MEETING NOTES

Meeting Notes are not official until voted on by the Board of Education at its following Regular Meeting.

A1 President called the meeting to order at 6:41 p.m.

A2 Members present: Ms. Arnold, Mrs. Crowley, Mrs. Murdoch, Mr. Perry, and Mr. Vorst

B **PROGRAMS / PRESENTATIONS**

B1 K-12 Mathematics Course of Student Presentation – Curriculum Department

Presenters: Cori Kindl, Executive Director of Curriculum/Instruction
Herb Higginbotham, Director of Elementary Education
Jacob Grantier, Director of Secondary Education
Molly Walker, Director of Measurement, Intervention, Enrichment
Dr. Kim Kembitzky - Secondary Teacher Leader: Math
Betsy Long - Elementary Teacher Leader: Math

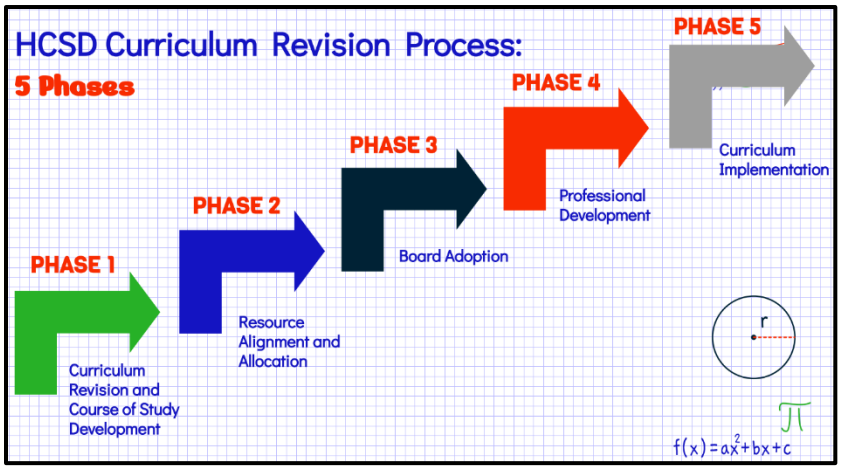
My name is Cori Kindl. I'm the Executive Director of Program and Instruction for our school district. On behalf of our K-12 Mathematics Curriculum Revision Team, we're excited to present you with the District K-12 Math Course of Study for adoption. Joining me for tonight's presentation are Jacob Grantier, Herb Higginbotham, Molly Walker, Dr. Kim Kembitzky, and Betsy Long.

We are here to provide you with an overview of the curriculum revision process, a synthesis of stakeholder feedback, student data analysis, math education research and evidence-based practices, a summary of the committee's work, and some important considerations as you take the next 30 days to review prior to your vote at the February board meeting.

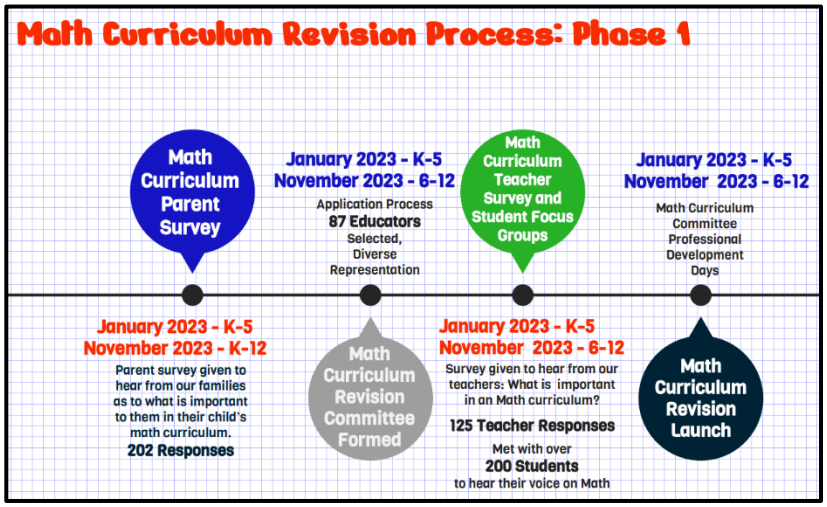
I would like to thank the 87 educators who comprised the district's K-12 math curriculum revision committee. It consisted of educators from every building, grade level, math course, and support staff. Representation included grade-level teachers, math course teachers, math support teachers, innovation and discovery specialists, media center specialists, EL teachers, intervention specialists, gifted teachers, principals and assistant principals, and directors. I would also be remiss if I didn't take the opportunity to personally acknowledge and thank our exceptional teacher leaders, Betsy Long and Dr. Kim Kembitzky, for their leadership and expertise. These ladies led our revision teams, provided meaningful professional development, and guided the committee in the design of this course of study. I would also like to thank Tanner Atha, who is our digital content creator for the district. He visually designed and branded our course of study.

Curriculum revision occurs on a cyclical basis to ensure that the most recent Ohio learning standards are taught with fidelity, incorporating current research within mathematics, and using evidence-based instructional strategies and practices to maximize students' knowledge and skills. In addition, resources are evaluated for intentionality and alignment.

The goal of a curriculum revision is to define and communicate what all students will know and be able to do at each grade level and within each course of a specific content area in order to ensure all our students are ready for tomorrow.



Last year, I shared with the board our five-step curriculum revision process that is used for each content area revision. This is a brief illustration of our process so that you can visually see where we are within mathematics. For math, we are divided by grade band as to how far we are along with this curriculum revision. As you know, K-5 is through the entire curriculum revision process that culminated last April with the purchase of a resource for K-5, which is Imagine Learning Illustrative Mathematics. We have just finalized phase one of the 6-12 curriculum revision process. And because K-5 is all the way through and 6-12 is through phase one, we are prepared to write and offer the draft of this course of study for mathematics, K-12.



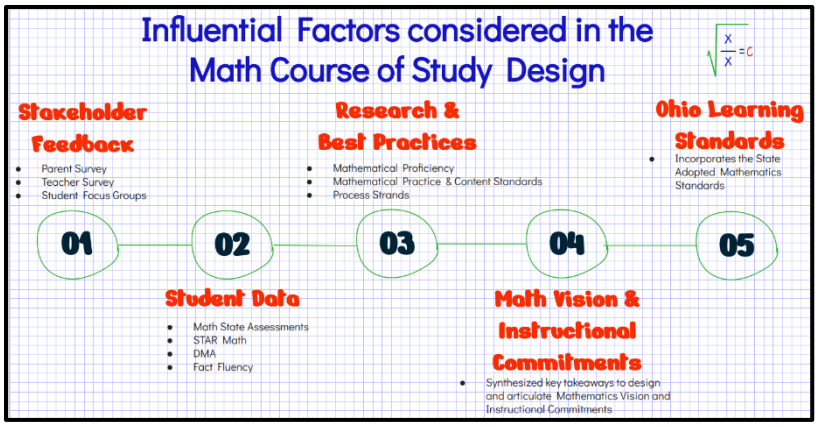
I briefly want to talk about phase one of the curriculum revision process so that you see all that went into the design of this course of study. When we launch a curriculum revision process, we first start with getting feedback from our stakeholders. So, for mathematics, this happened two times. For K-5, in January of last year, we surveyed our parents, and then at the end of November of last year, parents were given the opportunity to give us feedback on what is important to them in their child's mathematics education. We had over 200 parents respond.

Then we sent out an application to our staff and asked for volunteers to be a part of this revision work. As I mentioned in my introduction, we had a diverse representation of educators across K-12. We had 87 educators serve on this curriculum revision team, whether it's K-5 that's already completed or 6-12 that we are currently undergoing.

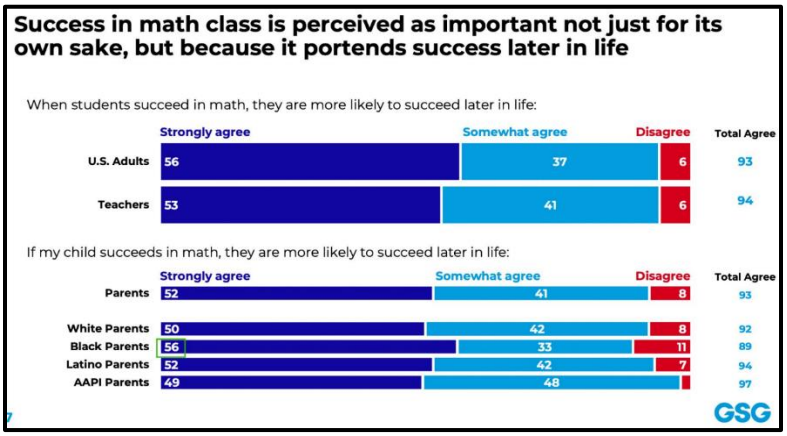
Once the committee was formed, we surveyed all teachers who either directly teach mathematics or support mathematics instruction and surveyed them as to what is important to them in the math curriculum. We also met with over 200 students across our district, K-12, and asked them to describe what their math experience was like, what they liked, what they disliked, what helped them learn math, and

what they hoped we would start doing, stop doing, or continue doing within math instruction. The stakeholder feedback was very instrumental as we launched the committee and used that to try to respond to what we heard through not only the design of the course of study, but through the entire curriculum revision process. And certainly for selecting a resource that will support this curriculum.

