Elementary Math Discussion Forum Minutes
January 23, 2018
6:30 p.m.-8:00 p.m.
Governing Board Room

The elementary math forum opened with a round of introductions of all participants and a welcoming message from Superintendent Sinnette.

The Superintendent reviewed her current goal on math instruction and highlighted some of the major changes that came in the past years relating to instruction. She discussed the state's adoption of common core standards which the district is obligated to teach and recently adopted math textbooks which were not supported by a group of parents yet overwhelmingly supported by teachers. She also delivered commendations to the teachers for their work in learning both new standards and delivering quality instruction with the new textbooks, and offered a renewed commitment to parents to listen and address concerns. She reviewed the constraints of public education and spoke about the possibility of creative solutions for a group of parents' math concerns.

The Superintendent used the design thinking model to engage the group in defining the issue surrounding the math needs. The participants learned about the design thinking model and the structure of the interactive meeting. In small groups participants brainstormed on strengths and areas of growth regarding LCUSD's current elementary math experiences.

Areas of strength included students being motivated and/engaged, teachers working on supporting students' needs, small class sizes, after school offerings, students learning from each other as they work in collaborative groups, strong conceptual understanding of math, and parental support. Individual responses from post it notes are listed below:

- Teachers are doing a good job learning how to best use EDM
- Teachers are able to communicate with families about students' needs.
- Fun & engaging lessons designed by teachers (math museum in Hopkins)
- Teachers that put in a lot of effort
- Teachers are doing an admirable job. Teachers are adding to the curriculum.
- Team collaboration between teachers
- Teachers
- Math instruction is something teachers collaborate on often.
- Teachers
- Teacher training opportunities
- Student attitude and actions

- Kids mastering concepts better
- Students enjoying math
- The team teaching model allows teachers to specialize (upper grades)
- Teachers care about the kids!
- Allowing kids to test out of a unit and do more advanced math during math time (Redbird)
- Students achieve grade-level standards by the end of the year.
- Meeting State Standards
- Parents
- Increase in student test scores with Everyday Math curriculum
- District performs well
- Online resources provide differentiation for students. It can provide practice in isolated skills.
- Motivated kids
- Quality Teachers
- Many teachers who go extra mile
- Teachers willing to work with parents
- Online references/teacher videos
- Videos created by the DO
- Math facts, math videos
- LCUSD tutorial videos
- Online tools for parents
- Teachers are teaching more about real life applications of math
- Kids who are struggling are ID'ed and helped
- Students
- Kids become mathematicians rather than "arithmeticians"
- Math is a big deal with lots of kids who care and are interested in math
- Kids are more engaged and enjoying math.
- Keeping kids engaged
- Motivated students
- Deep understanding of concepts, students able to justify their understanding.
- Supportive parents
- Engaged community
- Parent involvement is strong
- Families provide extra resources outside of school
- Students come in with substantial knowledge and skills - they are ready to learn
- Social acceptance for diverse learners
- Special Ed dept works closely with teachers and the curriculum
- Class sizes

- Availability of PC programs for extra learning
- Good teachers; good average test scores; picking up concepts faster; retention ok; has helped kids who were previously doing poorly
- Justification & critical thinking re: multiple strategies
- Multiple strategies to solve problems is great
- Multiple strategies
- Learn by doing
- Learning different methods of math strategies
- The stated intention of maintaining "drilling" in proper proportion
- Kids understand what they are doing not just doing the algorithm
- Math instruction now asks the kids to show/explain their knowledge
- Learning multiple strategies to solve a problem - not just one way to solve a problem
- After-school activities
- Mathzilla - awesome!
- After-school opportunities
- Mathzilla event for building enthusiasm
- Hands on learning (Math centers)
- Good Math Olympiad program
- Opportunity to make it fun: Math Olympiad, Mathzilla
- Math Olympiad allows students passionate about math to spend time with like-minded students
- Love the quick homework assignments that allow me to stay connected to classroom learning
- Dialogue process in approaching problems. Kids explaining their thought process.
- Math projects in 6th grade at LCE (sizing up models)
- Explain mathematical concepts
- Teachers provide enrichment for students. Both assigning it to students and when students ask for it.
- Students know math facts in 6th grade, which allows them to do beyond grade level work when ready.
- Reteaching makes a difference for one-on-one and/or small groups
- EDM has the ability to reach all students
- EDM is great for the kids
- Spiraling approach to teaching math
- Math in Focus Enrichment book helps to extend for those who "already get it"
- Teaching strategies/outcomes
- Good "hands on" learning
- The stated intention of encouraging development of student independence

