinsky.com
Graphing Stories, Dan Meyer & Buzz Math, graphingstories.com
Graph of the Week, Kelly Turner, turnersgraphoftheweek.webs.com
Illuminations, NCTM, illuminations.nctm.org
Illustrative Math, www.illustrativemathematics.org/
Mathalicious, Karim Kai Ani, mathalicious.com
Teacher to Teacher Press, Brad Fulton, www.tttpress.com
Visual Patterns, Fawn Nguyen, visualpatterns.org
Yummy Math, Brian Marks, yummymath.com

21st Century Classroom Resources

Achieve the Core, http://achievethecore.org/
Agile Mind, ccsstoolbox.agilemind.com/resources_samples.html
Common Core State Standards Initiative, www.corestandards.org/
Engage NY, engageNY.org
Ed Leader 21, www.edleader21.com
The Math Forum, mathforum.org
The Mathematics Vision Project, mathematicsvisionproject.org/
PARCC, www.parcconline.org/parcc-assessment
Smarter Balance (SBAC), sampleitems.smarterbalanced.org

Tasks should be the HUB of PD

Catalyzing Change in High School Mathematics:
Initiating Critical Conversations

Executive Summary

The need for *Catalyzing Change* is clear: The steady improvement in mathematics learning seen since 1990 at the elementary and middle school levels has not been shared at the high school level, underscoring the critical need for change in mathematics education at the high school level. The purpose of *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* is to open serious discussions among the key stakeholders in high school mathematics education to engage in resolving the vexing barriers that have long impeded meaningful and necessary change in high school mathematics education.

Background

The last three decades have seen significant progress in the teaching and learning of mathematics in the United States. The standards-based reform era began in 1989 when the National Council of Teachers of Mathematics (NCTM) published *Curriculum and Evaluation Standards for School Mathematics*, which introduced standards promoting rigorous mathematics content and the development of important mathematical processes and practices. NCTM soon followed this publication with closely related ones that outlined the teaching and assessment practices needed to support those standards (NCTM 1991, 1995). Subsequent iterations of Standards publications, including *Principles and Standards for School Mathematics* (NCTM 2000), *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics* (NCTM 2006), and *Focus in High School Mathematics: Reasoning and Sense Making* (NCTM 2009), continued to promote this focus on content and practices, and the Common Core State Standards for Mathematics (National Governors Association Center for Best Practices and Council of Chief State School Officers [NGA Center and CCSSO] 2010) later built on them.

Rigorous standards, along with increased knowledge and implementation of research-informed instructional practices summarized in *Principles to Actions: Ensuring Mathematical Success for All* (NCTM 2014) have contributed to a positive long-term trend since 1990 in mathematics learning at both the elementary and the middle school levels, as measured by the National Assessment of Educational Progress (NAEP; National Center for Education Statistics [NCES] 2015).

Despite an increase in the percentage of high school students enrolling in upper-level mathematics courses over the last three decades (Dossey, McCrone, and Halvorsen 2016), high school NAEP scores have remained essentially flat for the past decade (NCES 2016), and fewer than 50 percent of U.S. high school graduates in 2016 were considered ready for college-level mathematics work, as measured by their ACT mathematics scores (ACT 2016). Even more disturbing, the Programme for International Student Assessment (PISA) showed that U.S. high school students trailed their international peers, on average, in mathematical literacy, defined as the "capacity to formulate, employ, and interpret mathematics in a variety of contexts … to describe, explain, and

predict phenomena (Organisation for Economic Co-operation and Development [OECD] 2016, p. 28). In addition, evidence indicates that U.S. young adults lack not only the quantitative and problem-solving skills necessary for success in the workplace and postsecondary education but also the numeracy and problem-solving skills necessary for "meaningful participation in our democratic institutions" (Goodman, Sands, and Coley 2015, p. 5).

Most critically, a significant percentage of high school students do not have access to the mathematics that they need either for their personal or for their professional adult lives. This issue of inequity in mathematics education—seemingly intractable over many years—makes it essential to initiate a serious discussion among a variety of stakeholders to achieve the critical mass necessary to catalyze change in high school mathematics. All students must have the opportunity to obtain an education in mathematics that will serve them well, regardless of their interests and ambitions.