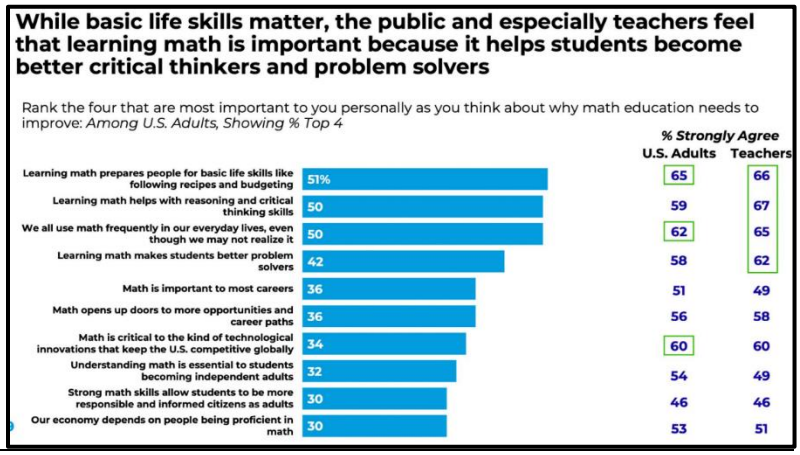
There are many factors that have gone into the design of this math course of study. And also into the selection of resources. You will hear from our team a synthesis of information around our stakeholder feedback, student data, and research and best practices. Those things culminated in our committee to create a math vision for the district and some instructional commitments as educators of mathematics that we commit to for our children and obviously, the Ohio learning standards, which we are required to teach.



As Cori mentioned, one of the first steps in this process before we even developed our vision and instructional commitments was to consider the input that we received from community members, teachers, students, and parents. But before we do that, we also want to share some national data that we took a look at; this was a survey that was performed by the Global Strategies Group with funding from the Gates Foundation. Hopefully, you'll see some connections between what our community provided to us as far as input into what they wanted to see in our curriculum revision process.

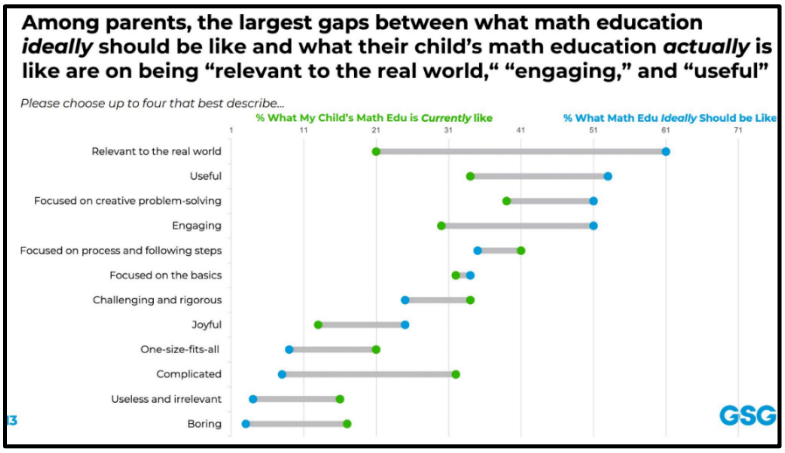


In this first set of data, you will see that most people agree that children who excel at math are more likely to succeed later in life. There's a high agreement with that.



This next set of data focuses on the top four skills that are important for improving math education. In this big set of data, you'll see the agreement among U. S. adults and teachers that learning mathematics helps to develop reasoning and critical thinking skills necessary for adult life. And learning

math makes for better problem-solvers. There's a lot of connection also to our core learning competencies.



This final set of data shows the perception among parents of what mathematics education is currently like, compared to what they believe mathematics education should be like. The largest gap is at the top – the relevance of mathematics education to the real world. The gap is what parents and community members feel is happening in classrooms and what they think ideally needs to happen. Overall, the survey shows that parents found that the ideal K-12 math education is relevant to the real world, feasible, and focuses on creating problem-solving and engaging.

As you will see, these themes were echoed in the input that we received from parents, teachers, community members, and students in our district.

As we dug into the community feedback that Cori had mentioned earlier, a number of themes stood out to us as a team. We made sure to ensure that this was part of the training that our teachers received, as well as considerations when we established our instructional framework. Our parents and community communicated to us that they look for an intentional focus on developing foundational math, critical thinking, and problem-solving skills through their child's educational experience. They look for practical applications and connections to post-secondary opportunities. They hope that we will investigate responsive resources that support both vertical alignment across children's educational experience and support all learners. They looked for improved confidence, appropriate levels of challenge, and a variety of math course offerings that support both college and career readiness beyond high school and hoped that we would investigate the balance of traditional and technology-based tasks in support of a child's math learning.

Parent Feedback

"Not just memorization or plugging something into a calculator, but knowing what they are actually doing."
Kindergarten and 2nd Grade Parent

"Math increases students' problem-solving skills. Math helps strengthen reasoning skills and critical thinking. It helps students think analytically about the world and reason logically. The same steps students take to understand a problem, identify the knowns and unknowns, and then solve it, can be applied to other areas of real life."
9th Grade Parent

A few of the quotes that stood out to us as a team. Our parents are looking for their children not just to memorize math but to know what math is and know what they're actually doing. We sometimes hear this as not having a calculator everywhere you go. Well, now our kids do have a calculator everywhere they go, so we really want them to understand the underlying principles and

foundational skills that come with mathematical knowledge and understanding. We want our children to be equipped with problem-solving, reasoning, and critical thinking skills. When we embed those into the mathematical experience, students are able to then transfer that learning and understanding to other aspects of their lives, both in school and out of school.

Parent Feedback

"Keep the content closely connected to real life. Knowing the quadratic equation is great and all, but if someone can't do basic price estimations or cost comparisons in the grocery store, for example, then the practical has been sacrificed."
1st Grade Parent

"There need to be other activities/resources besides students taking notes and solving problems. This seems to be what happens during the majority of the class time. I would like to see some more engaging options which could be a part of the curriculum. For example, the use of manipulatives in middle school, group work/discussion, or applications to real life. The curriculum needs to better align to the Standards of Mathematical Practice."
8th Grade Parent

We had a first-grade parent who really wanted to make sure that our curriculum was connected to those real-world experiences and relevant not just today but in their child's future.

Lastly, our parents and community are telling us that they are looking for activities, resources, and learning opportunities beyond students taking notes and solving problems but look for more engaging opportunities that allow them to apply their mathematical understandings to new and novel experiences.

Likewise, when we talked to over 200 students across grades 6-12, they were very candid and shared with us what worked for them, what didn't work for them, and things for us to consider. Our learners desire collaboration and hands-on manipulation in support of their learning. They look for active participation in their mathematical experience, including collaborative randomized groupings, vertical learning surfaces, and defronted classrooms. They look for a variety of class opportunities, such as a mix of direct instruction, collaborative opportunities, and new and novel problems to solve, and are looking for opportunities for deep thinking and analysis.

