Dear California State Board of Education,

I am writing to ask you to REJECT the Mathematics Framework Revised Draft (CMF) proposed for the July 12-13, 2023 meeting. California students have declined in math proficiency as measured by the CAASPP, down to 33.38% proficient or advanced in 2021-22 (down from about 40% proficient or advanced in 2018-19) (CMF Chp. 2, line 46). On the National Assessment (NAEP), California students have also declined, with only 30% of 4th graders proficient or above in 2022 (down from 34% in 2019) (link) and only 23% of grade 8 students proficient or advanced in 2022 (down from 29% in 2019) (link). So what are California's plans to remedy this massive problem? While there should be a focus on proven interventions such as tutoring and intervention courses, this proposed CMF is more concerned with students feeling positive about math than they are about students learning math.

A simple search of language used in the CMF reveals the primary focus of this math framework is NOT on learning math content standards, but rather on helping kids feel good about math. The word "identity" (in reference to building up students' math identities to feel positive about the subject) appears 25 times. The word "belonging" (in that students feel a sense of belonging to the math community) appears 18 times. Contrast that with how many times helping students achieve math "proficiency" is mentioned- ONLY 11 TIMES! No reasonable adult is against students feeling good about math, but that feeling comes as a consequence of reaching proficiency and mastering math content, not as the primary goal of a math teacher. Following are specific examples of the over-emphasis on students feeling good at math at the expense of increasing math content proficiency.

- "This framework offers ideas for teaching in ways that create space for students with a wide range of social identities to access mathematical ideas and **feel a sense of belonging to the mathematics community."** (Ch. 2, Line 192)

- "Both mathematics educators and mathematics education researchers argue that teaching toward social justice can play an important role in shifting students' perspectives on mathematics as well as **their sense of belonging as mathematics thinkers."** (Ch. 2, Line 462)

- "This concept is about **building positive mathematical identities**, beginning at the pre-kindergarten level." (Ch 2, Line 467)

- "Teaching in culturally responsive ways that acknowledge and draw on students' backgrounds, histories, and funds of knowledge **enable students to feel a sense of belonging." (**Ch 2, Line 499)

- "Teachers can create opportunities for themselves and their students to share autobiographies as mathematics doers and learners, thereby creating spaces for students to participate as authors of their mathematical learning experiences." (Ch 2, Line 514)

- "They **strengthen their identities as members of the mathematics community."** (Ch 2, Line 792)

- "A classroom that welcomes students' unfinished thinking normalizes mathematical struggle as part of learning and **positions all learners as belonging to the discipline of mathematics."** (Ch 2, Line 871)

- "The aim is to have students come to view mathematics as a subject that is about sense making and reasoning, to which **they can contribute and belong."** (Ch 2, Line 988)

- "Data investigation can support teachers as they seek to **create climates of belonging for students**, inviting them to investigate real data that is likely relevant to their lives." (Ch 5, Line 123)

- **"Educators can offer social and emotional support to students** by designing engaging lessons that allow students to connect in meaningful ways with content." (Ch 5, Line 1400)

- "Important principles underlying the teaching of data science that will offer the greatest chance for social, emotional, and academic development include the following:
    - ***Convey Mindset and Belonging Messages."*** *(Ch 5, Line 1409)*

- "This framework is intended to help teachers ensure that the **math experiences of all their students are positive** "(Ch 7 Line 68)

- "The idea is for teachers to help students experience the "wonder, joy, and beauty of math" (National Council of Teachers of Mathematics) and help students **develop and sustain a positive identity as capable mathematics learners**." (Ch 7, Line 72)

- "When students are engaged in meaningful, investigative experiences, they can come to view mathematics, and **their own relationship to mathematics, far more positively."** (Ch 2 line 164)

