



Differentiation across tiers of math instruction

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What does it mean to differentiate instruction to meet the needs of every learner in a mathematics classroom? Giving different students different tasks does not yield a common learning experience; therefore, the availability of holding rich mathematical conversations with the whole class is lacking. But we know that we need to meet students where they are and support students in their exploration of the math. Thus, there is the need to differentiate the questions that are asked of students as they engage in high-level tasks.

Differentiation in Tier One Instruction

In the Syracuse City School District, Derek Stoll is a math teacher at Expeditionary Learning Middle School (ELMS). Derek shares the power of implementing tasks' differentiating questions. "Creating opportunities for students to have access into a complex task allows students to get invested in the mathematical learning inside a classroom, as well as pushed at a variety of levels. Planning questioning based on problem-solving strategies has been really helpful in providing targeted feedback to

different mathematical learners."

Derek refers to planning questions based on strategies. As students are working individually or in small groups, the questions that assess and then advance student thinking differ based on the work they produce; some students/groups may get questions that ask them to try applying their strategy to a different set of numbers, some may get questions that ask them to create a model that matches their thinking, and some may get questions that ask for them to write about their reasoning. However, all student are asked questions that push their thinking forward toward the goal of the lesson.

Derek does name, however, that differentiated questioning is not easy. "This work is very challenging to plan (especially when you are the only math teacher in your building) but working with other sixth grade math teachers and testing out tasks on other teachers in the building help build a greater awareness of what types of strategies [students may use to solve the task] and what questions students will need to be successful."

Differentiation in Tiers Two and Three Instruction

There is an additional layer to the work around differentiation that

is occurring at ELMS this year. Under the leadership of principal Kevin Burns, and with Derek coordinating data collection, ELMS has taken on differentiating additional learning opportunities for students who have unfinished learning in their prior knowledge.

In an attempt to ensure that students are receiving exactly what they need, the school has created dedicated time and data usage for Tier Two and Tier Three services. Derek says, "This year we have organized our master schedule to have every sixth grade student receiving a math intervention at the same time every other day. With this unique opportunity, we have utilized the SOAR materials from the IFL to create a series of universal screeners. Using these targeted screeners, we created specific subgroups that are addressing gaps of unfinished learning in 6- to 10-week cycles of intervention using the SOAR materials." Knowing that Tier Two and Tier Three instruction is meant to be flexible and concept-specific, Derek adds that the SOAR materials "have been really powerful tools to specifically provide some targeted instruction and flexibility for students to receive mathematical instruction at their level and be moved based on students' problem-solving strategies, mathematical conceptual

understandings, and efficiency to solve problems within contexts."

Like with planning for Tier One differentiation, there are challenges here as well. Derek names that teachers providing instruction need "consistent and thoughtful professional development on the domain they are addressing with a math specialist that can look at student work (using progress monitors also created with the SOAR materials) and align the SOAR intervention lessons based on what students need." As Derek notes, progress monitoring is essential to ensure that the identified instructional supports are effective and that student understanding is advancing. Tiered instruction may need to be modified based on the data collected during progress monitoring.

One measure that has been instrumental in the implementation of differentiated intervention time at ELMS has been team meetings. The meetings allow time to delve into looking at student work and analyzing students' unfinished learning and next steps of individual students based on what they need. While an ambitious undertaking, the model that ELMS has adopted this year speaks to meeting the needs of the students at every level of instruction, truly defining differentiation in the math classroom. ■