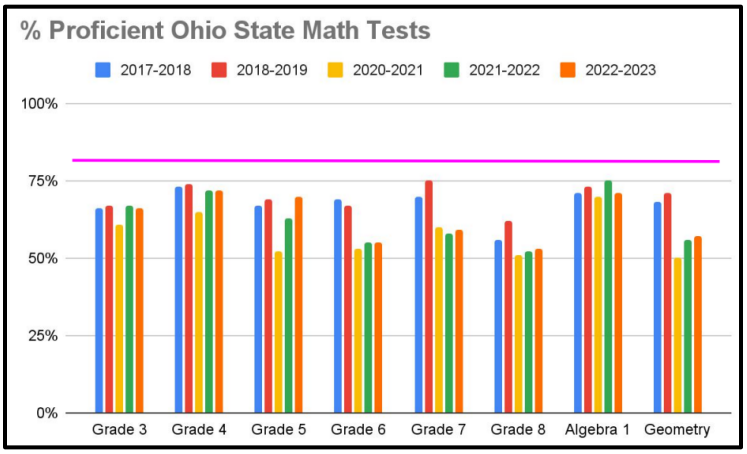
Student Feedback

- Our learners desire…
  - Collaboration, hands-on/manipulatives in support of learning
  - Active Participation (collaborative randomized grouping, vertical learning surfaces, defronted classrooms)
  - Variety in class opportunities (mix of direct instruction, collaborative opportunities, new and novel problems to solve, etc…)
  - Opportunities for deep thinking and analysis
- Our learners dislike…
  - iBooks, ALEKS, homework (when it is clear that it is busy work)
  - Work that requires mimicking

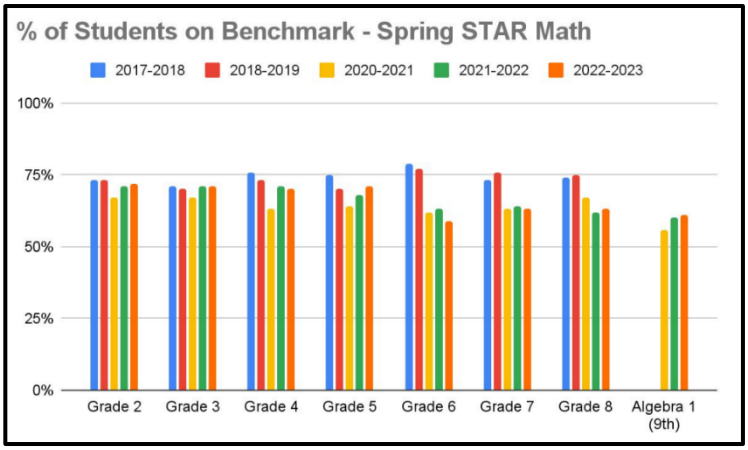
We also asked our students what we should stop doing or what they disliked. They told us that the iBooks, ALEKS, which is a supportive math platform utilized in grades 6 through 8, and homework, when it is clear that it is busy work and not purposeful to their learning, are things we should reconsider as a system.

Many parents say that math learning feels to their child more like a tedious chore to slog through than an interesting challenge to tackle. As a result, far too many students are not engaged in what they are learning and, therefore, are not reaching their full potential in their math journey. The public, ours included, believes that most math instructional content is disconnected from students' lives and larger worlds outside the classroom and is not kept up as society and technology have evolved, meaning that we are missing a critical opportunity to better prepare our students for success.

As we look forward to implementing this course of study, we look for engaging relevant real-world problems for our students to solve and help them further develop their problem-solving and critical thinking skills.

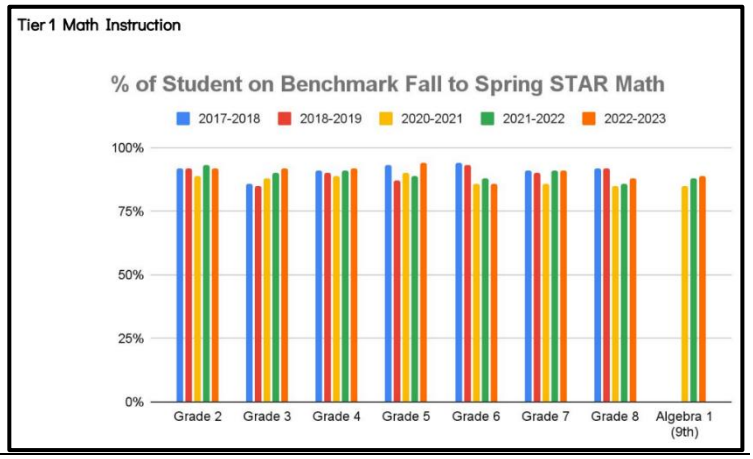


Good evening. I know you're excited. It's the data portion. We looked at a variety of different student data points. I'm going to highlight just a few of them for you. Some of them are not new. The achievement pieces, we've talked about these several times. So this first look is looking at our state proficiency marks so that most public of our achievement pieces.



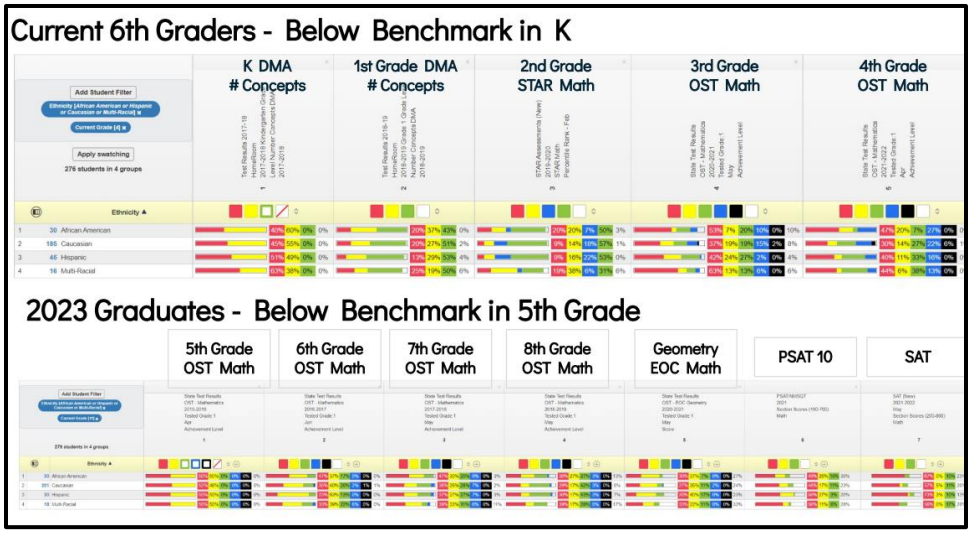
I'd be remiss if I didn't remind you that grade 8 doesn't represent all of our 8th graders. About a third of our students who take Algebra 1 and Geometry at the middle school level are counted in the Algebra and Geometry scores, not in the Math 8 scores. But we continue to strive to hit that 80 percent mark that the state has set for everyone. As we've discussed before, along with national trends, we see pockets of students that have different achievement levels. We see differences in socioeconomic status and ethnicity, just again, same as national standards.

We see the same trend in our STAR data, so we use this to help monitor progress along the way to help see where we think students will be when they test. So, these two pieces really mirror each other.



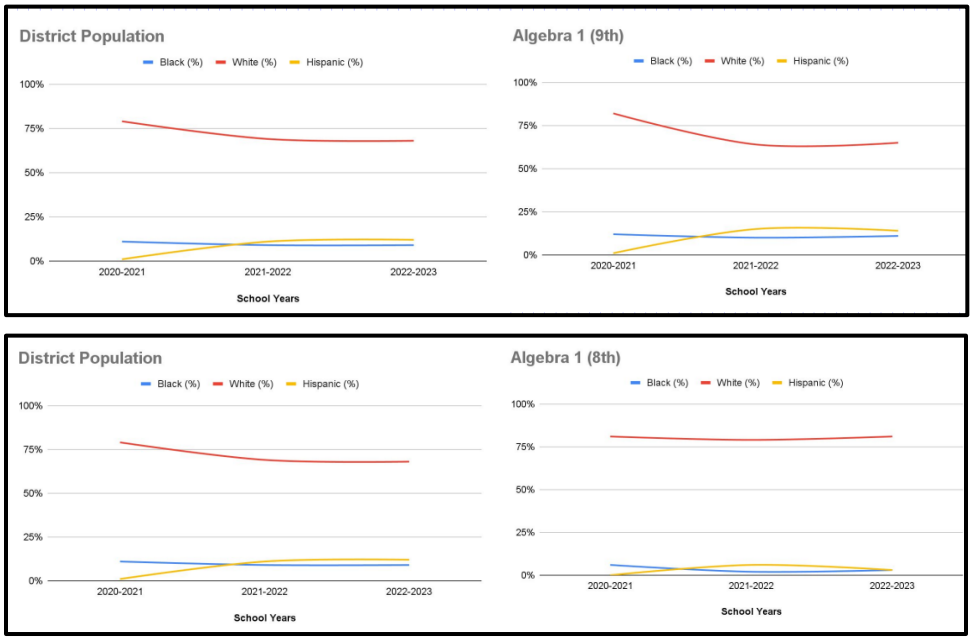
We started to dig a little deeper into there. So one of the pieces we took a look at is what's called our Tier 1 Instruction. Essentially, that means how are students able to access and remain on benchmark

with only what's going on in the typical classroom experience? So they're not having any additional pull-out or interventions. Our goal is to have 85 percent or more of our students reach that, and we are hitting that mark. So we started to dig a little deeper about what's happening with our students when they're not on Benchmark.