All stakeholders would want students to view their relationship to math positively, but that can NOT be the primary goal of math instruction. As a state, for the sake of our future, we MUST focus on increasing math proficiency, even if that means students sometimes feel like they are not good at math. The CMF advises teachers, "During groupwork, the teacher looks for opportunities to elevate students by highlighting their abilities and contributions to the group, which is referred to as "assigning competence". (Ch 12, line 244) What California needs is not "assigned competence" but "actual competence" which is often achieved by hard work and sometimes failing so that one works harder to learn and succeed. The CMF further explains, "When teachers perceive that a student has become "low status" in a group, they intervene by publicly praising a mathematical contribution the student has made." (Ch 12, Line 248). If a pilot nearly causes a plane to crash, is the boss going to point out that he had a nice takeoff? Status

is often achieved because it has been earned and ideas are valued and respected, not because someone intervenes to praise something that person did in the past. The CMF continues in this vein, writing "but grouping by perceived "ability" can be the first step in a system of tracking if "similar ability" students are grouped together (see chapter nine) or **can unintentionally communicate beliefs about who is capable**—as when groups are intentionally stratified according to perceived "ability" so that students soon understand who is the "high kid" and who is the "low kid" in the group. Aside from language development considerations and any safety concerns, randomizing group assignments can convey to each student that everyone has something to offer the group's learning and something to learn from the thoughts of others." (Ch 4, Line 512). Students know who the "high kids" are in math regardless if the teacher puts them in a special group. The CMF is so concerned about students feeling good about themselves, the authors are willing to sacrifice allowing our most advanced learners' acceleration needed to become the STEM professionals that power our world. Of course putting more advanced math students in a group communicates who is most capable at that point; over 70% of California students are below proficient; everyone knows that! Let's not hide that and pretend all students are on equal footing; rather, let's put struggling students into groups and provide extra support so they CAN become proficient.

In addition to an overemphasis on feeling good about math in the place of achieving proficiency in math, the CMF puts self-esteem and not feeling anxious as other primary goals. The CMF claims (without any supporting evidence) "Students also self-select out when mathematics is experienced as the memorization of meaningless formulas—perhaps because they see no relevance for their learning and no longer recognize the inherent value or purpose in learning mathematics." (Ch 1, Line 248). Isn't it possible that some self-select out of math when it gets too hard, just like nearly everything else in life students self-select out of (even if it's fun and engaging), such as little league, boy scouts, dance, music, etc. The authors also write, "Other research examines beliefs and attitudes such as utility value (belief that mathematics is relevant to personal goals and to societal problems), and this research shows a severe drop off in utility value during high school." (Ch 8 Line 612). Of course many things we ask students to learn in high school have a drop off in utility; what happened to the attitude of there just being some things you need to learn and perhaps you'll see relevance or apply them later in life; e.g. many students don't care about credit or loans when they 15 years old, but if they learn the math behind finance, they will be very thankful of its utility later in life. The state of California has set our content STANDARDS in math. That is what students MUST learn, whether or not they see "utility" in it. The same is true in reading, writing, and all academic courses required for graduation. The CMF needs to focus on students mastering math content standards!!! The CMF is so concerned with how students feel, the authors have forgotten the primary goal of math education- to learn math!

In addition to the focus on math teachers needing to build student self-esteem, the CMF proposes that exams be changed to help with student feelings. Chapter 12 Line 854 reads, "Summative assessments have the potential to be anxiety-inducing for students, so some best practices should be implemented to minimize damaging effects." Most every challenging thing in life is anxiety inducing, so what is the CMF preparing students for? A world where they are

not competent (proficient) and yet everyone praises them for anything they say or do at all so they feel good about themselves?

California is in a dire situation in terms of student math proficiency, especially with socioeconomically disadvantaged students. Students are in need of rigorous and proven methods that focus on students' math proficiency levels; rather than guide educators and stakeholders towards this end, the CMF is more concerned with how students feel about math, helping them "belong" to the math community (whatever that means), and helping them develop a "positive math identity". Your job as an SBE is clear: REJECT this framework and go back to the 2013 CA Math Framework which focuses on math content standards, learning, teaching and assessment as its primary focus.