



Maryland

STATE DEPARTMENT OF EDUCATION

Maryland School Review Expert Review Team Mathematics Report

Phoenix International School of the Arts (PISOTA)

Maryland State Department of Education

Office of Teaching and Learning

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MARYLAND STATE DEPARTMENT OF EDUCATION

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Overview of Maryland School Site Reviews

PURPOSE

The Maryland State Department of Education (MSDE) is committed to supporting school systems in improving student outcomes. MSDE conducts comprehensive school reviews to identify promising practices and opportunities for growth in curriculum, instruction, interventions, educator support, and school management. School reviews are a collaborative process among local education agencies (LEAs), schools, and MSDE aimed at accelerating student learning and enhancing educator practice.

SCHOOL REVIEW PROCESS AND METHODOLOGY

All school reviews are facilitated by an Expert Review Team (ERT) led by MSDE. ERT members consist of trained teachers, school leaders, and education experts with experience in improving student outcomes. Members participate in extensive training led by MSDE to calibrate the review process to ensure a consistent approach to school reviews. To identify effective practices and opportunities for growth in a school, the ERT analyzes school data, reviews documents submitted by the school and conducts a two-day site visit that includes classroom observations, focus groups, and a principal interview.

The Expert Review Team forms a consensus based on student data, documents, observations, focus groups, and a principal interview.

STRUCTURE OF THIS REPORT

The following report is organized into four different sections.

School Information and Contextual Considerations: This section provides a link to the Maryland School Report Card as well as a description of any notable contextual considerations.

Findings: This section outlines ERT findings, including strengths and areas for growth.

Recommendations and Actions Steps: This section outlines targeted recommendations and action steps to address the recommendation.

Appendix: The appendix expands on information provided in the body of this report. They provide detailed information on the specific methods used by the ERT during the site visit.

School Information and Contextual Considerations

ABOUT PHOENIX INTERNATIONAL SCHOOL OF THE ARTS (PISOTA)

Detailed information, including enrollment, attendance, demographics, and student outcome data, can be found in the [Maryland School Report Card](#).

Contextual Considerations

The findings and recommendations presented in this report are based on the evidence collected during the school visit. Any circumstances that may have affected the fidelity of the visit and/or the integrity of the data collection process are noted below.

Notable Considerations:

Upon calculating the totals for our classroom visits we realize that we visited 8 classrooms at PISOTA in total. The four reviewers were sent into four different math classes at different points during the day giving a total of 16 observations/reviews of 4 different teachers/instructional aides. Both teams observed the same lesson twice in 1 classroom.

Findings

AREAS OF STRENGTH

Build Procedural Fluency from Conceptual Understanding,

15 of the 16 classroom visits highlighted that students were provided with practice opportunities that build procedural fluency based on conceptual understanding. This demonstrates a strong emphasis on helping students develop both accuracy and depth of mathematical thinking through meaningful practice.

- In one of the 16 classrooms reviewed, students were prompted to explain their reasoning rather than give answers by the teacher saying, "Tell me how you would solve this; don't tell me the answer." The teacher listened as students responded and wrote their explanations. The teacher continued questioning, asking, "If $x=10x = 10x=10$, what is $10210 \wedge 2102$?"
- In another class, students were encouraged to solve problems independently while providing support. The teacher said, "You can circle it to keep track of your numbers."
- In a third classroom, teacher three built procedural fluency through hands-on practice by providing materials and tools. The teacher said, "I'm going to give you a shape. On your table you should have some graph paper."

Supporting Mathematical Reasoning

Evidence of students being provided opportunities to mathematically model relatable, relevant contexts and applications was noted throughout the review.

- 12 of the 16 classroom reviews, featured opportunities for students to mathematically model relatable, relevant contexts and applications. During one visit, a student came to the board to choose which figure she thought was correct and talked through the process of determining the scale factor for the images displayed.
- In another example, a student demonstrated the ability to create scale factor enlargement based on guidance provided from the teacher.

AREAS FOR GROWTH

Facilitating Meaningful Mathematical Discourse

Evidence for scaffolding student discourse opportunities was limited.

- Out of the 16 classroom reviews, zero classes included scaffolds being provided to support student participation in mathematical discourse, highlighting an area for targeted professional growth. Providing scaffolds can aid students in understanding content and engaging more effectively in mathematical discussions.
- During the teacher focus group discussion, all 10 of the participants recognized the potential benefit of scaffolding, further noting that such support could help students who are behind. They also expressed the need for progress monitoring forms to guide collaboration and instructional planning based on student needs, as well as strategies aligned with MCAP and other standardized tests.
- Out of the 10 students in the focus group discussion, nine students reported that they repeatedly get problems wrong, this leads to frustration or impatience. While one student

stated they “liked to be challenged by a hard problem.” This further emphasizes the need for support that helps them engage and persevere in learning.

