

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 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 not align with Common Core Standards
- Spend more time on new 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" \neq 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 in spite of 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.

Elementary Math Discussion Forum Minutes

February 26, 2018

6:30 – 8:00 p.m.

Welcome - Wendy welcomed the group and asked that each table include an administrator, teachers, and parents. She passed around a sign in sheet so that she is able to provide follow up, as needed, to parents and staff.

Wendy reviewed the big ideas of the last meeting. She then clarified the goal of the evening and shared that from this larger group a smaller committee will be formed. Wendy reviewed the themes from the first session:

- an engaged community
- teacher support for EDM
- parents range from anti-EDM to appreciation for it
- fear by some parents of students falling behind
- desire to accelerate in math
- parent training needed for ideas of new math curriculum
- concerns about pacing not working for all kids
- high level of collaboration between teachers

After a review of the January 26th meeting, Wendy asked each group to identify their top 1-2 challenges or issues with the elementary math experience and to clearly articulate the priority in which they are to be addressed.

Groups were given the opportunity to define the problem by writing 1-2 problem statements. Each group's top 2 problems were shared with the whole group and are listed below:

- Limited opportunities for advancement for students who master grade level concepts
- Disconnect between teacher satisfaction and parent satisfaction with EDM which brings up a difference in the definition of quality math instruction
- Differentiating appropriately within the classroom
- EDM alone does not ensure both computational fluency and conceptual understanding
- Differentiation or acceleration materials need to be delivered consistently not left to each teacher to figure out on his/her own
- It is a challenge to address varying ability levels in classrooms
- Low level of parent confidence and or trust with math instructional program through teacher communication
- We have students of many different abilities and interests and we need to use their classroom instructional time effectively
- Heterogeneous grouping is ineffective for students of different ability levels in math and homogeneous grouping would better serve instructional time
- Parents are solving or trying to solve differentiation on their own-not supported by school. Students aren't prepared for STEM- acceleration is needed

- Worry that the social emotional developmental needs of students and their long term math education aren't understood

After the small group discussion that sought to define the problem(s), volunteers offered possible solutions to problems. The proposed solutions were noted on chart paper and are listed below:

- EPGY
- differentiated individualized instruction
- testing out of material
- developing acceleration model
- group for math olympiad, kids thrive
- math academy model
- parent involvement
- bringing together kids of similar talent
- gifted model, GATE model, math focused pull out during the day
- cross grade homogeneous grouping in upper elementary
- middle school instruction at elementary
- homogeneous groupings in math only
- accelerated math options like for ELA
- present advanced material to students
- more frequent, optional parent/teacher conferences
- parent observation of math instruction
- 4-6 grade class sizes reduction to improve differentiation (20:1)
- maintain/foster strong classroom community
- more opportunities for teachers to talk to parents
- offering choice with tracks like at high school with college prep and advanced college prep
- different-dual tracks: traditional vs. integrated
- math workshop model, flexible per unit
- mathzilla model: build excitement opportunities for math fun
- require conceptual understanding and computational fluency
- identify supplemental resources and use consistently
- mathzilla and math olympiad questions peppered into the regular curriculum
- separate evaluation and measures beyond the CAASPP

Wendy encouraged interested parents to fill out the application to join the Elementary Math Parent Committee. She also shared that Elementary Principals will be distributing applications to all parents as well. These are due March 13, 2018. The committee will meet 2-3 times in April and May to explore solutions proposed at this meeting.

Meeting adjourned at 8:06 p.m.

Elementary Math Working Committee

April 12, 2018

3:30 pm

In attendance: Tuan Do, William Schulze, Alphan Altinok, Jomjai Srisomburananont, Ajay Perumbeti, Stacey Boland, Sunyoung Fahimi, Anna Hasbun, Jane Chang, Debbie Au, Karen Hurley, Anais Wenn, Marie Morin, Christine Matthews, Lori Arbucci, Mandy Redfern, and Wendy Sinnette.