Now, this one looks a little much. I left it in there because I know some of you are really data-driven and want to take a look. But, for the rest of you, don't worry about that. What this is talking about is when we have students who are not on Benchmark, it is a struggle to get them back on Benchmark. And so the earlier that we can intervene and get them where we need to be, the more likely we are to succeed. If we don't get them on the benchmark before leaving elementary, then we struggle to get them back on the benchmark at the secondary level. This is another national trend. Our goal is that readiness to participate in whatever they need to – college readiness demonstrated. So, we're really looking at how can we intervene with it as early as possible. *(inaudible due to background noise)*

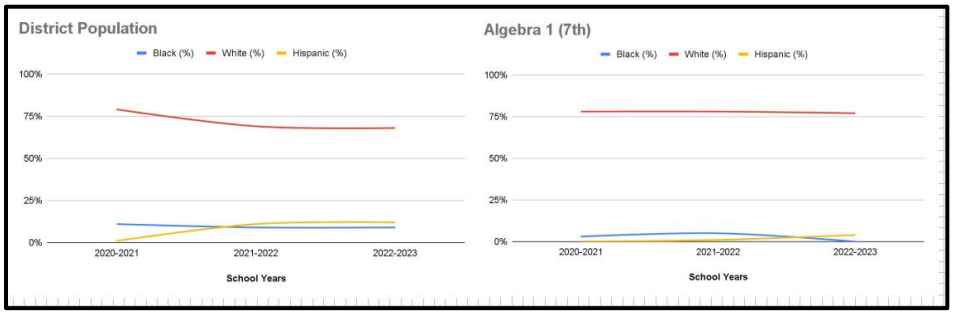
So then we took another look into access as far as who is able to access different areas of content. So this graph right here demonstrates our changing demographics over time as a district. So this is just factually who is enrolling in our district over time. Ideally, every course we offer in the district would mirror this the exact same way, so the representation would be equal in every class that we offer.



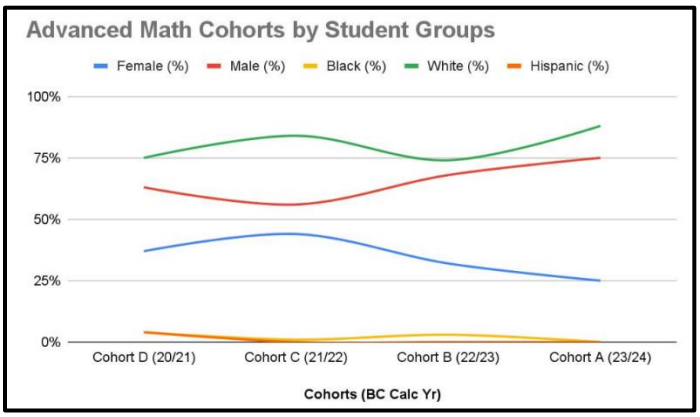
This first one is looking at our Algebra 1 students who take it as a 9th grader. So that's essentially the last time that most kids would start to take an Algebra 1 course. And we see that we're not far off of the demographic that we're looking at. As we back it up and kind of accelerate, so students that take Algebra 1 in 8th grade, we start to see that the access

looks a little different in who's taking that versus what our population looks like in general.

If we go one more step back, so students who are taking Algebra 1 in 7th grade start to look even more different than what our general population looks like. So the students who are accessing it, especially at higher levels, it's not the same across the district.



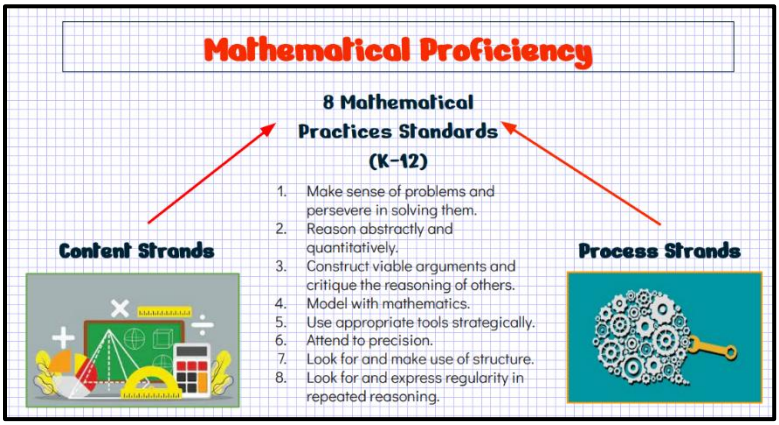
You can see this in one other spot here. This is looking at the trend of students who enter our highest cohort of learning. They enter as sixth graders typically, and they would be on the track to take AP Calc BC as a senior. And what we notice in our trends over time is that the students who are enrolling in that course are actually not keeping pace. So, we're actually having bigger discrepancies in some of those gender or ethnicity roles that we're really trying to close those opportunity gaps for them.



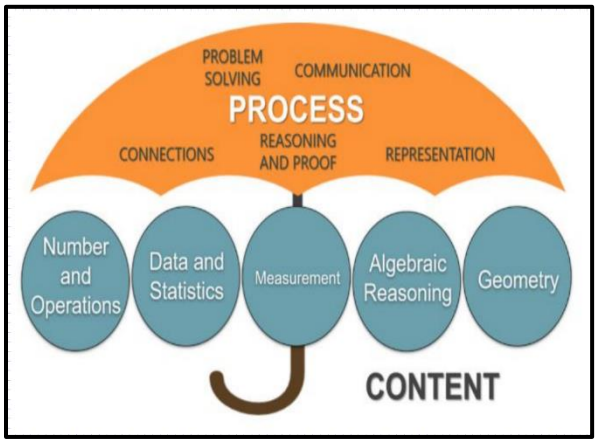
So, I think you're going to hear some great responses to these data points as we go through with the team.

Hi, my name is Betsy Long, and I am the Elementary Instructional Leader (grades K-5). This is Dr. Kim Kembitzky, the Secondary Instructional Leader for math (grades 6-12). So, thinking about the research that you just saw, the information that we've received from students and parents, and the research that we're going to show you are all the information we utilized during this process. We want to take you through some of that research and remind you that we put all of this information in front of the team that making decisions for this update, and we are currently doing that for the high school as well. We're actively working towards solutions to intentionally provide rigorous math opportunities for all of our kids.

You'll notice up here that when you think of math, a lot of people automatically think about numbers, and numbers are very important in math. But we also want to make sure that we all understand how important it is for what we do with those numbers. How do we utilize those numbers? We are in lots of situations in the real world, and how do we use that? So what you'll notice in the middle, it says eight mathematical



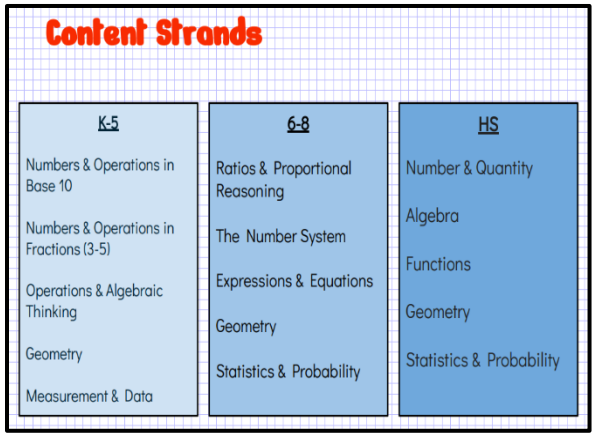
practice standards. These are standards that are in our state document. So, just like we think about content standards, there are standards around fractions, geometry, adding, and subtracting. An example is making sense of problems and persevering in solving them. That is a standard that is on our progress report. It's also measured through the state on our state report card.



These also are a foundation of what we look at when we're choosing a resource. So again, examples of these standards are making sense of problems, using the correct tools, and attending to precision.

Dr. Kim will talk a little bit about the content, and I'll get into the process after that.

Okay, the content strands are these overarching concepts. On the bottom, under the umbrella, is what we understand initially when we think of mathematics. The process standards that Betsy's going to talk about later are all the ways that we represent how we learn mathematics and how we come to understand and make sense of it.



There are different content strands for K-5, 6-8, and high school. And you can kind of see there is some correlation across the grade bands. For example, geometry is represented in each grade band, but you can see there are some differences as well.

On the next slide is an example shown on ODE's website. They share this type of document which shows how those strands progress over multiple grade bands. If you do have access to this resource, you can tap on this link. It'll take you to ODE's website, which shows what I just did for you, but if you're curious about any one of these, you can see how they took that linear expression we showed you…*(inaudible)*…and how it progresses from grade 5 when it's first introduced, all the way through grade 8 and then beyond.

