Differentiating Mathematics Instruction:

Real Questions and Honest Answers

Differentiated instruction in mathematics is a powerful vehicle for ensuring success for all students at all grade levels. I have had the pleasure of working with thousands of educators across the country on implementing differentiated mathematics instruction at all grade levels. The following are some of the most commonly asked questions and my honest answers.

Why do we need to differentiate instruction in mathematics?

All students deserve appropriate instruction aimed at meeting their specific learning needs. When we differentiate math instruction we do not pretend that all students need the same instruction at the same time and in the same way. Instead, we zoom in on the immediate and variable learning needs of the students. Some students lack the foundation needed to learn a given concept and other students need a more challenging learning situation. We can provide targeted, differentiated math instruction to help students who are struggling and help students who are working at higher levels. By design differentiated math instruction allows educators to meet the multifaceted needs of all learners.

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When should we assess students?

Long gone are the days when the *only* time students were assessed was at the end of the grading period and the *only* purpose of the assessment was to provide a grade for students. Fortunately, we assess students all the time now. We can assess before instruction, during instruction, and after instruction to reveal students' levels of understanding. Knowing what our students know enables us to teach what our students need to learn.

What kind of assessments should we use?

The high stakes tests that most of us are required to administer do not necessarily provide us with the kind of data that directly influence our classroom instruction. Therefore, we should use daily formative assessments to give us the information we need to target instruction for our students. Formative assessments *inform* the teacher about which concepts students know and which concepts they do not know.

Teachers can monitor students' progress and focus instruction on exactly what the students need.

In addition to using assessments that reveal the students' levels of understanding, we should also assess our students' learning frameworks to find out learning styles, multiple intelligences, environmental preferences, affective needs, and other factors that influence how students learn.

Why is the whole group structure limiting?

Many educators use the whole group structure for mathematics instruction too often. Whole group instruction is limiting because it is difficult to meet the needs of so many students at the same time, especially when those needs are different and ever-changing. While whole group instruction can and should be used at various times, it should not be the only grouping structure utilized in mathematics. Purposeful, flexible instructional groups give educators the format for prolific teaching.

What are purposeful, flexible instructional groups?

Instructional groups are purposeful when students are grouped together for a reason. Perhaps all of the students in the group have the same misconception. The teacher may group the students together to provide targeted instruction aimed at repairing the misconception. Or perhaps all of the students in the group are auditory learners. The teacher may group the students together to help them learn a new concept via their learning preference.

In addition to being purposeful, the instructional groups also need to be flexible. The groups are not stagnant because the students in the groups change. Based on the daily formative assessment data, students may work in one group one day and work with a different group the next day. Or students may change groups during the lesson depending on their needs.

How do we target instruction to meet students' needs?

Targeting instruction simply means teaching students what they need to learn next. We are not spending time teaching students something that they already know or something that they are not ready for. We are focusing the instruction to meet the exact needs of the students in the instructional group.

Why should we use learning frameworks to differentiate math instruction?

Educators have many options when it comes to differentiating instruction in mathematics. Using students' learning frameworks is a productive way to differentiate for all students, including English Language Learners and special needs students.

What are the other students doing while we are teaching small groups?

Students should be actively engaged in learning when they are working with the teacher *and* when they are working without the teacher. The students may have ongoing projects, follow-up work, assigned tasks, and optional activities to work on when they are not working with the teacher.

What is the role of reflection?

Analyzing and reflecting on classroom practice are critical. We should continually ask, *Is my instruction effective? Why? What modifications do I need to make?* Students should also be part of the reflective process. As teachers and students reflect on and modify the differentiated classroom, success for every student becomes a reality.

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