1. **Welcome and Introductions:** Wendy welcomed all members and asked them to introduce themselves. She then gave an overview of the purpose for the committee. A sign in sheet was circulated. Minutes from the previous parent meeting were reviewed by all.
2. **Review of Superintendent's Goal:** Wendy reviewed the Superintendent's goal regarding elementary math and mentioned that some of the actions described in the goal have already taken place with 4-6th grade elementary math teachers and administrators. She also mentioned that two parent math meetings have been held to discuss the strengths and areas of growth of our current math program.
3. **Review of Minutes from February 25, 2018:** Wendy summarized the first page of the minutes, reviewing themes that emerged from that meeting.
4. **Defining the Purpose of the Elementary Math Working Committee:** Wendy defined the purpose of the committee and suggested beginning with proposed solutions and determining short-term and long-term goals. Parents began sharing ideas. Some ideas included:
 - A math docent program run through PTA,
 - Homogeneous groupings,
 - Regular teacher conferences, instead of just one at the start of the year
 - Improved communication between school and home and teachers and families, etc.
 - Researching how other school districts educate their parents in the area of math
 - Using the kindergarten model (small group, individual packets, time to process, etc.) at all levels
 - Parent nights similar to STEAM nights - where parents could learn the different strategies being used to teach mathematical concepts
 - Videos to help educate parents on math concepts
 - Parent math nights geared to specific grade levels

- Sharing the K-5 EM Tracker with families
- A model similar to Math Academy
- Idea of teaming as was done in the past at LCUSD (not acceleration but differentiation by math cluster)
- Idea of all teachers at a grade level teaching math at the same time and students dispersed according to ability (movement into different groups could be flexible).

- Possible short-term goals:
 - i. More curriculum education - not all parents understand the language
 - ii. Flexible ability-based grouping - grouped based on pre-tests
 - iii. Support for after school programs - for math enrichment
- Possible long-term goals:
 - iv. Pathways for acceleration at the elementary level (acceleration opportunities for advanced students)
 - v. Support for struggling math students
 - vi. Expert training for students and parents
 - vii. Articulation meetings among teachers for curriculum transition from grade-level to grade level - how can teachers communicate with parents the needs for each grade level to be sure children are prepared for next grade level?

- Some of the concerns shared included:
 - Math nights may turn into teachers having to justify the use of specific teaching strategies,
 - A desire to have district personnel clarify or refute some of the comments being made on the LC Math Parent site. Possible misinformation being shared.
 - Not all teachers share the same information with families about the math program (ie: resources being used)
 - Math docent should not be a parent
 - Acceleration is a better model for middle school
 - Some students may accelerate in one subject area but fall flat in other curricular areas
 - Importance of not over-testing students
 - Mindset - We need to be careful about what we say to students as we place them in homogenous groups. We need to be careful with labeling students.

Wendy Sinnette summarized the main points she heard from the committee members.

- District communication (resources available)
- Teacher communication

- Grade level math nights
- Enrichment outside of the school day
- Long-term - interest in examining homogeneous groupings. What is acceleration and what are the options? If we go back to the "old plan", how do we move to homogeneous groups but not track students or create new problems?
- Have we done current research on the effectiveness of homogeneous grouping? It may not be the recommended best practice.

5. **Next Steps:** Wendy Sinnette announced the plan for next meeting and suggested breaking off into small working groups to start exploring some of the proposed solutions.

Meeting ended at 5:20 p.m.

Math Working Committee Minutes #2

April 26, 2018

Governing Board Room

In attendance: Tuan Do, William Schulze, Alphan Altinok, Ajay Perumbeti, Stacey Boland, Sunyoung Fahimi, Anna Hasbun, Jane Chang, Debbie Au, Karen Hurley, Anais Wenn, Marie Morin, Christine Matthews, Lori Arbucci, Mandy Redfern, Debra Cradduck, Wendy Sinnette, Ellen Multari, and Brent Kuszyk.

1. Wendy welcomed the committee and thanked them for communicating their thoughts with her via email regarding these math working meetings.
2. Wendy reviewed the structure for today's meeting and mentioned that the parents on the committee had reached out to her and asked that due to the limited time the meetings focus on two topics: acceleration within the school day and acceleration outside the school day. Other topics such as parent ed opportunities, communication strategies, after-school program offerings, resource materials, etc. can be reviewed next year by site/district staff and administration.
3. The large committee discussed the format and agreed that working in smaller groups would be more productive. Prior to breaking into smaller groups, the large group discussed several topics.
 - a. Parents expressed continued interest in developing plans to provide formal acceleration opportunities for students at the elementary level.
 - b. Math Olympiad has received positive comments by families, however acceleration is difficult with the larger group sizes. There is also concern that among the Math Olympiad students, there is a range of abilities among the students, some are ready for high school math while others are only 1-3 grade levels ahead.
 - c. A parent noted bolstering the math opportunities could lead to more female students continuing with higher level math and STEM.
 - d. A teacher shared challenges in supporting students who struggle with math and that they are just as important as those who perform above grade level. Wendy reminded the group that we want to look at all possibilities, but temper that with understanding that as a public school district we serve all students.
 - e. A parent mentioned that generally 65% of students in LCUSD are exceeding grade level standards based on CAASPP data and are ready for more advanced instruction. He added that some parents feel like their children are not challenged. There was some discussion about the social/emotional effects of ability level based classes. An administrator cautioned that students that performed in the upper band of CAASPP are at or above standards for the grade level, however, it should not be assumed that they are functioning beyond the teachers' abilities to differentiate.
 - f. A parent added that the math program should meet everyone's needs. Acceleration seems to keep coming up and should be considered, and teaching ability level based classes could help all students.