Mathematics education at the high school level is part of a complex system of policies, traditions, and societal expectations. This system and its structures—school and district policies, practices, and conditions that either support or impede student learning of mathematics—are what need to be critically examined and improved. Therefore, improvements to high school mathematics will necessitate the engagement of all stakeholders to reexamine longstanding beliefs, practices, and policies that are impeding progress. *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* is a call to action to all individuals with a stake in high school mathematics, inviting and urging them to embrace and participate in the serious conversations that must take place to bring about and give support to necessary changes in high school mathematics. These individuals include school, district, and state administrators; instructional leaders and coaches; classroom teachers; counselors and curriculum and assessment developers; high education administration and faculty; and policymakers at all levels.

Key Recommendations

Catalyzing Change identifies and addresses critical challenges in high school mathematics to ensure that each and every student has the mathematical experiences necessary for his or her future personal and professional success. To address these critical challenges, *Catalyzing Change* makes four key recommendations and presents the Essential Concepts for high school mathematics to identify the mathematics needed be each and every student.

Key Recommendation: Each and every student should learn the Essential Concepts in order to expand professional opportunities, understand and critique the world, and experience the joy, wonder, and beauty of mathematics.

Much of the discourse surrounding mathematics education and standards has centered on students' preparation in mathematics and statistics for postsecondary education or a career. Although these goals are clearly important and will remain so, *Catalyzing Change* underscores the fact that other purposes of mathematics education are also important. Students should leave high school with the quantitative literacy and critical thinking processes needed to make wise decisions in their personal lives. Students should be able to determine whether or not claims made in scientific, economic, social, or political arenas are valid. Students should have an appreciation for the beauty and usefulness of mathematics and statistics. And students should see themselves as capable lifelong learners and confident doers of mathematics and statistics. Never have the broader aims of mathematics education been more important than they are today, when mathematics underlies much of the fabric of society, from polling and data mining in politics, to algorithms targeting advertisements to groups of people on social media, to complex mathematical models of financial instruments and policies that affect the lives of millions of people.

To support these purposes for learning mathematics, *Catalyzing Change* offers forty-one Essential Concepts in the domains of number, algebra and functions, statistics and probability, and geometry and measurement that each and every student should learn. As shown in figure 1, the Essential Concepts are organized into areas of focus within the domains, except in the domain of number, since at the high school level, concepts in number are typically woven into content and instruction in the other domains.

