CCPS SPOTLIGHT: MATH EDITION

“Open-Minds, Open-Doors,” CCPS Newsletter

April 2019

The Math Education Issue!

“Pure mathematics is in its way, the poetry of logical ideas.”
- Albert Einstein

MATHEMATICS DEPARTMENT IDENTITY

I am a CCPS mathematician.

I persevere through difficult problems using a growth-mindset approach to learning.

I am proficient in communicating with mathematical language to effectively justify my work with precision.

I am proficient in using resources, including technology, to analyze.

I am inquisitive about math and seek a depth of knowledge.

I look at the real-world application and enjoy the intrinsic beauty and creativity of math.

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During Spring Professional Development week, I visited other schools in order to build more leadership perspectives for my administrative degree.

I visited Polk Middle School (APS), MAS (charter), AIMS (charter), Whittier Elementary (APS, MRI school), South Valley Academy (charter), DATA (charter), and Mark Armijo Academy (charter). Note: I spent an entire day at Van Buren Middle School (APS) earlier this year.

Stepping into different classrooms made me realize two things:
1.) Cottonwood Classical is a special learning environment, with special teachers
2.) There is so much we can learn from each other’s expertise and experiences

During my school visits, I had takeaways from lessons that incorporated useful student-centered data charts, positive interactions teachers had with their students, pedagogical takeaways, and intentional instruction.

If there was so much to from being in other classrooms at different schools, how can we better share our practices at Cottonwood?

More importantly, how can we better build empathy and knowledge for what happens in the different sections of the school that we don’t teach?

I’d like to present three radical proposals to build upon our “open-doors, open-minds” collaborative-exchange practices at Cottonwood Classical.

Open-Doors (Continued on page 2).
Phoebe Saltzeinstein-Allison

Phoebe Saltzeinstein-Allison holds bachelors degrees in Mathematical Sciences and Philosophy and a masters in Curriculum Design and Implementation. She has 10 years of teaching experience in public and private schools. She began her career teaching high school Geometry but has always taken opportunities to teach younger students and feels at home as a 6th grade CCPS math teacher. She loves math and gets excited about it in class. In her spare time she is a rabid San Antonio Spurs fan, a casual reader of fiction, a news junkie, and a mediocre yet enthusiastic gardener, cook, and baker. Her true devotions are her husband and son.

Andrea Lee

Andrea Lee was born in Colombia, grew up in Mexico, and moved to the USA when she was in high school. She graduated from UC Berkeley with a B.A. in Economics and has a Master of Education from UCLA. She taught in Los Angeles and became a founding teacher for a charter school in San Francisco before moving to Albuquerque. This is her third year teaching middle school math at CCPS. She is really grateful to be surrounded by colleagues who inspire her. She has worked with students for more than 10 years. She loves learning languages and enjoys teaching math, the universal language. She has two small children who keep her busy.

The Math Department

The Mathematics Department at Cottonwood Classical is made up of a dynamic team of teachers who work together to honor the basic tenets Cottonwood was founded on which include a focus on Paideia and the International Baccalaureate Program. We work hard with our students to make the kind of progress to get them prepared for the International Baccalaureate program and testing to earn the IB diploma. This outstanding team includes our newest two members, Ms. Clara Roybal and Mr. John Tennison.

The Lego Club

The Lego Club by Darian Kapelianis-Donado

The hip new lego club at CCPS is so popular they’re running out of space! I sat down with Mr. Bryant to ask him about this new club.

What was something fantastic you saw in lego club?
Mr. Bryant: Students have been consistently really excited to work together. Their teamwork and cooperation has been great.

Why did you create this club?
I created the club because I saw a need for students to connect in more real ways. I wanted to tear them away from their electronic for 2 seconds to see the wonders of legos. I wanted students to bond over something other than digital related games, social media, etc.

What got you into legos?
The fact I had been playing with them before I could talk. Some of my fondest memories are me and my brother building stuff from tv shows and movies from the 80’s. The dropship from Aliens, or Airwolf.

What is the coolest thing about legos for you?
Flexibility. It allows for you to learn procedure, but it also allows for creativity. It allows for cooperation to build together, or you can compete to build the best version of something.

How enthusiastic was the community about lego club.
The 6th grade classes I pitched it to filled it up in almost one day. But now we have more teachers so we have many more spots open.

What was the most awesome thing?
We have students submit suggestions for builds. A random suggestion is selected. Everyone tries to build the randomly selected target with the pieces they have. This past week we had an 80’s Keytar as our target. It was awesome. Our builds are always 80’s related, and we jam 80’s tunes while we play. This may change, but the kids love this theme, so we will keep it for now.
1. Team Teach Theory of Knowledge (TOK)  
The staffing constraints this year prompted TOK courses to be shared by more than one instructor. Building upon this idea, TOK could be taught by 3-4 teachers taking portions of this class, consisting of a blend of Middle and High School teachers with administrators. This would give opportunities for teachers (and students), to benefit from different styles of instruction and provide greater exposure to IB methods to middle school teachers. This would be a departure of our original advisory design, necessitating new schedules; but we would gain a more collaborative TOK environment along with a multi-grade team of advisory teachers.