- g. The teachers discussed the composition of their current classes and most teachers stated the number of students performing significantly above their peers varies each year; however, the average number is typically 2-3.
- h. A teacher shared that she asked her students about being in homogeneous groups versus heterogeneous groups. The teacher reported that the students said they liked both configurations; but don't want to be with like ability peers all the time. The teacher shared her interpretation was that it needs to be fluid depending on the assignment.
- i. A teacher brought up research for grades 6-12 and who is going to make it to the highest levels of math. The research said that there weren't any significant gains for high achieving students when in classes with like abilities, but there was statistically significant gains for lower achieving students. A parent asked that the committee do more research and that all members should have access.
- j. A teacher shared she sees her primary job is to build up character skills in all students - patience, openness, etc. and while we want to give them what they need, and that students have access to any pathway appropriate to their level in grades 7-12.
- k. A parent said teachers put a lot of effort into their teaching and that Redbird is the answer for some higher achieving students; however, it's an online course and it's not enough. Kids learn better together in a social setting which is missing from Redbird and ultimately becomes demotivating.
- l. A parent shared that our K-6 configuration limits middle school opportunities for 6th graders that K-5 schools are not constrained by.

4. Jim Cartnal gave a quick overview on the math pathways at LCHS.

- a. With the advent of new standards, school districts were given the choice of following an integrated or traditional approach to aligning courses. The LCHS math faculty, supported by LCHS site administration, determined to follow a traditional path for the college preparatory, grade level pathway. The courses were organized into a progression of Algebra I, Geometry, Algebra II, and PreCalculus, following the standards outlined in California math framework. The names of the courses were changed to LC Math 1-4, with LC Math 1 covering the Algebra I standards, LC Math 2 covering the Geometry standards, LC Math 3 covering the Algebra II standards, and LC Math 4 covering the remaining advanced math standards associated with a traditional precalculus class. The courses that comprise the advanced pathway are part of a compaction of curriculum. This means that the course called LC Math 1 Advanced examines the Algebra I standards in addition to approximately one-third of the standards in Algebra II. Across each of the three courses in the advanced pathway, students engage in a compaction so that they are able to enroll in Calculus in their senior year.
- b. A parent shared that the new math class names are not helpful to parents because they do not describe what is being taught in those classes. The district could do a better job of communicating to parents about the content of those classes. Mr. Cartnal explained that the University of California approved course list, viewable at UC Doorways, lists the current titles of LCHS math classes and transcript abbreviations which indicate the alternative title of the math class. The example of this is seen with LC Math 1, the UC approved class, which is also seen as Algebra I on the UC college preparatory course list.

- c. There was consensus that the work this committee does should be in alignment with and support the math pathways at LCHS.
- d. At the 7/8 school, students who are performing above grade level will be given the opportunity to test and if performing at 80% or above may be placed into higher grade level math classes. Students can accelerate through the 7/8 math and enter Advanced LC Math 1 Advanced with 9th graders. Students that accelerate quickly through the math pathways at LCHS in 10th or 11th grades, will need to go into community colleges to take collegiate level applied math courses since the highest level of math taught at LCHS is AP Calculus.