So, this is what we teach, and Betsy's now going to talk more about how we teach.

So, this builds a picture of what a mathematician who is proficient looks like. And I'm going to quickly touch base on this. So, we just saw the contents, all the fractions, the geometry, the regimen. Now we're going to make sure our students have a **conceptual understanding** of the math that they're doing. It's not just memorization, it's not just mimicking, it's not just putting out facts. We want to make sure that they have an understanding of why they're doing what they're doing so they can apply that later to something else.

In the next part, you'll see it says **procedural fluency**. This is where you're in a procedure, like an addition procedure. You might be adding a couple of numbers together. And we want to make sure that students are skillful in that. That they can do that efficiently. They can do it effectively. And they're very flexible in that. So, if they come to a problem and forget how to do it, they have many ways to enter that problem again. They're not stuck. They have more ways to do that.

The Strands of Mathematical Proficiency

conceptual understanding—comprehension/understanding of mathematical concepts, operations, and relations

procedural fluency—skill in carrying out procedures flexibly, accurately, efficiently, and appropriately

strategic competence—ability to formulate, represent, and solve mathematical problems

adaptive reasoning—capacity for logical thought, reflection, explanation, and justification

productive disposition—a habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.

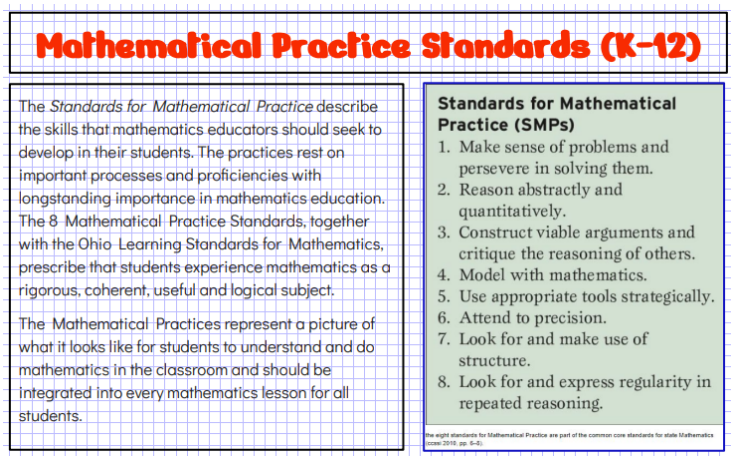
National Academies of Sciences, Engineering, and Medicine. 2001. Adding It Up: Helping Children Learn Mathematics. Washington, DC: The National Academies Press. https://doi.org/10.17226/9822

The next piece is **strategic competence**. We want to make sure students have a variety of strategies they can use when they come to a problem. So, when they get into a problem, they have the skill to pick a strategy, compute the problem, and solve the problem.

The next piece is **adaptive reasoning**. We want to make sure that our students are able to reflect, justify, and be able to apply to something else in the world.

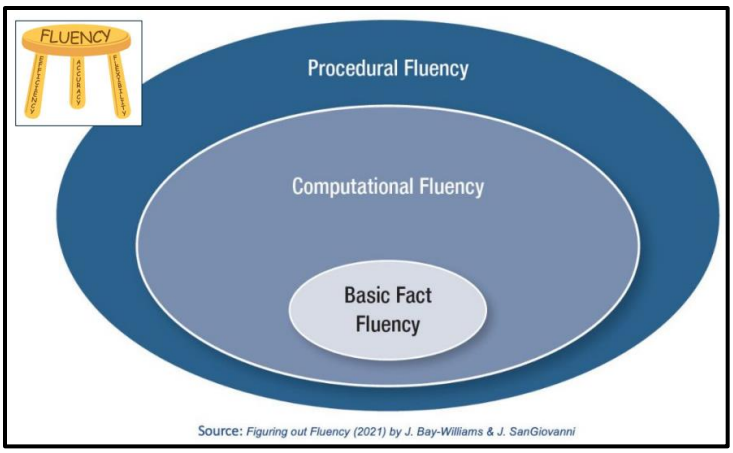
And then the last one is **productive disposition**. We want to make sure our students know that math is useful and that math is important.

So, just coming back to that first slide where we talked about the mathematical practice standards. This is a review of the standards on the state report card. This is the doing of the math, and we really highlighted this during the curriculum update revision. All the work that we did during elementary time was on our rubric when we were choosing a resource, and I know that this is at the height of what Dr. Kim is doing with secondary right now as well.



We hear the word fluency a lot. And so I just want to make sure we all are on the same page. We've done that with all of our curriculum teams and all of our teachers of what math fluency is. If I wanted to say that a student is fluent in addition…in order to be fluent in addition, we want them to be efficient, which means they get there in a reasonable amount of time.

We want them to be accurate. We want to make sure they have the correct answer. We want them to be flexible, and flexible means that they can go into a problem and look at those numbers and be able to manipulate them in different ways so that if they get stuck, they have another way to get to the end of that problem.

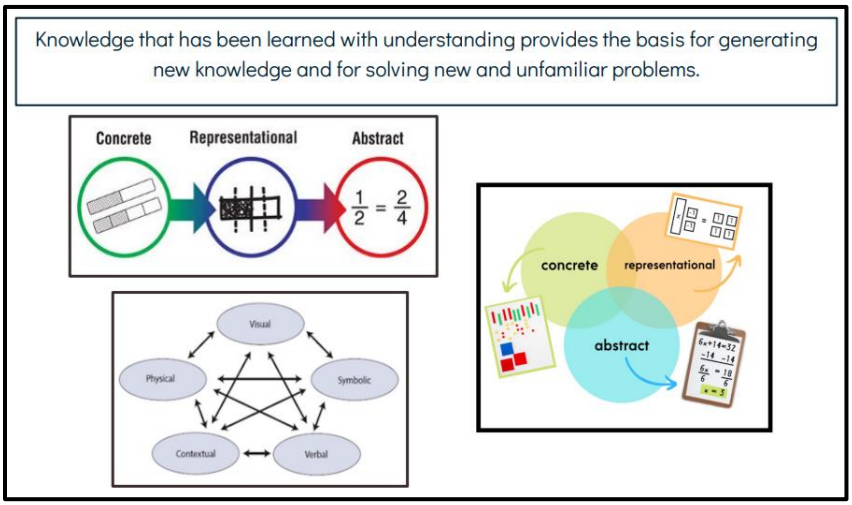


Also, when we think about fluency, a lot of people talk and hear about basic fact fluency. So, when we think of basic facts, that is our number combinations with our single digits. So, for example, 7 plus 2 and 9 times 3 are basic facts. They are a foundation for what we do and are very important. We have done a lot of work understanding what the teaching, the instruction, and the assessment of that look like. And you can see that it looks like it's the core of this because it is the core of what we do. It is the foundation because if we don't know how to do 7 plus 2, we will struggle, or it will take us a long time to do 72 plus 25.

So, in addition to that basic fact fluency, you have computational fluency. Anything that is an addition, subtraction, multiplication, or division that's not just a basic fact fluency. So, an example is 275 times 963. We want to be fluent in that as well. We want our kids to be able to get there in a decent amount of time. We want them to be able to be flexible, and we want them to have an accurate answer.

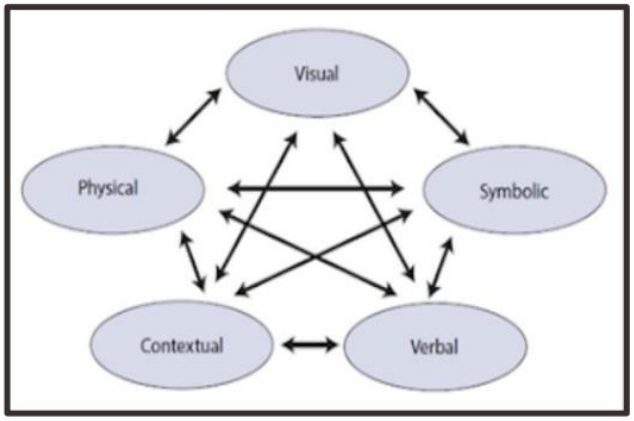
In addition, there's procedural fluency. Procedures are anything that's not addition, subtraction, multiplication, or division. For example, comparing fractions. So again, when our students are comparing fractions, we want to make sure that they're efficient, accurate, and flexible.

