SOLVING THE MULTIPLICATION TABLE DILEMMA

AFTER TWO DECADES OF WRESTLING WITH THE TIMES-TABLES PROBLEM, I THINK I HAVE FINALLY FOUND A SOLUTION . . . IN A PLACE I NEVER WOULD HAVE EXPECTED.

BY JIM ROY

Students who struggle with their times tables have frustrated educators ever since . . . well, pretty much forever. Students who don't learn their times tables make unnecessary mistakes on problems, falling farther behind as time goes on. For decades, teachers have viewed such pupils as lazy or unwilling to work through the needed drills or flash cards. And consciously or unconsciously, they have treated them with frustration and even disgust. They at first encourage them to try harder, but eventually, even patient teachers slip into accusing looks and woeful glances as students fail to memorize basic math facts. And worst of all, these students view themselves as "dumb" or "stupid." They come to believe they can't do math or figure out problems.

After two decades of wrestling with the times-tables problem, I think I have finally found a solution . . . in a place I never would have expected—in a Rebecca Sitton Spelling Workshop. This excellent program emphasizes the "look of literacy," not just with the weekly spelling words, but in all the writing that students produce. It incorporates the most frequently used words in the English language, although additional words can easily be added from the curriculum. One thing that especially caught my attention was the Priority Word List. Certain words at each grade level are considered so important that they appear on this list. For a student to receive an "A" in spelling, he or she must spell or use the words on the Priority List correctly 100 percent of the time, whether on a spelling quiz or in a research paper for history. The Priority Word List is so important, in fact, that the words are posted on the wall at the front of the classroom or listed in students' notebooks for ready access. If students do not feel certain of the spelling of one of these words, they are to "develop the obligation to look," that is, to refer to the posted list, since Priority Words must always be spelled right.

This line of reasoning appealed to me because I had already concluded

that not all students are inherently gifted spellers, I believe that some people have an "intelligence" for language and spelling that others do not possess. Most spelling programs require students to memorize a list of words each week for a quiz. This only reveals the good memorizers and those with the gift of spelling intelligence, but does nothing to help every student develop the look of literacy in all school work. The idea that students are expected to look at the Priority Word List to ensure correct spelling of specific words emphasizes the need for accuracy, while at the same time accommodating students whose brains are wired differently. *The goal is for students to produce quality written work.*

This basic principle can work for math, as well. The goal is for all students to deal confidently and accurately with everyday math, and to be problem solvers using the language of numbers as tools. Just as some students possess a language/spelling intelligence, others have a number intelligence. These number gurus find it easy to grasp and memorize math facts. At an early age they can rattle off answers to addition and subtraction and even times tables problems.

Their success can be misleading, though, as many teachers assume that if some students can learn the times tables easily, all of them should be able to do so with some effort.

By acknowledging that some students struggle with math skills, we open the door to the "Sitton Solution." We thus encourage students to "develop the obligation to look" in order to solve number problems, and to apply the laws of math to confront simple and complex challenges in life. If we keep students forever drilling on their times tables, not allowing them to do real math until they have fully mastered these facts, many students will never understand why they should study math and will eventually hate every minute spent on it.

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Posting the Facts

Instead of continuing this dance of failure with students, where the memorizers are rewarded for memorizing (and usually not much else), and the non-memorizers are totally eliminated from math participation, why not change the system? Imagine a classroom where pertinent math facts are posted around the room alongside priority spelling words. A large grid, four feet square, is mounted on one wall with the numbers 2 through 12 across the top and down the left side, with the corresponding product placed within the grid. Students can see at a glance what 7 x 8 is, or 3 x 9, or any other times table problem. This grid can also be placed in each of the students' notebooks for quick personal reference. Why get hung up on students' inability to memorize basic math facts when you can focus on more important

Some will say that posting math facts provides a crutch for students to depend upon instead of learning the facts, but I disagree. I am convinced that students will use the chart only as long as they need to. I remind my students that it is more efficient and quicker to memorize the times tables; but even if they have not yet done so, they still must solve problems correctly. Therefore, they must "develop the obligation to look" at the grid. It isn't as quick or efficient to look, but it will help them produce quality work with right answers. As students succeed in math, they will eventually come to the point where they don't need the grid anymore.

I became more convinced of the validity of this idea recently as I shared it with a 5th grade teacher. As I started to describe the grid and what using it might do for her classroom, I noticed a tear

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I AM CONVINCED THAT STUDENTS WILL USE THE CHART ONLY AS LONG AS THEY NEED TO.

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mid-sentence and asked if she was all right. Had I had said something that upset her?

"No," she said, "I actually agree with what you are saying. The thing that got to me . . . well, I was one of those kids who struggled with math and especially with times tables." She paused before continuing, "I've never told anyone this before, but . . . I still do. I still struggle with times tables."

The teacher was not slow or lazy. She had a postgraduate degree and was thoughtful and articulate. Her colleagues considered her a sharp professional. Yet she maintained this quiet struggle and felt so strongly about it that tears welled up in her eyes when she thought about it. Do we think that our students are less affected than this teacher?

Posting basic learning facts (e.g., addition tables for the lower grades, multiplication tables for middle grades and up, formulas for area and volume for upper grades) will improve student performance in several ways. First, it highlights the priority of certain information. These facts are so important that we must always be accurate when using them. Second, it helps students focus on thinking skills and problem solving rather than on rote memorization. And third, because of the information's constant presence in the classroom, students will learn and understand many facts that eluded them before. Whether it is priority spelling words, basic math facts, or vital science information, why make it a game of hide and seek? Instead, transform the classroom into a billboard of important information, and then design assignments that make applying the information more important than memorizing it. ✓

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