5. The large group broke into two smaller groups.

- a. Group 1 (Wendy, Brent, Jim, Ajay, Stacy, Marie, Debra, and Jane) looked at possibilities for acceleration outside the school day. There could be more options after school than during the day and could also be less expensive. A parent shared a concern that Redbird is isolating for students. Group 1 discussed the following options to investigate further, with parent interest in prioritizing the underlined options (options i-v).
 - i. After-school math lab/course at LCHS - 3-4 days a week, teaching based on a set curriculum and support students' understanding of 7/8 math. This model would have a certificated teacher teaching the class (the cost would be 0.2 FTE or about \$15-\$20K per year). Top 25 students across the district get in. Parents would have the responsibility for transportation. This option may be an interest for many, but not all families.
 - ii. Could we create a pull out math lab/tutoring during the day for both ends of the spectrum? A lab/tutoring model could utilize online programs as well as a staff member to work with small groups of students. Example: 2 high students and 2 low students from 4 classes in a grade would go to the lab at the same time. Parent volunteers could be used to support instruction and/or work with students on the computers. Cost for this at once a week, grades 4-6 would be about 0.2 FTE or about \$15-\$20K per year, per site (about \$60K for all three sites). Students would forgo math instruction to participate on the days they go to the lab/tutoring. There was some concern about students missing instruction. Space and scheduling issues would also be challenging. Once a week may not be enough to make significant gains.
 - iii. Can we accelerate in 6th grade? More info needed for parents to know what students need to make it into higher level math pathways in high school. Two levels of acceleration - one fast, rapid path; the other a slower, methodical pace would be ideal.
 - iv. Reduce barriers at sites for groups to come support students on campus after school.
 - v. Can we use some of the EB/LB time to focus on math? Students in grades 4-6 are required to be in school for a longer day than students in grades 1-3. The district is limited by contractual day for teachers.
 - vi. Discussion ensued about offering an enrichment math class that would follow the Spanish teacher's schedule. Students could opt into a math enrichment in lieu of Spanish or PE. Parents would have to choose. Students would have to qualify into it like they do with GATE (Cost would be about \$100K or 1.0 FTE for a certificated rotating teacher).
 - vii. Can we use Collaboration days for a workshop/lab environment? If we use Collaboration days, a workshop/lab would be needed at each site to ensure equity of access. Messaging

to parents about the intention of this model would have to be targeted as we don't want it to become a provider of daycare. Thematic experiences could be designed for students to engage in based around next grade level's standards or key ideas. Teachers could think of ideas or topics of what students would benefit from to do as extension project (i.e. ratios for 6th grade) for this model.

- viii. Can we utilize LCFEF grants to mobilize resources?
- ix. We should start a Google doc for ideas, costs, and questions to think about. The Google doc can be accessed by clicking on - Outside of Class Acceleration Opportunities
- b. Group 2 (Ellen, Anais, Karen, Lori, Christine, Debbie, Joshua, Jim, Sunyoung, Alphan, William, Anna, Tuan, and Mandy)
 - i. This group considered acceleration options within the school day. It was suggested to create a shared Google doc and have the committee members document their work for all to see prior to the May 10th meeting. The topics they agreed to explore were: parameters/limitations in a public school system, other districts' programs for acceleration at elementary level, reviewing the research done in 2013-14 school year by the teachers and administrators in LCUSD regarding upper elementary math program, research on traditional acceleration, homogeneous groups/cohort based acceleration, grade level placement based on ability level, math lab/specialist to be shared among the 3 sites, homogeneous groupings based on unit assessments with parents helping with small group instruction, and number of students performing above grade level at each site.

The meeting adjourned at 5:25 p.m.

Math Working Committee Minutes #3

May 10, 2018

Governing Board Room

In attendance: Tuan Do, William Schulze, Alphan Altinok, Josh Gottheim, Ajay Perumbeti, Sunyoung Fahimi, Anna Hasbun, Jane Chang, Karen Hurley, Christine Matthews, Lori Arbucci, Mandy Redfern, Debra Craddock, Wendy Sinnette, and Ellen Multari.

The meeting began with the sharing of information from research completed by Group 1 and 2. A parent reviewed the packet prepared for the committee. Many students ready for more, but not necessarily ready for a Math Academy option. A recommendation was made to extend the compacted pathway into lower grades at elementary. CA standards warn against acceleration before grade 9; however, some research concludes there is no social/emotional harm with acceleration and there may be social/emotional harm for students that are not allowed to accelerate.

A Board member shared that when the majority of students demonstrate understanding of concepts, teachers move on and/or students have the option to work on Redbird/EPGY. Students may be given more in-depth projects to work on, based on grade level standards. Teachers reported that there are maybe 1-2 students that are truly above grade level and are ready for above grade level content. Students are given diagnostic exams at the beginning of the school year to determine their mastery levels. Teachers have a good sense of which students have mastery throughout the year and are able to differentiate.