2. Open Doors, Open Minds 2.0  
Middle school and high school teachers could engage in a “cultural exchange,” for a week. The decision will be based upon interest initiated by well laid out course maps in departments. Imagine conversations of opportunity, “I’ve always wanted to teach a week on the Cold War,” etc. The lessons would be developed by the visiting teacher, but within developed units established by the host teacher. During the PD weeks leading up to the exchange, the participating teachers will engage collaborative conversations to ensure full alignment to the standards. This shared opportunity will allow middle school teachers greater IB exposure AND high school teachers greater middle school exposure to better build empathy and knowledge of our whole school practices. It will also allow us to reflect on the lessons created by other teachers.

I recently did this! I invited Ms. Karen Pacini to be a guest teacher (during professional leave I took to finish up a marketing project). Ms. Pacini lead students through an article linking democracy and civic participation to sustainable practices in the environment. She then lead culminating Socratic seminar later in the week, using her own developed techniques. When I returned, she shared her approaches. I now have her excellent Socratic reflective writing exercise linking back to the IB traits in my repertoire.

3. Department Book Studies  
Building upon a Special Education department practice, each department can choose a PD book to read. Structured activities can be designed to create greater collaboration between the different school segments. “Project pitches” can become a central pillar of this exercise, and different delivery techniques can be trialed simultaneously throughout the grade levels in the departments. Preparations for presentations of these new techniques/projects can be delivered during PD weeks to the whole staff.

Wrapping It Up  
We only know what we know, and perceive from our own truth experiences. Creating intentional collaboration could help the different sections of our school grow closer together, as we explore not just similar themes, but shared cross-curricular experiences.
Pat Spitz

Mrs. Patricia Spitz has taught at Cottonwood Classical for the past 8 years. She teaches Algebra 2, IB Math Studies SL, and 1 section of Algebra 1. She is also the Math Department Chair. She has an M.A. in Educational Leadership, B.A. in English, and is a licensed Level 3A instructor with endorsements in Secondary Mathematics, Language Arts, Social Studies and Health. She is licensed Level 3B K-12 Administrator. She is also an IB-certified instructor teaching IB math classes for the past 5 years. She has 23 years of experience teaching. She leads this merry band of math teachers, Problem Solving 101 in the land of Pi. Her favorite mathematician is Euclid, but Napier is a dear friend as well. She loves to make colorful posters, and display math-related decorations. Her classroom is the home of the biggest pencils. As department chair, she has solidified the progress we’ve made in mathematics as well as working to get training for each of the math teachers as they ask for it. She has been instrumental in spearheading the tutoring program this school year. She credits her father as being her inspiration to work hard and always deliver more than what is promised. She is part of the Algebra 2 dynamic duo with Mrs. Carisa Petrie, as well as the trio of trouble for IB with Mr. John Tennison and Mrs. Quili Padilla, and the fab four of Prine, Petrie, and Roybal. Both her sons attended and still attend Cottonwood Classical.

John Tennison

John Tennison is a first year teacher with a Master’s Degree in Applied Mathematics at UNM. Prior to working at Cottonwood he was a long-term sub at Amy Biehl, and before that he worked for two years in Madison, Wisconsin at a medical tech job. He has always wanted to be a teacher, and he is excited to be starting this career.

New Executive Director Selection

The governing council selected John Binnert to be the newest Executive Director at Cottonwood Classical Preparatory School. The editorial staff at Spotlight Magazine thanks Sam Obenshain for his many years of faithful service to Cottonwood Classical. The school is indebted to his vision. Spotlight also thanks the entire administrative team including Chris Eisenberg, Joshua LaClair, and Chris Rigali.

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APS Teacher Appreciation Night United New Mexico by Greg Butz

What a thrilling game it was for the record breaking crowds of 12,921 fans! While it was a close game throughout much of the match, the Portland Timbers 2 were leading in the waning minutes. In the 4 minutes of extra time Kevaughn Frater scored an equalizing goal. The stadium erupted in thunderous cheers, as the game ended in a 3-3 tie. Despite the tie, it felt like a win for all of the New Mexico United fans! Somos Unidos!

It was incredible seeing so many students and teachers at the game. Staff members Sam Obenshain, Amber Curtis-Trudell, Melissa Torres, Alejandro Torres, and Heather Bower were seen, including scores of students and their parents. It was also incredible seeing so many other teachers from different schools in Albuquerque.
Ashley Weaver was born and raised in Albuquerque, New Mexico where she attended a small private school. After high school, Ashley attended the University of New Mexico where she completed a bachelor’s degree in Chemistry. Ashley applied to Cottonwood shortly after graduating college and is currently in her second year teaching. In her time at Cottonwood, she has had the opportunity to coach middle school girls volleyball team.