- Students are learning to verbalize their strategies and use vocabulary that weren't taught until middle school in the past.
- Timed tests (element of challenge)
- My son is being challenged to look around to see math in his life. This is leading to a deeper understanding.
- Homework is quick.
- Math is being taught in a cycle which gives my child time to process complex concepts
- Representative questions - limit homework; Math Olympiad
- Child thinks it is super easy
- 6th Grade Math in Focus has great options for home: re-learn, extra practice
- Red Bird (for enhancement)
- Redbird, ESGI & Khan Academy are good resources - depends on what kids gravitate to.
- Opportunities for acceleration at the middle school.
- Small class sizes support the learning (TK-3)
- Class sizes
- Students: lots of potential; good overall teacher-student relationships; class size
- Class sizes are a good advantage for math instruction
- Small class size (20 for 3rd grade)
- Small group setting at tables
- Small class sizes
- Parent engagement & methods
- High performing students; small classroom sizes; enough community resources (human, intellectual and financial)

Areas of growth included differentiation, using parents as resources, misalignment of curriculum between 5th and 6th grade, pacing concerns, ways to reach students who are ahead, supporting students who are struggling. Individual responses from post it notes are listed below:

- Parents need help finding resources on class link
- Urge the school district to add some flexibility to allow different level of students to advance at different pace and allow acceleration
- Allow teachers to teach multiple methods "go off script" to teach students
- Fear of students not understanding content causes stress (opposite from Challenge Success message)
- Short notice for projects which require substantial fabrication of time
- Middle school grades have to spend time on basic facts if students don't have it. It compromises how much can be taught to prepare for college.
- Students must master math facts to do well
- EDM doesn't focus on math fact mastery

- Curricula are only whole-class lessons. Want a way to do different lessons for different students.
- Transition from Everyday Math to Math in Focus is too difficult for many students
- Asking students to "explain" things which are are too simple to merit explanation
- EDM/Math in Focus
- Novel, "Inside Baseball" math terminology e.g., "Number sentence"
- Most kids should not need tutors - your middle 80% should be able to master materials
- Groupings
- Parents see problems, not successes
- Need an intervention strategy for students who struggle in math like we do for reading
- Using parents as a resource to assist with enrichment programs for advanced students
- Math in Focus textbook is lacking - not clear
- Overemphasis on manipulatives
- Differential structure. Time, material & training to differentiate and accelerate.
- Time constraints for teaching math
- Time in the day and enough days in the month!
- Three levels of math for my son - too much/word problems
- Enrichment opportunities
- Need more frequent indicators of progress (one conference after report card is not enough!)
- I wish the district was more focused on research with truly gifted kids. Acceleration is supported by research.
- District doing great in certain demographics
- Redbird program isolates students from peers
- Teachers utilize Redbird in a variety of ways - in and out of class.
- Redbird doesn't work for everyone. It forces students to work through a path rather than allow students to go where they want and/or need to go.
- Self starters will initiate enrichment but some don't and "cruise"; not accessing resources without accountability of grades.
- Supplemental programs should not be the main way students learn. It's not a substitute for real teaching.
- Students in grades 5-8 were hardest hit by the shift to CCSS; some content was lost.
- Practice is not "drill & kill". Attitude about math in district is not positive regarding math practice.
- LCF students may not perform well in certain entrance exams.
- No program for struggling students during school hours like reading intervention
- Not good enough at catching and correcting learning gaps (struggling)
- Lack of true differentiation
- Might be overthinking how to teach this