A parent shared a concern about EPGY/Redbird being the main instructor for students and requires self-motivation from the students. Are there other avenues for those learners? Another parent shared concerns about labeling students. Students will stress out about assessments to qualify for the "accelerated" math class. A 6th grade teacher shared that the 6th grade textbook has excellent resources for students that require more challenging work. Another teacher shared that students are given more challenging problems and/or work that parents may not realize as well as projects and games that provide differentiation. Teachers are providing differentiated opportunities, but don't broadcast to students in class why specific students are assigned specific projects. A teacher shared an analogy of a gifted baseball player isn't given a specialized PE class based on their baseball skills, they participate in general PE just like the rest of the students. At times, the PE teacher may be able to give that student different activities more designed for his/her abilities, but they are expected to be part of the general education setting.

An administrator shared some history of ability grouping in math that was done several years ago. The accelerated class essentially learned the same curriculum, just at a quicker pace with more in depth projects, and became more project/application based after testing. The teachers did not move them beyond the grade level standards. It required every teacher to teach math at the same time, which we are not set up to do with teaming. The qualifying criteria was

augmented each year depending on the number of students qualifying. Students that just missed the cut off scores were upset and still wanted what the accelerated students were doing in the regular math class. Some students in the accelerated math excluded others in social settings.

Wendy Sinnette brought up a recommendation from the parent presentation which called for teaching 1st through 3rd grade curriculum in one year. The compaction model would also require one class across the district, and students would not be at their home school. A teacher pointed out this would be 12-14 students across the district in 5th and 6th grades, and that it isn't fiscally responsible to put into place.

Wendy Sinnette asked for feedback on an opt in math class that would follow the Spanish schedule. The curriculum could be designed in grades 4-6 with a mandatory summer school class after 6th grade to prepare them for 8th grade math in 7th grade. Students would have to test into it, forgo PE, Spanish and/or GATE, with an itinerant teacher. Students would also remain in their grade level math class. A parent felt this idea is incremental progress, but may not meet the needs of students on a daily basis.

There was a discussion about state standards. A parent suggested that La Canada students are ready for a higher than grade level standards. A teacher replied that the state standards are appropriate for their grade level and the scores are reason to celebrate. A Board member offered to restructure this committee to a Governing Board committee next year so that all parents could participate, but still retain a membership of the committee that will regularly participate. Board agendas and minutes would be posted, and the meetings would be open to the public. At these meetings the committee would come up with options with costs associated with each.

An administrator clarified that there is no compaction of curriculum in the 7/8 math courses. A parent asked about doing a parent survey about math. Wendy said she could take the idea to the Board. A Board member shared that the district is constrained by the associated costs and students are in self-contained classes and cannot take on the high school structure. Carrying out the Spanish model idea would have costs and may not give what the parents on the committee are looking for from this committee work.

Parents shared appreciation for the process and offered the following feedback:

- a. Asked for the minutes to be presented to the Board as an agenda item.
- b. After school math group policy that would enable parents to run private math instruction.
- c. Collaborative process to address the needs of all students, including those students achieving beyond their grade level.
- d. Information about content and strategies regarding math instruction today.
- e. Optimism and excitement about the future.

- f. Appreciation for the teachers' work and meeting the demands of so many levels of learners.

Teachers shared appreciation for the process and offered the following feedback:

- a. Separation of student groups creates negative impact on how students feel about themselves and others.
- b. Teachers are here to represent all students, not just the top 5%.
- c. Math Olympiad questions could be added to classroom instruction.
- d. There are benefits and disadvantages of both homogeneous and heterogeneous structures.
- e. Realities of school life create challenges to meet all needs.
- f. Students already have natural groups that they gravitate toward, math groups would increase that social pressure.
- g. Parents know how terrific the teachers and district staff are, and believe they can do more for all learners.

District staff shared appreciation for the process and offered the following feedback:

- a. It's important to address the needs of all students and together we can try to innovate. We're open to listening to parent interests for math instruction.
- b. Can we create an IEP-like plan for the 5% of the advanced math students to address their needs and help with communication and foster engagement?
- c. Expressed appreciation for parent involvement in all areas, especially in math.

Meeting adjourned at approximately 5:18 p.m.