**Brief Thoughts on Revising How We Do Math Homework**

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Few things that we do in school waste more time and have as little impact as assigning, doing and going over mathematics homework.

Consider for a moment an all too typical mathematics homework assignment beginning in about grade 5 can continuing without variation through high school:

324 318 314

1-19 odd 2-20 even 30, 32, 34

That is, the mysterious “fractions” posted on the board that mean 10 odd-numbered exercises on the skill “taught” today with answers in the back of the textbook, then 10 even-numbered exercises on yesterday’s skill, but without the “advantage” of answers in the back of the book, and finally, three word problems on skills that were taught two or three days ago. Beyond the absurdity of assigning 23 individual tasks – far more than what is needed to ascertain understanding – is then the time spent going over these tasks that seriously limits the time needed to effectively provide instruction on the next set of skills and concepts.

Here is what is important to take from this all too common scenario:

* We tend to assign too much homework and most of it is mindless regurgitative practice with little diversity or variation among the tasks or problems assigned.
* When we assign so much homework, we end up allocating a large amount of time to checking and going over the homework, at the expense of more important learnings.
* By assigning large numbers of problems on the same skill, we ignore what research compellingly tells us about distributive practice.

These are the underlying reasons for adopting n alternative 2-4-2 policy where on Monday thru Thursday students are assigned:

* 2 problems on the new skill (which is usually enough to determine understanding and avoids such much practice of mistakes that it is hard to unlearn them);
* 4 cumulative review problems roughly drawn from the day before, the week before, last month and perhaps a diagnostic readiness check for the next lesson - all of which honor distributive practice; and
* 2 problems that require showing work or explanation and support problem solving and reasoning and justification.

After beginning mathematics the next day, teachers can easily post the answers to these 8 exercises or problems on the white board and provide students with 5 minutes to review their work in pairs or triads with particular attention to the last two problems. Classroom policy can then be that correct work for any problems that are still causing trouble can be easily displayed with a document camera and discussed before homework is collected, only to be recorded as completed.

Like everything in effective teaching, this policy, like most policies, should be implemented with some degree of flexibility. 2-4-2 is NOT cast in concrete and all of the important facts noted above are still met when a teacher decides to adapt a 3-4-3 model or a 3-5-2 model or even 4-3-3. Any of these alternatives can work and teachers should be free to justify these variations on a theme that still honor the overall goal of more rational and research-based homework policies.