Support Productive Struggle

In all 16 classes across grades six to eight there was the absence of productive struggle for the students as it was evident through the lack of opportunities for students to engage in complex problem solving that involved exploring multiple solution paths and strategies, a lack of strategic supports and scaffolding, and the encouragement to take mathematical risks and explore new approaches that differed from those presented by the teacher.

- During the review, it was noted that none of sixteen classroom visits provided evidence of encouragement for the students to explore multiple solution paths or to try different strategies.
- Additionally, it was also noted that none of 16 classroom reviews included evidence of strategic support and scaffolds in place to enable students who were having difficulties to work through challenges independently or with their peers.
- Evidence of students being encouraged to take mathematical risks and explore new approaches was noted in 5 out of 16 classroom visits by ERT members.
- During the student focus group discussion, when participants were asked what happens when a math problem is hard, how they felt, participants shared that, “We try to ask the teacher for help...or give up”.
- In the pre-visit documentation submitted by the school, the lesson plan template does not specifically provide teachers with indicators to help them plan for integrating productive student struggle into their lessons.

Recommendations and Action Steps

The following recommendations are meant to support school leadership in improving in the areas that were identified as needing growth. Each is closely connected to the evidence presented above under “Areas for Growth,” and includes specific action steps and resources to support the implementation of these improvements.

RECOMMENDATION TO SUPPORT CONTINUOUS GROWTH IN FACILITATING MEANINGFUL MATHEMATICAL DISCOURSE

To build teacher capacity to scaffold mathematical discourse provide sustained professional learning focused on strategies to scaffold student participation in mathematical discussions, ensuring that all students—especially those performing below grade level—can meaningfully engage.

- Professional Learning(PD): Facilitate PD sessions on discourse scaffolds such as sentence stems, turn-and-talk structures, accountable talk moves, and visual supports (e.g., anchor charts or discussion norms posters).
- Collaborative Planning: Incorporate scaffolding strategies as a standing agenda item in weekly grade-level or PLC meetings.
- Instructional Coaching: Conduct co-teaching and peer observation cycles with a focus on scaffolding for discourse.
- Develop and utilize progress monitoring forms to track student engagement in mathematical discussions supporting data-driven collaboration and instructional planning.
- Create a monitoring template that includes Include indicators such as “student explains reasoning,” “uses mathematical vocabulary,” and “responds to peers’ ideas.” Add a column for scaffolds used (e.g., sentence starters, visuals, partner structures).
- Foster a Classroom Culture that Encourages Productive Struggle and Perseverance by establishing classroom norms and routines that help students view challenges as opportunities for growth rather than sources of frustration.
- Norm Building: Develop and post shared “discourse norms” across classrooms (e.g., “We explain our thinking,” “We build on others’ ideas,” “Mistakes help us learn”).
- Student Supports: Introduce scaffolds that help manage frustration, such as “try another strategy” checklists or reflection prompts (“What helped me move forward when I was stuck?”)
- Teacher Modeling: Encourage teachers to conduct models for think-aloud through errors, modeling how mathematicians persevere and revise strategies.
- Establish Ongoing Instructional Leadership Monitoring and Support by identifying 1-2 teachers for an instructional leadership track and ensure that they have opportunities to actively and informally conduct classroom visits and provide feedback and celebrate growth in the facilitation of mathematical discourse and use of scaffolds This could be piloted as a classroom visit exchange between math teachers.

RECOMMENDATION TO SUPPORT CONTINUOUS GROWTH IN SUPPORTING PRODUCTIVE STRUGGLE

The absence of productive struggle for students was evident through the lack of opportunities to engage in complex problem solving that involved exploring multiple solution paths and strategies. A lack of strategic support and scaffolding, and limited encouragement to take mathematical risks and explore new approaches that differed from those presented by the teacher.

- Foster Productive Struggle and Risk-taking: teachers should build on normalizing mistakes by encouraging reflection and highlighting alternative strategies.
- Implement Discussion Protocol: Implement discussion protocols that encourage and allow students to share their thinking, discuss approaches that didn't work, and analyze different strategies in a structured way.
- Elevate Discussion Protocols: After completing a challenging problem, students can participate in a "Think-Pair-Share" or "Gallery Walk" protocol where they explain their solution process, discuss errors, and explore alternative methods with peers, reinforcing that mistakes are part of the learning process and encouraging collaborative problem-solving.

Appendix A

SUMMARY OF EXPERT REVIEW TEAM ACTIVITIES

Expert Review Team Members

1. Daniel Russell*
2. Jessica Grant
3. Dr. Joe Sampson
4. James Butler

Number of Classrooms Reviewed

On November 6, 2025, twelve classrooms were visited.

Number and Description of Interview Participants

On November 7, 2025, one interview was conducted with the principal.

Number of Stakeholder Feedback Participants

- 10 students
- One school leader
- 10 teachers
- Eight parents/caregivers

Documents Analyzed

The school submitted additional site visit documentation including:

- PD Dates
- Data Protocol
- Lesson Plan Samples
- Curriculum Map