- Math textbook adoption process did not get parent and student input
- How about some free tutoring offered by the district after school
- 4-6 class size too large
- Timed math fact tests - if it is so important, why add this pressure
- Lack of consistency in curriculum - can't start in 6th grade with Math in Focus
- Not equal performance among all demographics
- We need to make sure kids don't fall behind, it's too difficult to catch up.
- Need to have a track that starts in 5th or 6th grade to get students ahead one year
- No timed arithmetic tests
- Not enough practice
- Not enough homework and practice
- Teaching factors earlier
- Add a connection to where facts come from
- Lack of ability grouping
- High rates of tutoring indicates -0- being challenged; Guidelines for differentiation; groupings; why was Math Olympiad cancelled? (great opportunity); leveraging parent expertise; supportive of parent programs
- Want acceleration; not differentiation
- Timed math tests do <u>not</u> align with Common Core Standards
- Spend more time on <u>new</u> concepts sufficient enough to retain the skills!!
- Children need to be drilled more on math facts!
- Math concepts need to be taught in order! There shouldn't be word problems on half life or compound interest until you've learned logarithms/haven't learned logs yet
- Students who are far ahead tune out. Need a way to teach to them at their level
- No acceleration
- Non-traditional terminology for math
- Non-traditional methods of teaching math (ex - not teaching long division)
- Lack of differentiation frustrating for teachers - impossible to teach to multiple levels
- Lack of differentiation serves no purpose - they differentiate in 7th grade anyway
- Not a culture or interest in acceleration
- We are not assessing the kids
- Some students are not being challenged; some students are not feeling engaged.
- Parity valued over excellence; challenge is not sufficient for failure-growth curve
- Not all teachers are differentiating. Ability grouping, maybe? Hard to do it all in one room.
- More time and opportunity to use the advanced resources
- Appropriate resources to help challenge students at their level
- Too much regulations of algorithms, in word, too little usage of algorithm
- Not enough challenge for advanced

- Kids bored
- State Standards Too Low
- Insufficient practice
- Differentiation; acceleration; EDM
- Differentiation for gifted students; groupings; stronger, more dedicated enrichment opportunities
- Lack of differentiation/so many skill levels in a classroom doesn't serve ANY level well
- Differentiation
- Need ways to differentiate "more games" ≠ differentiation
- Everyday Math is too easy and does not offer differentiation
- Some teachers give textbooks, some don't
- Many classes are functioning with no textbooks, when doing homework they have little or no examples or extra practice problems so we guess on what will be on tests! Practice problems need to be in abundance
- Obsession with manipulatives
- Teachers not knowing where to find extra work
- Too much gap between 5th and 6th grade math curriculum
- No textbook in K-5
- Differentiated learning; class sizes, opportunities for advanced learning in groups, more online access to textkins, homework
- Elementary students have been assigned word problems. The same difficulty as our 8th & 9th grades. They haven't been taught the sufficient tools to solve! The take-away for students is that they aren't good enough at math - when in reality it's the curriculum.
- Send more work home and don't save it for end-of-year open house, so parents can understand what is going on in class
- Teachers should not send home homework unless it has been done in class at least 3 times.
- Students need to understand concepts and the algorithms.
- Homework packets are not helpful, especially if there is content that has not been taught in class.
- Homework all seems the same - very short, and same topic over and over
- Crazy big transition at 6th grade
- Child not taking it seriously
- Online games are underwhelming - not age-appropriate, not changing year to year
- Wide variation between classes
- Need to communicate
- Mentoring from parents
- Attach stories to teaching math
- Too much being put on parents to teach especially early math facts/flash cards

- Online resources; group work: quiet points, table points etc.; Less Homework
- Too much group work
- Kids bored
- Too much regulation - if algorithms in word, too little usage of algorithm
- Pace of curriculum too slow
- Alleviation of boredom
- A big problem with the current curriculum is adding an extra year before algebra. That takes a year away from high math in high school. It will be a big problem to teach 4 years of math (Algebra I, Geometry, Algebra 2, Pre-Calculus) in 3 years. We are spending way too much time mastering arithmetic by robbing the time from higher math It will be a problem to prepare for college in STEM fields.
- 1) Despite the success of LCUSD among California Schools we should not be complacent about the deficiencies of the American education system and how innovation in education has lagged behind many other fields. See Andre Coulson's documents *School Inc.* for excellent coverage of this issue. 2) Given the high rate of outside tutoring for LCUSD students we have to wonder how much of LCUSD's student achievement is <u>in spite of</u> rather than due to the curriculum, programs and teachers. Is adequate credit given to the tutoring programs outside school and to the dedicated efforts of STEM parents that have benefited the schools? Why does the school district not partner with outside tutoring programs and the talent of STEM parents? 3) Abundant research shows that acceleration of gifted students is beneficial academically and is not detrimental socially although the education community continues to resist the implications of this research. See Assouline, S.G., Colangelo, N., VanTassel-Baska, J., & Lupkowski-Shoplik, A. (2015). A national empowered: Evidence trumps the excuses holding back America's brightest students. Iowa City, IA: Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development.
  4) Along the theme of not being complacent, we have to ask whether we are awakening and nourishing the true potential of all students at LCUSD especially in regards to STEM? Are we especially missing potential of students who do not have parents with a STEM background? Do we have surveys of LCUSD students in regards to adequacy of their STEM preparation when they reach college and do we have statistics on how many students drop STEM majors in college? 5) Does lumping all students into the same level of advancement truly benefit the majority of students? Are we doing a disservice to all students by white-washing differences, by grade inflation and by delaying challenging situations? Are we deceiving ourselves that the children are not already aware of differences in ability and achievement and motivation? Why do we accept differentiation in many other endeavors such as athletic and artistic pursuits but actively suppress these in academic pursuits? Does this white-washing contribute to the emotional and academic crisis that seems more prevalent in junior and senior high school? 6) Mathematics in