Math is abstract, so when you start with math, and if you just are thinking about numbers many kids do not have access to thinking about math when it's just numbers. So, the way that we teach math and the research behind it is through an approach called CRA, or Concrete Representational Abstract. You'll notice at the top that you have that red circle. It says 1-half equals 2-fourths. So, when we're teaching equivalent fractions, we start where the green is, and we have something very concrete, something visual, so anyone has access to that. Someone on that first day might be able to go to that abstract, but we need to make sure we provide access for all students. So, we make sure we have that concrete available for everybody. We also provide visual representation – modeling or drawing. Once they get to that point, we should be able to do that abstractly without needing it in concrete or representation.

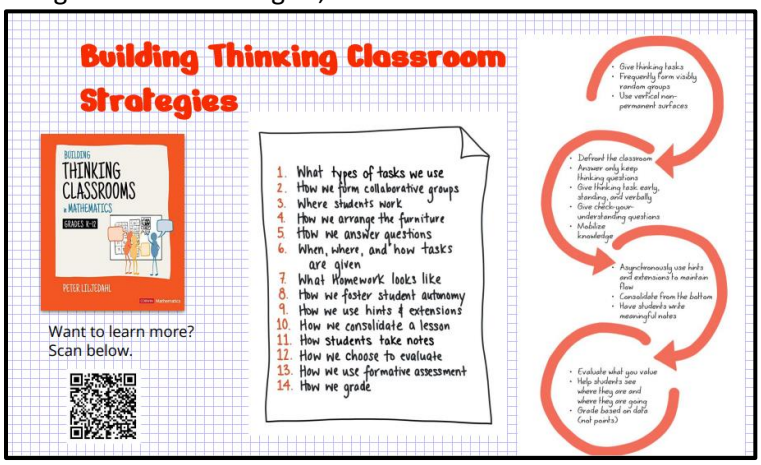


The reason that we do this, this is the part where we get that understanding of why we do the math. I think of the example of, I'm doing a problem from the book, and if my teacher doesn't give me that same problem on the test, I don't know how to do it. That's when we're just telling kids what to do. But if they have this understanding of it, then they can get a problem, and they can get a problem in the real world, and be flexible and be able to solve that problem no matter what if they have that understanding.

An example of a secondary version of the representational abstract model would be when we introduce negative integers. We might start with negative chips, and then it all comes to the middle line, and then it's just another representation. Or, even if we're looking at factoring quadratics, we might start with algebraic tiles and eventually get to representing them more abstractly. But the idea is that progression is important for a true understanding of how the brain works. Also, the model on the bottom left indicates that it's not a sequence. It is an arsenal of strategies that our students can use to attack those very…*(inaudible)*… So, having them use these strategies in multiple ways when they need it.



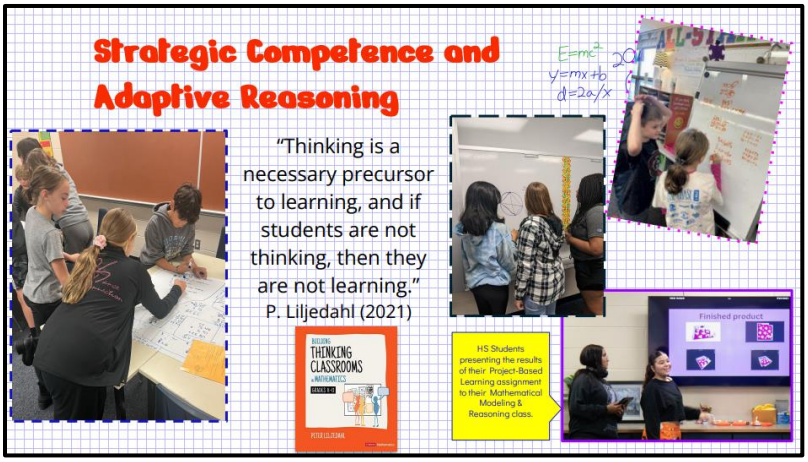
We're about to hear a lot about building thinking classroom strategies, so I wanted to take a moment to share a little about those. They come from a book written by Peter Liljedahl. I just decided to embrace these strategies. About three, two, three years ago, uh, ODE had a book talk, and then we as a district had a book talk last year. We had around 150 of our teachers engaged in learning about these strategies. We're very excited about how it has really transformed many of our classrooms. The 14 strategies you can see in the center are definitely in a progression. So, it begins with where the students are learning tasks in a random group on vertical boards. They are collaborating, and each time, the group might be different, so they're learning to work with other students.



The second phase is about what the teachers are doing during this time. One of the strategies is for the teachers to only answer questions that keep the thinking going and keep the learning going. So, if a student should ask, is this right? Our answer is what do you think it is? What do you think? Do you think it's right? Or what's a way you can verify your answer? So, we don't just stop the learning by saying yes or no.

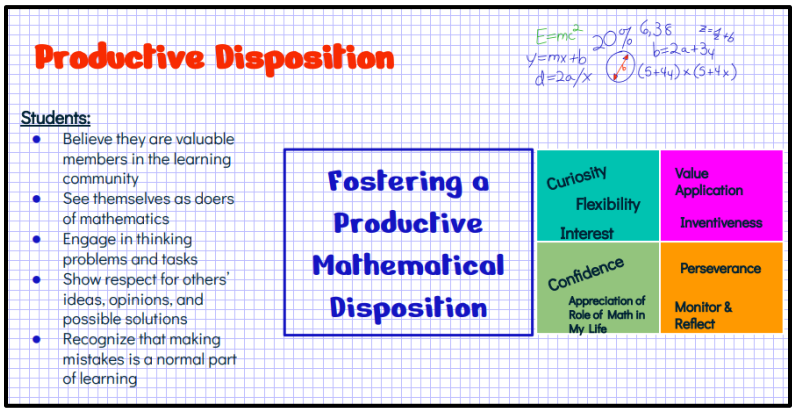
It continues to progress on how we foster that autonomy and how we use hints and extensions in a way that keeps that learning progressing. How students take notes is even different. They are more specific to what the student needs. And then, finally, the evaluation piece, which is still a work in progress. We're still

learning how to do that well, but it is really focusing on how we evaluate what we value. We want to make sure we do this right. So, if we're endorsing this collaborative thinking and multiple ways of thinking in the classroom, but then we give a test that it looks quite different than that experience, then we're not really embracing the full experience for these students. So, it's still a work in progress. But these are the strategies we'll be speaking about quite a bit from here on. If you want to learn more, you can scan that barcode.

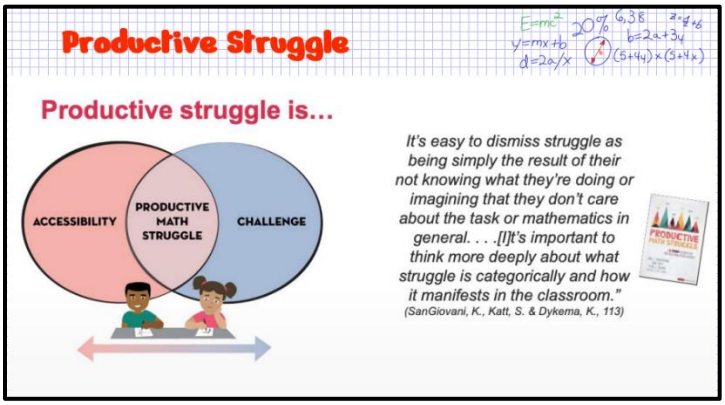


So, two of the process strands that Betsy mentioned were strategic competence and adaptive reasoning. Strategic competence is the ability to formulate an idea to represent your understanding of a problem and then solve the problem. So, that's the strategy behind the thinking. Adaptive reasoning is being able to pivot if you need to, to have a good capacity for logical thought and reflection, and then how to explain and justify my ideas. So, this is right in line with building 50 classroom strategies because students are having to justify to each other, they're, well, I think it's this because of that, or I think it's this because of this reason. Or they're using multiple representations to make sense of their ideas. They're respecting each other's ideas.

Quite a few of those pictures are of our students engaging in those types of real-world tasks. And collaborating together with their ideas. The bottom right picture is an example of one of our new courses in the high school. It's an Algebra 2 equivalent course called Mathematical Modeling and Reasoning. Students are given labs and tasks almost every day. They are real-world examples. They are asked to solve these problems and then present their ideas to the class. So, very collaborative. Very let's get you ready to present ideas in the real world and have that confidence in your ideas with each other. So, we're finding a lot of success in these process standards by integrating some of these strategies.



Productive Disposition is another one of those process strands. This is where students believe that they are doers of mathematics. All of our students believe this. This is our goal. They all see themselves as mathematicians, and they believe that mathematics is interesting and worthwhile. They see math in their everyday life, and they think it's useful. One of the biggest parts is that last bullet. They recognize learning comes from mistakes. There's no shame in mistakes; that's where the learning comes from. The sweet spot for productive math struggle is between accessibility and challenge. So, we give the students the challenge, we give them the tools to make it accessible, and then they're in that sweet spot where the task is just a little out of their reach, so they have to think and work and collaborate to find a solution.