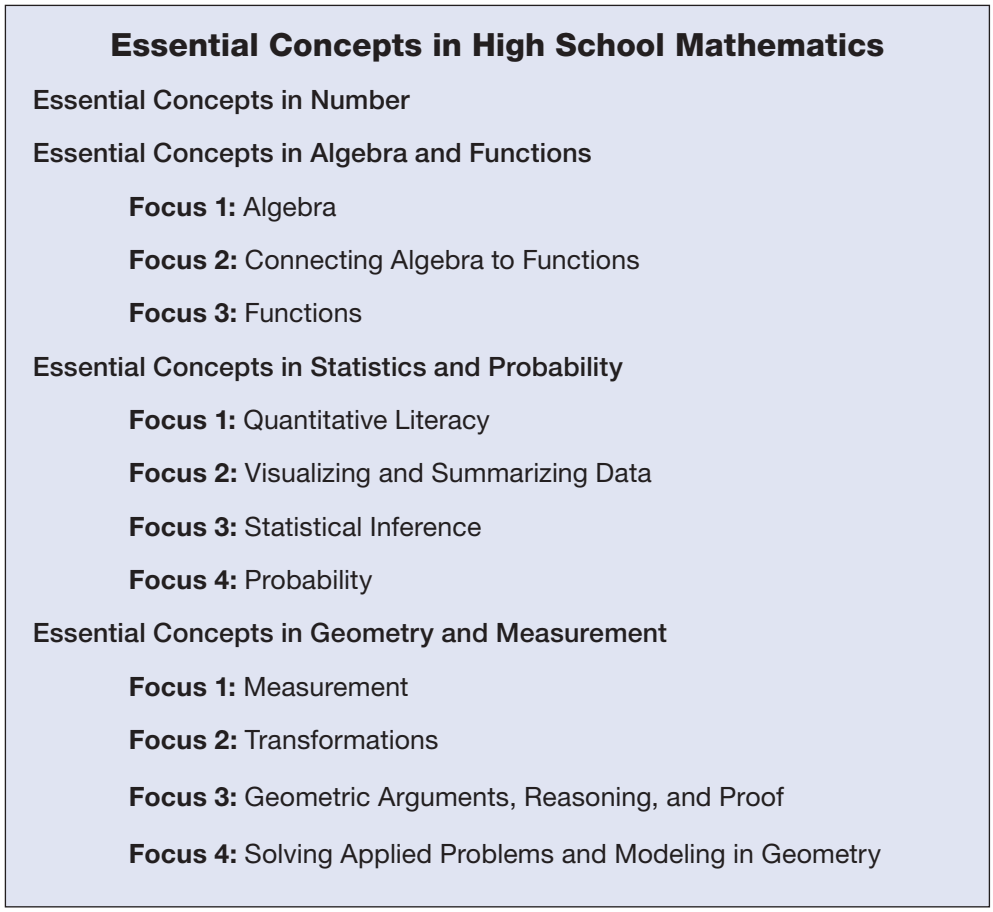


Fig. 1. Areas of focus in the Essential Concepts within the domains of high school mathematics

The Essential Concepts do not represent yet another set of standards or a list of disconnected topics to be covered. The Essential Concepts represent a distillation of the critical concepts and skills that, regardless of a state's, province's, or district's standards, students should acquire, retain, and be able to use long after high school. In outlining this critical content, *Catalyzing Change* highlights the roles of technology, reasoning and proof, and modeling, as well as the connections among the content areas. The Essential Concepts specifically address the widespread concern that high school mathematics standards lack the focus of the K–8 mathematics standards—a shortcoming that increases the difficulty that teachers have in supporting students in developing a deep foundational understanding of mathematics.

Key Recommendation: High school mathematics should discontinue the practice of tracking teachers as well as the practice of tracking students into qualitatively different or dead-end course pathways.

Current reform efforts that focus largely on standards, with some attention to improved instructional practice, are unlikely to address and alleviate equity concerns unless they also address and dismantle the conditions and system structures that stand as barriers to the creation of positive mathematical experiences for students. *Catalyzing Change* outlines three structural barriers to achieving equitable learning outcomes within educators' influence: tracking students into course pathways that do not prepare students for the continued study of mathematics; tracking teachers in ways that deny certain students access to high-quality instruction; and providing inadequate instructional supports before and during high school.

Catalyzing Change is clear that tracking students and tracking teachers are both unjust practices. Student tracking is insidious because it places some students into qualitatively different or lower levels of a mathematics course and, in some cases, puts students into terminal mathematics pathways that are not mathematically meaningful and do not prepare them for any continued study of fundamental mathematics or effective participation in democratic society. *Catalyzing Change* draws a distinction between tracking and acceleration, arguing that acceleration of students through shared content may be appropriate if a student has demonstrated deep understanding of grade-level or course-based mathematics standards beyond his or her current level. Furthermore, *Catalyzing Change* defines what constitutes demanding mathematics courses that should count toward high school graduation credits in mathematics.

Like mathematics students, mathematics teachers themselves are often tracked, with the most experienced teachers, or those who are perceived to be most effective, assigned to upper-level mathematics courses and the least experienced assigned to entry-level mathematics courses. *Catalyzing Change* recommends that, whenever possible, high school mathematics teachers in the same department have teaching assignments that are balanced to include both upper-level and entry-level mathematics courses. By balancing teacher assignments, teachers' knowledge of the overall curriculum is deepened, burnout among new teachers is reduced, and collaborative teams can be established with experienced teachers, thereby improving the overall learning experiences of students.

Rigorous standards, coupled with research-informed effective teaching practices, can help ensure that students who enter high school have the mathematics foundation necessary to succeed in the Essential Concepts. However, it would be naïve to assume that every student who enters high school has had the mathematical experiences necessary for immediate success. Therefore, *Catalyzing Change* outlines effective support structures that need to be in place, both in middle school and in high school, to help ensure that all students can successfully acquire the Essential Concepts as well as mathematics beyond the Essential Concepts.

Key Recommendation: Classroom instruction should be consistent with research-informed and equitable teaching practices.

Providing students with more rigorous instruction requires improvements in teaching practices. Because mathematics teaching involves not only supporting students to learn concepts and develop skills and understanding but also empowering students to see themselves as capable of participating in and being doers of mathematics, improvements in teaching practices must address not only ways to make mathematics more accessible to students but also ways to support students in seeing themselves as knowers and doers of mathematics.