One of the strategies we have embraced in the math department is using games and projects to inspire fun and unique problem solving. In Algebra 2, Pat Spitz and Carisa Petrie created an “Escape the Room” after a unit on operations and solving using matrices. Students worked in small groups to solve problems of various levels of difficulty while putting together clues in order to get into a box secured with at least seven locks! Materials for the project were obtained through a Donors Choose grant and can be re-used in the future. We have already made plans to have our Algebra 1 students “Escape the Room” after our quadratics unit.

Quilimaca Padilla has been teaching for 14 years in Albuquerque and she comes from a small town, Truth or Consequences, NM. Her interest in math didn’t come at an early age. It wasn’t until she had great teachers in high school who cared about wanting her to understand the math. She was also one of three students in her Calculus class her senior year. She graduated from UNM with a double major in Applied Mathematics and Spanish along with a Masters in Secondary Education. She has a background of teaching Math from Algebra 1 to IB Math classes and teaching the Spanish language for a couple of years. When she is not in the classroom, she enjoys spending time with her family and loves to enjoy the beautiful NM weather with a great run.
Personal Budget Project
by Phoebe Saltzein and Joshua LaClair

Math Foundations students worked on their Personal Budget Project. After learning about percentages and integers, students researched a career that they were interested. Using the yearly income from the profession that students picked, they created a budget that would incorporate savings, housing, transportation, food, and other expenses at fixed percents of their total take home pay. Students followed the activity with a Socratic Seminar in which they used their project research as the text to discuss pay inequality among professions (especially the military), the need for an emergency fund, and the role of money in their lives.

Candy Analysis
by John Tennison

After the stats/probability unit in IB Math SL yr. 2, John Tennison created a project involving the distribution of M&M candy colors. Students analyzed 20 fun packs of mini M&M’s found color distributions, and then synthesized their data to answer questions about larger populations of M&M’s. This involved binomial and normal distribution, and ended with group posters showing off some incredible results.
What is progressive taxation, really?
By Phoebe Saltzstein

Many people hold the misconception that people in a 40% tax bracket pay 40% of their total income in taxes. Ms. Saltzstein’s pre-algebra students dug into this as an application of the percent equation in our Equations, Expressions, and Inequalities Unit. Students started by calculating the total taxes on their favorite celebrities, including Kylie Jenner and Pwedie Pie. They later included more common professions then had a structured, formal debate on the currently proposed 70% tax bracket on incomes over 10 million. Student reflections showed that many liked the debate format because they could prepare in groups and there were no repeated points during the debate itself. They didn’t like being assigned to argue for or against the plan, and didn’t like being chosen at random to deliver their groups opening statement or rebuttals. The project was created with a lot of help from Mr. LaClair, who really knows how to anticipate challenges that might arise during a paideia project, and can see the forest for the trees when planning multi-day, multi-outcome work.

Hands On with Geometric Solids

Geometry is a math discipline that relies heavily on spatial reasoning, which is a cognitive trait that has been debated to be genetic and/or more prominent in males. The 7th grade PreAlgebra teachers worked on bridging any weaknesses in spatial reasoning using play-dough. Students built play-dough versions of pyramids, prisms, and cones, then cut through them with string to observe the solids’ cross sections. Using manipulatives can promote equity in the classroom, shifting a demonstration of mastery away from pencil and paper while activating creativity through sensory play.

Student Ambassadors Cleanup Campaign
by Kaley McClain

For the past 5 weeks, the Student Ambassadors ran a Trash Pick-Up Competition between all middle school advisories. The advisory to pick up the most trash would win a pizza party. When the Student Ambassadors started to plan this, middle schoolers were constantly losing field privileges outside because they weren’t picking up their trash. Student Ambassadors decided to and try to fix the issue. We formed this competition and found improvement in the amount of trash picked up each day. This competition was an attempt to improve the school community and leave our campus better than how we found it. We hope this 5-week endeavor has taught some students to be more caring towards not only others but also the campus around them. Thank you all so much for the effort you put into this contest, but there is only one winner. According to the scores, Mr. Johnson’s advisory has picked up the most trash. Congratulations! Enjoy the pizza on us!!

Liaison Lounge: NMPED UPDATES

1.) The Inspire 2019 Conference has already filled up! But it is incredible hearing that so many of you have signed up to go!

2.) If anyone has suggestions regarding student assessment or teacher evaluations, email concise suggestions, I will be sure to pass this along to those on the task force.

3.) On May 4th, the 5th Annual Educator’s summit will take place at UNM, North hosted by the New Mexico Dream Team. There will be workshops regarding undocumented students.

Vest Regards, Greg