So, we're trying to provide scaffolds for teachers, strategies for teachers, to show how we build a culture where productive struggle is valued and fostered and supported. And then we reflect on how it went. So it's to build that world where all students can be successful with these strategies.

So, we have productive struggle, but there's also unproductive struggle. We want to make sure our math classrooms have productive struggle. So putting a visual to it, you can think of learning how to ride a bike. If you look at the top right-hand one, you've got the student or child who's supposed to be learning how to ride the bike, but you can actually have a parent who's riding the bike for them, right? So in a classroom like that, if the teacher is doing the work for them, doing all of the processes, doing all of the talking, taking out all the loads of tasks, they're not going to have feedback. They're not going to be a successful, proficient mathematician. If you look in at the middle one on the right-hand side, we have training wheels. Many of us are very familiar with training wheels. Also, if you think the first time you're on the training wheels, it gives you that false hope of I figured this out, right? I've got this. As soon as the training wheels come off, you're like nope, I need more feedback. So that's not what exactly the productive struggle looks like in a math classroom. And then if you look at that bottom right-hand one, we also aren't like, okay, see ya. So if you say, okay, see ya on the bike, and that's what happens. We also do not; in a math classroom, we want to make sure that we are giving that support so that we are not falling down like that. And so, the best scenario of thinking about how to learn a bike and how that relates to learning in a math classroom is the balanced bike. So if you see on the left-hand side the balanced bike. When you are on that, you can give yourself a little feedback, you can feel the balance, your feet can go down, and you're figuring out how to adjust. And that's what we want our students to do to figure out how to adjust and make the math work.

All students can learn math. All children should have access to grade-level mathematics with the teaching of understanding. Our elementary curriculum that was chosen and has been adopted has that piece, the illustrative mathematics. The intervention, the one at the bottom, talks about interventions that must focus on content that is connected with and promotes the grade-level curriculum through problem-solving. When we think about students who don't have something mastered yet and think about what Molly told us earlier about when we have our kindergarten and first graders, we've seen the data here and nationwide that if we have not intervened and they're not at that benchmark yet at grade-level, then they continue to struggle at fifth grade and continue to struggle without. So, we have really had a big focus on what that early intervention looks like. We have a lot of intervention teachers who have been doing a lot of great work with this. We know what the intervention is. We know what the focus is. But the

unproductive belief of that is to think that they only need basic skills. So, when we look at that to remember that all students can learn math is that we make sure they're getting grade-level content and they're also getting whatever unfinished learning they have or the skills they don't have yet.

So, our committee work. Last year, at this time, Elementary started the revision and the launch with the math team. Then, the illustrative math was adopted in April, and professional development was done in April through September. Our team put together some guides to get everyone started in addition to the professional development. And we are in the first year of implementation.

Secondary has just begun this process. We met in November for the first time on the Secondary Committee. We looked at a lot of this research and talked again about student access and equity. We also discussed the strategies for best practices that we want to endorse, believe in, and look for in our adoption of resources. In a few weeks, the vendors are coming for us to look at through this lens of all these things that we value. And then we will continue on the same path that the elementary did with the goal of full implementation of our resources in the fall.

So, that is a summation of a lot of important considerations and the factors that have gone into this entire curriculum revision process, specifically the design of this course of study. So, in your board canvas course is not only this presentation but also a draft of the course of study that I believe you've already received.

I want to take a brief moment to go over some important features of this course of study that you will take into consideration before you vote to adopt it in February. Some of the big components of this course of study are our district philosophy, vision statement, educational goals, the committee's vision and design for math, and the instructional commitment of our teachers. Our goal is to provide an integrated model for math for all students to acquire the knowledge and skills to become mathematicians who reason, think critically, and are prepared to contribute to a global community. In order to achieve this vision, teachers of mathematics in the Hilliard City School District are committed to learning partnerships with students, culturally responsive practices, appropriately challenging and rigorous instruction, evidence-based practices, communication skills, authenticity, real-world problem application, and a learner's mindset.

In addition, Pages 22 through 95 of this course of study are required because those outline the Ohio learning standards. So, as Betsy and Kim shared, those standards are a combination of not only the content but what we are required to teach, but also those process standards, what we emphasize, and how students learn math and apply their math. Again, this course of study is also responsive to the research that you've heard from Betsy and Kim. This course of study pairs with our program of studies, which is currently under review, and how this course of study aligns with and drives the courses that we offer in the school district. The final note is that the standards and sequence of the AP courses that are listed in this course of study are determined by the AP college centerboard.

Finally, what are the next steps? So, after tonight's meeting, this course of study will be shared on our webpage. There will be an opportunity for parents and the community to look at our draft course of study and provide feedback through a feedback form through January 31st. And then you, the board, will revisit it in February and hopefully adopt it. And then, we will be moving on to Phase 2 for 6-12, which is the resource selection and the adoption process. At this time, I'm happy to answer any questions you may have.

Ms. Arnold said I actually have two questions. When you're looking at it; obviously, 22 through 95 are what has to be in there from ODE. When you look at NCTM principles and standards, is there anything that isn't showing up in ODE that you have found that they're missing and that we have? Dr. Kembitzky said they are aligned with the NCTM principles and standards. Mrs. Kindl added that part of the research that you'll notice in the references of this program of studies. We really heavily relied on NCTM, like Catalyzing Change in Middle School Mathematics. We looked at that publication from them for middle school, high school, and elementary. So, we're not only referring to the Ohio Learning Standards, but an important part of this process is leveraging the research and best practices from NCTM. We also just had a president of NCTM here. I think that was in a board update maybe two weeks ago. Kim was at the conference as a part of this revision. He came and spoke to our math teachers about trends in research within math education. So, it's not just the Ohio Learning Standards that are driving the work. Of course, that is the most important part since we're mandated to teach that, but how we teach is very reflective of what our stakeholder feedback has to say, what our student data shows, and obviously all of the research and best practices within that.

Ms. Arnold said, and the other quick question. One of the things we were talking about, the concrete representative, when you're looking at those concrete examples within secondary, I know it's challenging, but how do you maybe approach that in cross disciplines? Say, is there something concrete within music or any of the other subject matter that can help with that? Ms. Kindl asked if she was referring to interdisciplinary studies. Ms. Arnold said yes. How do you do representation outside of a math class, per se? Ms. Kindl said, representation of the content. Ms. Arnold said yeah, the concrete examples, the representative examples, is there anything that crosses disciplines at all? Ms. Kindl replied we're always looking for as many strategies when we're teaching specific content. Mr. Stewart added you've seen the book talk about building classrooms that really took hold in this district. And, those concepts we're starting to see not just in math classrooms. But we're seeing in other disciplines realizing that approach is working, not just for math, that's replicated across disciplines.

Mrs. Murdoch said clearly, we have to react to what's going on right now. And what we have right now is the ODE standards. Given that ODE does not exist any longer, or DEW, have we reached out to them to ask if they are planning on making any wholesale changes anytime soon? Mr. Stewart said no. While they may fall under different organizations, the processes are just housed in different places. I don't think you're going to see any wholesale changes in one content area because of that change. Ms. Kindl added that she’s not aware of a state curriculum revision for mathematics that's on the horizon at this moment.

Mr. Vorst said a great job as always, Cori. That is a bucket of information. That's a lot of stuff there. Thank you to you and your team for all your hard work. The thing that stood out most to me, and I feel like this has been an issue since we were kids in school, is the relevance of the real-world statistics about what math is really like versus what math should be. And it seemed like you gave kind of some, I don't want to say abstract, but generalized ideas about how to kind of close that gap. Can you drill down on any more specifics about, you know, maybe this is more personal finance stuff that kids pick up in high school, but calculating an interest rate on a credit card or things that we adults have to do that would maybe help close that gap, because it seems like that's been a gap for as long as I can remember, and I don't envision that it's closing yet.

Mrs. Kindl said it’s not just a secondary issue. When we looked at the resource for K-5, we were very intentional in ensuring that that resource had opportunities for kids to see math in the real-world, even just when they think about the concrete, the abstract, the representational. Using those thinking routines and images that apply to kids, like kindergartners who are looking at bears, learning real-world

applications for any content area. Kids have to understand what it is they're learning, why they're learning, and how they will use it.