Therefore, improvements in teaching practices must consider mathematical identity and agency as essential constructs for raising the mathematical achievement and strengthening the mathematical disposition of each and every student. The ways in which students experience mathematics have a significant impact on the ways in which they identify themselves as doers of mathematics. By implementing research-informed and equitable instructional practices, teachers can significantly improve the experiences and learning outcomes of students. To support teachers in these improvement efforts, *Catalyzing Change* uses the eight Mathematics Teaching Practices articulated in *Principles to Actions* (NCTM 2014) as a framework for making connections between high-leverage teaching practices and the development of mathematical identity, agency, and competence.

Key Recommendation: High schools should offer continuous four-year mathematics pathways with all students studying mathematics each year, including two to three years of mathematics in a common shared pathway focusing on the Essential Concepts, to ensure the highest-quality mathematics education for all students.

To maximize students' opportunities after high school and prepare them to actively engage in democratic society, *Catalyzing Change* recommends that high schools require students to enroll in mathematically demanding (non-terminal) mathematics courses every year in high school, completing four years of high school mathematics, including a mathematics course during their last year of high school. The expectation in *Catalyzing Change* is that a single curricular model would deliver the common pathway to all students in a single school setting, to ensure each and every student's access to a high-quality mathematics education while avoiding the creation of separate and unequal tracks. *Catalyzing Change* envisions that the set of Essential Concepts in a common shared pathway will provide the equitable educational experience that each and every student deserves in mathematics. *Catalyzing Change* further stresses the importance of ensuring that students' mathematics coursework beyond the Essential Concepts be determined by each student's own needs, goals, interests, and aspirations, rather than by any difference in mathematical ability perceived by anyone else.

Next Steps

Catalyzing Change in High School Mathematics: Initiating Critical Conversations is designed to open serious conversations and sustained efforts on multiple levels to engage all stakeholders in the system of high school mathematics education in the work of improving learning experiences and outcomes for each and every high school student. *Catalyzing Change* offers a number of specific recommendations that can be used to begin these critical conversations and a number of initial actions that teachers, schools, and districts; policymakers; and postsecondary educators can undertake.

Catalyzing Change is offered as the beginning of a long-term process. Progress toward the vision that it sets out will require sustained effort by the Council and numerous other groups over many years. NCTM will continue to support this collaborative effort through professional learning opportunities and additional publications that will provide tools and additional resources to deepen understanding of, and begin taking action on, the recommendations put forward in this publication. This work is critical for all of us to undertake, but it will not be easy, since the challenges are real and longstanding. Making a difference will require collaboration, communication, and work across diverse groups and communities. The need for change and improvement is urgent. We owe this effort not only to our students but also to ourselves as we work together to create and nurture the society we wish to inhabit.

Math Team TVUSD

8-Year Plan (2013-21)

Our Noble Cause

21st Century Skills

Think & Communicate

Claims-Based Grading

Technology

PLC Focus =

What do we do when they know it?

Mile Marker

Principles to Action
Lesson Study (SMP)
Learning Walks (ECI)

No Option Engagement

PLC Focus =

What do we do when they don't know it?

Mile Marker
CASSP

Principles to Action
1st Instruction Training
(Progression:
Conceptual > Procedural > Practice
thru Tasks)

Boot Camp Intervention
(Tier 2)

Data Analysis/External Measures
(MDTP)

Revisit Pathways/Placement

PLC Focus =

How do we know if they learned it?

Mile Marker
+2% Final Exam
+1% EAP
CASSP

Curriculum Support
UPO's/Pacing Guides/CIA's
Resources
Release Days (District & Site Strands)
After School Content Training

Boot Camp Intervention
(Tier 1)

Rubric Grading/ Calibrate Grades

PLC Focus =

What do we want them to learn?

Mile Marker
+2% Final Exam
+1% EAP
CASSP

Infrastructure
Dual Web Site: Blog & Haiku
Organic Curriculum

MATH COACHES /*TEACHERS* / STUDENTS

Creating a Plan for Student Success
Chris Shore with Murrieta Valley USD

How will you develop and communicate the Vision?

How will you develop and implement your PLC/Data protocols?

How will you frame the dialogue around the 8 Effective Teaching Practices?

How will you assist in developing your district's Scope and Sequence?

How will you make your Math Pathways more equitable?