particular requires coverage of new material in order to challenge advanced students whereas in the social sciences and language arts advanced students can delve more deeply into subjects at hand. 7) The investment required for accelerating advanced students is probably less than that required to helping the less advanced students. This is because more individualization of teaching is needed to address the needs of the less advanced students. 8) There are many ways in which allowing the more advanced students to move ahead can benefit the entire student body. One way is by showing other students what is possible and normalizing a range of achievement (moving the Overton window of public discourse/awareness, developing a larger peer group of high achievers). Another way is by permitting more advanced students to tutor students in lower grades. In the Netherlands tutoring is an integral component of the educational system. 9) Accelerating more advanced students does not necessarily foster elitism and can nurture humbleness as the children are challenged with more difficult problems that require extended work to solve and begin to appreciate how much there is to learn beyond the overly circumscribed realm of success or failure defined by the standard curriculum.

After the brainstorming, highlights and themes were shared from the post it note activity. The Superintendent invited participants to share any concerns or comments they have with the whole group (listed below):

- Parents hire tutors for a variety of reasons (to support struggling students, to accelerate their math level, to help with homework, etc.)
- Lack of and consistency of differentiation for students at all levels
- Lequest for parents to not impart a competitive nature towards kids
- Call out on the challenge of differentiation for the teachers
- Students appreciating teammates' level of knowledge and supporting/taking care of each other in a heterogenous group
- Resources available for the advanced kids
- Reading intervention exists for students what about math intervention?
- Kids not able to learn from failure, we need to teach them how to survive failure, kids need to be constantly challenged to gain resilience
- Concerns with not enough homework practice
- Some parents unfamiliar with the methodology and vocabulary of Everyday Math
- Praise for teacher created video tutorials for parents and students
- Math links sent home to parents contain examples of newly learned concepts as well as vocabulary
- Call for data to evaluate the effectiveness of math experiences
- Supplemental work needs accountability, grade reflection as possibility
- Revisit acceleration if it is a best practice

- Utilize local resources (like JPL parents)
- One parent mentioning that another parent's suggestions are not being considered
- Can teachers use both the EDM terms and the other terms (friendly number/complimentary)?
- Vertical articulation between 6th through 8th grade teachers should take place. A teacher explained the adoption for 6th grade is aligned with 7th and 8th grade adoption and articulation is taking place
- Process for teachers to differentiate by using questions and problems
- A teacher commented that there was a misuse of word differentiation by parents. Need to clarify the meanings of differentiation and acceleration. The two terms are unrelated.

The group was asked to move toward thinking about solutions in addressing the themes that arose during the whole group discussion. Individual responses from post it notes are listed below:

- Tutoring: Remediation; perceived need to catch up with the accelerated kids; Acceleration. Let's eliminate the perceived need to catch up and make everyone's life easier.
- Whatever we do for advanced learners needs to be structured and come with accountability.
- Redbird is OK. Not great. Not a substitute for human interaction.
- Homeschool cooperative for students whose needs in some subjects cannot be met in a traditional public school environment.
- May pull-out by ability.
- Provide teachers with an accelerated, supplementary curriculum.
  Revisit grade accel. or single subject accel.
- High school kids supporting during the school day
- Additional, supplemental materials? More digits? Less explanation, just move on.
- Let parents tutor or provide advanced instruction. Also works for remediation.
- How do we teach perseverance and grit for all learners?

Superintendent Sinnette announced that a second meeting will be scheduled to continue the discussion and problem solving. At the next meeting, the group will define the problem and explore all possible solutions. Ms. Sinnette shared that she will be working with a small math committee to discuss proposed solutions and continue the dialogue.