

President's Message

Beyond “Pockets of Wonderfulness”

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A third-grade class is engaged in an innovative lesson on multiplication. An algebra teacher tries a new approach to teaching functions. A mathematician initiates contact with a high school to help the students with their work on statistics. What do these isolated events have in common? They all represent what I would call “pockets of wonderfulness”—separate events that may be grounded in NCTM’s *Principles and Standards for School Mathematics* or may take a step toward a more effective mathematics program. Pockets of wonderfulness can appear in essentially any type of school setting. Students get excited, learn something new, and become motivated to pursue their study of mathematics. So what’s the problem?

The problem is that when great events happen in isolation from the larger system within which they operate, we may not reap the maximum benefit. Educators generate tremendous power in by talking to one another and working together. Articulation and collaboration are important tools for making lasting systemic change.

When teachers communicate within and across grade levels, they can make joint decisions about when and how to develop important mathematical ideas. Teachers can work together to answer a variety of question. At which grade level should teachers be responsible for developing multiplication as a concept? When should students spend the most time learning the meaning of fractions? If length measurement is in four consecutive grade levels, what should be the differences in what is taught? To prepare students for success in an algebra course, what kind of work in proportionality should students experience beforehand, and in what grades? How does the notion of equivalence develop across the grades? What key ideas should be the focus of curriculum at each grade level? Which elements of algebra contribute most to the success of students in other mathematics or science courses?

Questions such as these create great opportunities for teachers to talk with one another about instructional decisions. Engaging in such discussions can liberate teachers to spend more class time focusing on high-priority topics. By making curriculum decisions together, we can promote seamless articulation across the levels, enabling students to build a solid understanding of mathematical ideas that can be extended to deeper and higher-level mathematics. By discussing and planning instruction together, we can avoid unnecessary repetition and minimize the possibility of gaps in students’ mathematical development. Even more important, by talking with each other, we can increase the likelihood that the wonderful thing that a teacher or a class does at one level will be used to the students’ advantage in following years.

Articulation across levels is one important arena for working with colleagues. Collaboration between and among teachers can also be a powerful aid to the success of teachers who are attempting to implement something new or different in their classrooms. Changing classroom practices often involves taking

a risk—going outside the bounds of what is familiar to make improvements. There can be loneliness and isolation in innovating individually, but when we try something new with colleagues, we instantly have a support system of peers who are going through the challenges or excitement together. In this environment, collaboration greatly increases the probability that a new approach or program may succeed, with potentially greater gains for students.

For students, the most negative aspect of Pockets of wonderfulness may be the time that a new practice takes to become established in the classroom. Teachers report that implementing something new may take a few months before students become comfortable with it. This is especially true for comprehensive programs or dramatically different instructional techniques, such as small-group instruction or a more student-centered classroom. Sometimes, just as students are getting comfortable with the new approach that this year’s teacher uses, they move on to the next year’s teacher. If this teacher has different expectations for how students are to ask or answer questions, organize their work, or participate in class, the students may take weeks (or longer) to adjust. Students can become frustrated and teachers can lose much of the students’ gains from the previous year. If, on the other hand, teachers in a school work together to implement a new program or approach, students can build momentum, developing significantly each year.

Pockets of wonderfulness are, in a word, wonderful. Using great materials that engage and challenge students in rich mathematical tasks, or implementing an effective practice where students have to think and communicate mathematically, can have positive results for students. For teachers, learning about and trying out a student-centered classroom or giving an increased emphasis to understanding is part of healthy professional growth. Our challenge as educators is to capture wonderful ideas and multiply their payoff by working with colleagues to plan for and build on what each teacher does. When we do this, students’ learning becomes continuous and cumulative, resulting in achievement that grows by leaps and bounds from year to year.

What challenges have you found in reaching out to other teachers within or across levels? Have you felt frustrated trying to implement a wonderful idea that you may have learned at a workshop or from a journal? What successes have you had in implementing a program within a system? If you are the only math teacher in a school, does your situation make innovation harder or easier? Join me for my next President’s Chat, scheduled for 3:00 p.m. ET on Monday, December 13, as we explore some of these ideas and share thoughts about how to maximize our efforts for all students.

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