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Subject: K-5 Mathematics Instructional Resource Adoption

BACKGROUND

The previous K - 5 adoption was completed in 2009, prior to the implementation of Common Core State Standards for Mathematics, known in Oregon as Oregon State mathematics standards. As of the 2018-19 school year, the three-year average for all K - 5 students proficiency was 48.5%, indicating that more than half of our K - 5 students are not grade level proficient. Our historically underserved range from a proficiency level of 13% to 23%. This is not to say that the lack of updated materials alone is the cause for such low proficiency, but the lack of alignment between the mathematics standards and the instructional materials creates conditions such that classroom educators are forced to create their own resources and adjust practice without necessarily being certain they are achieving the goal of alignment to grade level standards. There were also challenges around ensuring the materials reflect cultural relevance that students and educators will benefit from.

RELATED POLICIES/BEST PRACTICES

Best practices in mathematics instruction means that there is a common instructional scope and sequence where each grade is anchored in current standards. Teaching and learning needs to be supported by high-quality instructional resources that develop content knowledge and skills across multiple standards. Opportunities for student engagement need to build on student curiosity so they are encouraged to think, wonder, and participate in the mathematical practices. For learning to engage students, it needs to be relevant and authentic, culturally responsive, build on their cultural and linguistic strengths, and be meaningful to their lives. In a student-centered classroom, students are using mathematical practices such as problem solving, explaining their thinking, computational and mathematical thinking, constructing arguments, and making use of patterns and problem solving. Students are actively developing, testing and refining their thinking. In mathematics, best practices also means that every student has the materials they need to collaborate in engaging hands-on activities.

ANALYSIS OF SITUATION

Centrally providing K-5 mathematics instructional resource materials which are vertically and horizontally articulated to support all students based on evidence-based mathematical best practices. All K-5 teachers are then able to focus on instruction and differentiation rather than spend time searching for instructional resources from various books and websites. Common mathematics instructional resources enables district-wide shared focus on implementing and sustaining culturally relevant teaching practices through ongoing professional development and using student work to reflect on effectiveness of instructional practice and equitable assessment practices for all students. Additionally, common K-5 mathematics instructional resources provide a baseline of instructional materials to ensure all students have access to rigorous, coherent, culturally relevant mathematics instructional materials. This reduces the detrimental effects of learning interruptions for students having to navigate housing or other insecurity, as a common scope and sequence and instructional resources will support familiarity with the district-wide mathematics program. Students will spend less time figuring out how to engage with the instructional materials during these types of transitions. No purchased set of instructional materials will ever provide the full range of supports that are needed for daily classroom instruction and differentiation. Current research tells us that it is the pedagogical practices and moves that teachers make that can have the greatest impact on student success (NCTM, 2019; NCTM 2014, Hattie, 2008). Yet, a comprehensive set of common K-5 mathematics instructional resource serves the instructional core, by allowing for professional development with a strong focus on shifting instruction such that we see better outcomes for all students, especially those historically underserved. Only improvements to our current best practices will support the closing of the perpetual achievement gap we continue to see in PPS. The K - 5 mathematics instructional resource adoption is one small piece of the puzzle.

FISCAL IMPACT

This purchase is part of the Bond funded instructional resources and was approved by the Bond Compensability Committee on 5/04/21. See Attachment C - Curriculum Associates/Ready Classroom Mathematics contract for purchase details.

COMMUNITY ENGAGEMENT (IF APPLICABLE)

The decision to fully adopt Ready Classroom Mathematics K-5 was a highly involved process including a cross-district K-5 Mathematics Adoption of Instructional Resources (AIR) committee and a field test of K-5 mathematics instructional resources. A deep analysis of the instructional resources was completed to evaluate instructional resource alignment with K-5 mathematics standards, RESJ lens, student engagement, and integration of assessment and technology. A brief description of the K-5 Mathematics AIR process and the Field Test are below.

- **K-5 Mathematics AIR committee** - Nine meetings of the AIR committee occurred between February 19, 2020 and December 10, 2020. Selected AIR committee participants convened for full day workshops to learn about instructional materials evaluation, practice using the tools of such evaluation, and apply learned skills to reviewing suggested resources prior to selecting programs for vendor presentations. Using data from these opportunities, the AIR committee narrowed choices down to 4 vendor programs. Just prior to announcing the top 4 vendors, we had to pause the adoption process due to COVID closures. In late fall of the 2020-21 school year, we resumed the adoption process but had to significantly change the professional learning aspect to meet the needs of participants due to changes in the length of time and venue

of offerings relative to comprehensive distance learning. Data analysis of the teacher responses from the evaluation tool indicated that the two instructional resources for the field test were: The Math Learning Center: Bridges 3 and Curriculum Associates: Ready Mathematics K-5..

- **K-5 Mathematics Field Test** - The Field test occurred from January 20, 2021 to April 9, 2021. Teachers were assigned to teach one of the two instructional resources to maximize for the most diverse representation of all grade levels, school clusters, DLI, and student demographics. Classroom observation data collection occurred February 1, 2021 to March 19, 2021. Classroom observations, student artifact collection and teacher feedback using the GIMET, SEAT, and Bias Tool occurred April 9, 2021 - April 22, 2021. All teachers who completed the observations, artifact submission, and the three tools were then asked to complete a final recommendation of the instructional resource with explanations for their recommendation or not.
- **Final Recommendation:** The Decision Matrix has 13 areas for consideration. In six areas Bridges 3 and Ready Classroom Mathematics are equal. Bridges 3 scored higher than Ready Classroom Mathematics in two areas. Ready Classroom Mathematics scored higher than Bridges 3 in five areas. These results have made the recommendation to adopt K-5 Ready Classroom Mathematics.