Dr. Kembitzky added that some of our high school courses are embracing more of a data/statistical view of problems. For example, our Data Science Foundations courses have recently looked at the attendance issues we're having as a district. We took that data, and the students came up with solutions to help students. They looked at the data*…(inaudible)…*was their own data. They came up with solutions, and then when they learned that Darby High School they were looking at, that meant more to them regarding the solutions they presented. I believe they presented some of the solutions to the leadership committee. We have A 7th-grade class that is like a STEM class, where they are learning how to use different types of tools, calipers, and Raspberry Pi coding, to identify problems and then figure out a strategy to solve real-world problems such as what the most efficient way to get from A to B and these are the only tools I have. We have quite a lot in our algebra courses. We are showing not just this is how you factor quadratics but how this applies to a projectile motion problem. We shoot rockets in the spring and the students anticipate how high the rockets will go and the mechanics involved. So, we try as much as possible to integrate the why behind the math we do. Much more than my own personal experience, so I wish I was a student now. It's been pretty exciting.

C **ROUTINES**

Mr. Stewart pointed out there is a slight change in Mr. Hansher's hire date in the consent agenda from the agenda you originally received.

C1 The agenda is correct, as presented.

C2 The Board of Education adopted the agenda as presented.

C3 The Board of Education approved the December 2023 Treasurer's Report.

C4 The Board of Education approved the minutes from the following meetings:

a. December 11, 2023 – Regular meeting minutes
b. December 11, 2023 – Meeting notes

The meeting date in the agenda was listed as December 11, 2022. Mr. Vorst asked if that should be 2023. Mr. Stewart replied it sure should. Mr. Perry motioned, and Mr. Vorst seconded to amend the date to 2023. The motion passed.

D **PUBLIC PARTICIPATION**

The Board of Education appreciates citizen interest in meetings of the board. This place on the agenda is set aside to hear comments from visitors. When called, please go to the microphone so that remarks may be clearly heard and recorded. You must give your name and limit comments to three minutes. Comments must be respectful and professional in nature. Board members may or may not ask questions or make comments. No board member has the power or authority to act for the board; therefore, no response from an individual board member should be interpreted as an official action of the board. Portions of this meeting are being recorded.

No public participation.

E **CONSENT AGENDA**

The Board of Education approved the consent agenda, items E1 through E3. Action by the Board of Education in "Adoption of the Consent Agenda" means that all E items are adopted by one single motion unless a member of the board or the Superintendent requests that any such item be removed from the consent agenda and voted upon separately. Employments, where applicable, are contingent upon 1) Verification of education, 2) Proof of proper certification, and 3) Positive results from a criminal records check.

E1 Approved the following Certified Personnel actions – See attachment to the Minutes.

E2 Approved the following Classified Personnel actions – See attachment to the Minutes.

E3 Approved the following trip requests:

a. Davidson Baseball, Murfreesboro, TN – March 28, 2024
b. Darby EF Student Tour, Dublin, Ireland/London, England – March 29, 2025

Mr. Perry noted and congratulated the following retirees:

- Kent Hansher, has been with Hilliard City Schools since 1996
- Ronald Marshall, has been with Hilliard City Schools since 1997
- Anthony Odenweller, has been with Hilliard City Schools since 2001
- Ruth Miller, has been with Hilliard City Schools since 2000

Mr. Perry also acknowledged the passing of James White and offered condolences to his family.

F **ACTION AGENDA**

F1 The Board of Education approved the following December 2023 Winter Graduates:

Hilliard Bradley High School	**Hilliard Darby High School**	**Hilliard Davidson High School**
Joseph Andrew Browning	Ariana Li Burchett	Miya Nicole Beckman
Arundhati Chowdhary	Edward William Courts	Gabriela Astrid Charlson
Aidan Ryan Hughes	Alex Faith Pennington	Aubree Grant
Ghadeer Saad Jawad	Ashlyn James Risner	Halayna Shay Harder
Corinner Leigh Miller		

Mr. Stewart announced that one of the graduates was at the meeting. He invited Ariana Burchett, a Darby graduate, to come up and receive her diploma.

F2 The Board of Education approved the 6th Grade, Middle School, and High School Programs of Study.

F3 The Board of Education approved the following resolution:

RESOLUTION TO AUTHORIZE OSBA TO REVIEW POLICIES IN LIGHT OF HB 33 LEGISLATIVE CHANGES IMPACTING ODE AND STATE BOARD OF EDUCATION WHEREAS, the Ohio General Assembly passed the state's biennial Operating Budget for FY 24-25 ("Amended Substitute House Bill 33" or "HB 33") which Governor DeWine signed into law on July 3, 2023; and

WHEREAS, HB 33 made significant legislative changes impacting the Ohio Department of Education ("ODE") and State Board of Education ("SBOE"), including renaming ODE the Department of Education and Workforce, creating the position of Director of Education and Workforce, establishing within the Department of Education and Workforce a Division of Primary and Secondary Education and a Division of Career-Technical Education, creating the Department of Children and Youth, creating the position of Director of Children and Youth, and reallocating powers and duties between the State Board of Education, Department of Education and Workforce, and Department of Children and Youth; and

WHEREAS, the Board of Education recognizes the need to assess each of its board policies to determine necessary updates to ensure alignment with the new HB 33 legislative requirements impacting ODE and SBOE;

NOW, THEREFORE, BE IT RESOLVED that the Board of Education authorizes the Ohio School Boards Associaton to commence a thorough review of its individual board policies to identify those requiring updates due to the new HB 33 legislative requirements impacting ODE and SBOE;

FURTHER RESOLVED that the Board of Education requests that the Ohio School Boards Associaton create a chart for the Board outlining the specific policy sections requiring updates and provide a brief summary of the proposed modifications for each affected policy to facilitate a clear understanding of the recommended updates.

This resolution shall take effect immediately upon approval.

Mr. Stewart explained that House Bill 33 made some significant changes to the statewide infrastructure of education in the state of Ohio. It removes some powers from the State Board of Education, as well as the Ohio Department of Education, most of which still exist, and moves many of those to the newly created Department of Education and Workforce. As you know, we subscribe to OSBA's policy service, which writes a lot of our policy for us. They have offered to find and revise all the references to the State Board of Education or Ohio Department of Education throughout our policy manual. So, this resolution authorizes them to do that work. There will be a subsequent resolution to approve the changes once they do that work.

Mrs. Murdoch asked if this would go through the policy committee after they've made all of the changes or come straight to us for approval. Mr. McDonough replied that they would provide a spreadsheet of all the changes. Then we will submit a resolution to the board to allow OSBA to go in and actually make all those changes on our behalf.

G **REPORTS / INFORMATION / EXHIBIT ITEM**

G1 Policies submitted for a first reading

a. BBFA – Board Member Conflict of Interest
b. DJB – Petty Cash Accounts
c. DM – Deposit of Public Funds (Cash Collection Points)
d. EBCD – Emergency Closings
e. EEAC – School Bus Safety Program
f. EF/EFB – Food Services Management/Free and Reduced-Price Food Services

g. GBG – Staff Participation in Political Activities
h. GBI – Staff Gifts and Solicitations
i. GCB-1 – Professional and Certificated Staff Contracts and Compensation Plans (Teachers)
j. GCE – Part-Time and Substitute Professional and Certificated Staff Employment
k. GCPD – Suspension and Termination of Professional and Certificated Staff Members
l. IGBEA – Reading Skills Assessments and Interventions (Third Grade Reading Guarantee)
m. IGBEA-R – Reading Skills Assessments and Interventions (Third Grade Reading Guarantee)
n. IGCF – Home Education
o. IGCF-R – Home Education
p. IGD – Cocurricular and Extracurricular Activities
q. IGDJ – Interscholastic Athletics
r. IGDK – Interscholastic Extracurricular Eligibility (Grades 7-12)
s. IIA – Instructional Materials
t. IKE – Promotion and Retention of Students
u. IL – Student Assessment
v. JEA – Compulsory Attendance Ages
w. JEC – School Admission
x. JECBC – Admission of Students from State-Chartered, Non-Chartered or Home Education
y. JECBD – Intradistrict Open Enrollment
z. JECE – Student Withdrawal from School (Loss of Driving Privileges)
aa. JEDA – Truancy
bb. JEG – Exclusions and Exemptions from School Attendance
cc. JHCCB – Tuberculosis Control Policy
dd. JHCD – Administering Medicines to Students
ee. JN – Student Fees, Fines and Charges
ff. KI – Public Solicitations in the Schools
gg. KJA – Distribution/Advertisement/Promotions of Any Kind of Non-School-Sponsored Literature

G2 Committee Reports

Mr. Vorst said we had our facilities meeting back in December. We discussed the projects that were going to be completed over break, as well as the projects to be completed this coming summer. We also had an update on our master facility planning process.

H **EXECUTIVE SESSION / ADJOURNMENT**

H1 The meeting adjourned at 7:44 p.m.