lastinger listening tour

Teacher Experiences and Opportunities in Mathematics Education

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Helios Education Foundation

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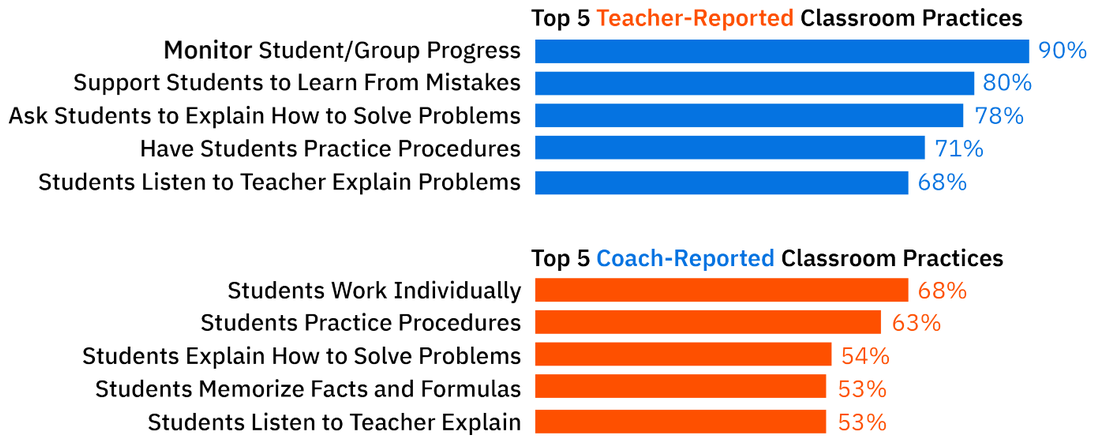
In the Fall of 2023 we conducted a listening tour across the state of Florida in an effort to understand the current state of mathematics education. This brief reports on what we learned from and about teachers and their experiences in the classroom. For a comprehensive report of the Listening Tour and our methodology visit bit.ly/LCListeningTour.

Key Finding: Teachers Desire More Support for Mathematics Instruction

Across 659 Florida mathematics teachers who reported on a survey about classroom practices they frequently use, among the most common activities were having students spend substantial time practicing procedures (71%) and listening to the teacher explain how to solve problems (68%). Similarly, math coaches reported observing students frequently working individually (68%), practicing procedures (63%), and listening to the teacher (53%). Survey and focus group data consistently indicated that students do not enjoy such learning environments and struggle to engage in these passive forms of mathematics learning.



Although teachers reported that they use these teaching practices frequently in their own classrooms, when asked about the ideal math teaching and learning environment during 18 focus group interviews with 62 K-12 teachers, they described a vision of mathematics classrooms as enjoyable, collaborative spaces for student sensemaking and understanding of important and relevant mathematics. Teachers' ideal visions align well with the Florida B.E.S.T. Mathematical Thinking and Reasoning Standards (MTRs; [FLDOE], 2020), which describes the types of mathematical practices students should be engaged in, such as collaborating (MTR.1.1, MTR.4.1), real world problem-solving (MTR.7.1), reasoning (MTR.2.1, MTR.5.1, MTR.6.1) and drawing connections to make sense of mathematics (MTR.2.1).

> *"I would like to see more concrete hands-on, using manipulatives, more classroom discussion, because I don't feel like we do enough talking about math in the classroom."*
>
> **- Central Florida Elementary School Teacher**

"We need resources: economical resources, hands-on activity resources, people resources, classroom resources- more classrooms, more teachers, more things, less books."

- Southwest Florida High School Teacher

When asked about barriers to their ideal vision of mathematics teaching and learning, teachers consistently described a lack of comprehensive support for mathematics instruction, which included inadequate time, resources and qualified support staff. When further asked about what changes they would like to see to help remove barriers so their visions could be actualized, the most frequent requests included more instructional time, less time testing, more planning time, high quality professional learning, high quality instructional materials, more highly qualified teachers and support staff and higher compensation.

Top 5 Teacher Requests

1. More Time & Less Testing
2. Teacher Training
3. High Quality Instructional Materials
4. More Qualified Teachers/Staff
5. Teacher Pay

In addition to these requests, in 82% of focus groups, teachers talked about wanting to be respected, valued and listened to by decision makers. A majority of focus group conversations also included requests for investment in supporting families to help students learn math outside of school. Among 471 parents/caregivers who responded to the survey item, less than half reported feeling comfortable talking to their student's teacher about how they teach math (45%) or helping their student with their math homework (49%).

These requests have the potential to mitigate many of the barriers teachers face. For example, teachers and administrators both described the challenge of recruiting and retaining highly-qualified mathematics teachers. Sometimes this challenge was a result of compensation falling below the cost of living for where they work. As a result, 3,486 courses were taught by teachers without the appropriate math certification in Florida during the 2023-2024 school year, and current projections are that there will be 570 math teacher vacancies and 2,209 elementary teacher vacancies unfilled during the 2024-2025 school year (FLDOE, 2024). Such circumstances result in many school districts relying on educators with alternative or temporary certifications to fill vacancies, without having adequate resources available to train these educators so they are well-prepared. When such training is available, it often occurs outside the school day, requiring travel (sometimes at length) to a central geographic location. Given that teachers are at capacity—54% of K-12 teachers reported that they have no more than 3 hours per month to dedicate to professional learning—such training is not practical without taking away from teachers' instructional or planning time.

"We're struggling in the middle and high school to really find true algebra teachers, geometry teachers, and those high-you know, I have a school where I have just 1 AP calculus teacher"

- Southeast Florida District Leader

Recommendation: Provide Comprehensive Support and Value Teachers as Professionals

Offer Math-Specific Professional Learning

Invest in models of mathematics professional learning that align with the needs of teachers, make such opportunities readily available and provide financial incentives for completion. It is important for these opportunities to be offered in formats that keep teachers and math support staff in classrooms without infringing upon their planning time. Doing so will expand and enhance the pool of qualified mathematics teachers and support staff (e.g., paraprofessionals and math specialists), helping to greatly reduce the number of math courses taught by teachers without appropriate certification in Florida.

Provide Access to High Quality Instructional Materials

Identify and invest in high quality mathematics instructional materials so mathematics teachers can spend more time planning for enacting the MTRs and less time searching for resources. Such materials and resources should align with the vision espoused by the MTRs (i.e., collaboration, explain and justify one's reasoning, multiple representations).

"Allow teachers to be a part of the... the decision making, especially when it comes to curriculum and policies that are going to impact our communities. It would be great if they would, you know, come and have conversations with us"

- Southeast Florida Elementary Teacher

"If we're going to get them [students] to that next level, digging in deep and having those kinds of either PDs or resources for teachers to make sure they're experts in what they're teaching."

- Western Panhandle Elementary Teacher

Protect Planning and Math Instructional Time

Just as reading is a priority in the state of Florida, math should be as well. Ensuring teachers have dedicated time for mathematics planning and instruction is essential for teacher effectiveness and student success.

Position Teachers as Professionals

Take action to show that math teachers are valued and respected as professionals. Listen to and trust their professional judgment because they know students, classrooms and schools best. Teachers, during interviews, continually requested for policy makers to visit a variety of classrooms and schools to experience the day-to-day and better understand how policies affect teachers and students. Working with teachers to enact policy, rather than handing it down, instills good will and ultimately, better outcomes.

References

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