Community and Family engagement did not occur during the process. During the field test, the time community feedback would typically occur, the district and community were navigating the shift from Comprehensive Distance Learning to Hybrid Learning. This made gathering community and family feedback at this time not possible. The PPS Mathematics Department has developed a plan for community and family engagement starting this summer and over the next several years.

We are phasing into the Adoption Committee's evaluation cycle. Community and Family Engagement will be part of the evaluation of our curriculum adoption process, which is based on strategic actions agreed upon by cross-functional groups and published in the [Instructional Resources Adoption Kit](#). PPS curriculum committees will use this process when making curriculum resource adoption and procurement decisions using consistent and evaluated methods. This comprehensive document will identify those KPIs and will help us measure our progress. The protocol may include: surveys, focus groups, and empathy interviews.

TIMELINE FOR IMPLEMENTATION / EVALUATION

The timeline for implementation begins with the purchase of the Curriculum Associates K-5 Ready Classroom Mathematics instructional resource. As part of the purchase, teachers will have full digital access to all K-5 Ready Classroom Mathematics digital resources. The PPS Math department will be trained on the materials by the vendor at the beginning of June 2021. The PPS Math department will then revise the scope and sequence for each grade level to align with the horizontal and vertical articulation of priority standards present in K-5 Ready Classroom Mathematics. Over the summer, K-5 general education and special education teachers, instructional specialists, and mentors will be able to attend at least 2 days of professional development focused on the mathematical practices and the new K-5 Ready Classroom Mathematics units in June, August or September. During the summer, building administrators and other district level support staff will also receive professional development on the K-5 Ready Classroom Mathematics instructional resource. All manipulative kits and student books will be ready for student and teacher use by the end of August 2021.

This will be followed by a three-year professional development plan with the vendor that will provide 170 6-hour sessions over three years for teachers, administrators, families, and community members to engage in professional learning experiences around K-5 Ready Classroom Mathematics and best practices in elementary mathematics instruction. Part of the goal of this three-year PD timeline is to build a teacher cadre of experts that will facilitate district PD in the future and support school-based Professional Learning Communities focused on using student work to inform instructional decisions to improve student outcomes in mathematics. The PPS Math department will continue to monitor student performance through the SBAC mathematics assessment, MAP growth MAP assessments, teacher and student feedback through surveys and focus groups, and classroom walkthroughs focused on student mathematics learning.

BOARD OPTIONS WITH ANALYSIS

Our recommendation is to approve this Bond purchase. Purchasing Curriculum Associates Ready Classroom mathematics means that we will be able to move very quickly in meeting GVC goals. If not approved, K-5 mathematics will continue with the current model which means we would continue to support Bridges 1.0 resources that are not aligned to the current standards. If we were to restart any part of the instructional resource adoption cycle, this would take another 6 - 18 months to complete.

CONNECTION TO BOARD GOALS

A strong and comprehensive K-5 mathematics instructional resource supports Board Goal #2 - Fifth Grade Mathematics and PPS Graduate Profile, centering engaging mathematics learning opportunities for elementary students. Through mathematics learning, all students increase their innate mathematics ability and achievement at the highest levels in mathematics by providing opportunities to experience the beauty, joy and wonder of mathematics through engaging, culturally-sustaining instructional experiences and real-life contexts.

This curriculum resource adoption will contribute to preparing students for middle-school mathematics. It supports their development in being able to demonstrate mastery of the core academic knowledge and skills they will need to acquire to successfully engage in the middle school experience that includes interdisciplinary core classes and elective exploratory wheels inclusive of the arts, pre-CTE, technology, world-languages, health and well-being. Students will be prepared to communicate effectively by developing advanced organizational, writing, speaking, and presentation skills, while using logical, persuasive, and compelling content as demonstrated in an Eighth Grade Portfolio or Capstone.

If we have a Transformative Curriculum and Pedagogy (Educational System Shift) then we can support all teachers to be Knowledgeable and Committed Lifelong Learners, Inclusive and Responsive to Diverse learners, and are Self-aware and Reflective (Educator Essentials) which will result in students becoming Inquisitive Critical Thinkers with Deep Core Knowledge and Inclusive and Collaborative Problem Solvers (Graduate Portrait).

STAFF RECOMMENDATION

Approve purchase of Curriculum Associates Ready Classroom Mathematics.

As a member of the PPS Executive Leadership Team, I have reviewed this staff report.

_____ (Initials)

References

Catalyzing change in early childhood and elementary mathematics: Initiating critical conversations. (2019). Reston, VA: NCTM, National Council of Teachers of Mathematics

Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning.* Routledge/Taylor & Francis Group.

Principles to actions: ensuring mathematical success for all. (2014). Reston, VA: NCTM, National Council of Teachers of Mathematics.

ATTACHMENTS

- A. [K-5 Math Ready Classroom Mathematics Adoption Decision](#)
- B. [K-5 Math Community Engagement Plan](#)
- C. K-5 Mathematics Bond Purchase Process Summary
- D. Contract for Ready Classroom Mathematics purchase.