

COMPILATION: Resistance to Whiteboarding

Date: Tue, 15 Apr 2003 From: Chris Horton <chrisahorton@YAHOO.COM> Subject: Resistance to whiteboarding I am teaching pre-algebra to some very low functioning and demoralized 9th graders, ranging in age from 14 to 17. I keep starting to get them going on modeling. Among other projects, we have done the ratio of the circumference to the diameter of a circle, the pendulum experiment and now constant motion dune buggies. Each time I am elated at first at how they take to doing measurements and plotting the data (once by hand now and three times using EXCEL.) Each time I am thrown into confusion and dismay by their unwillingness or inability to prepare whiteboards on their findings and to engage in dialogue around them. (I have had some success with whiteboarding of simpler problems: adding and subtracting signed numbers using vectors and counting chips, for example.)

What it basically comes down to is that these students are just not willing to take on an open-ended question, think about it, struggle with it and talk or argue about it. They don't dig in and get started.

-----Date: Wed, 16 Apr 2003 From: David Hill <dwmhill@EARTHLINK.NET> Here are a couple things you might try, to get the kids to work with the whiteboards better. You might *give them some specific guidelines of what you want to see on their whiteboards* rather than leaving things too open-ended. Tell them what graph or work or written answer or diagram you want to see them have.

You might also *try having them whiteboard something "non-mathematical"*. Give them a question or problem they can relate to and have some fun with on the boards. That might get them into the concept of boarding and then work them into the math problems.

Also, are you having them "present" their boards in front of the class? I have moved from presentations to heavier on Board meetings. *My kids feel less stress, are more willing to share and interact better when they are in a circle discussing their boards.* They tend to talk to each other better rather than in a presentation focusing on just me in the back of the room.

-----Date: Wed, 16 Apr 2003 From: Paul Wendel <pwendel@KENT.EDU> Like Chris, I find that I am often dissatisfied with the "Wells" model of whiteboarding. The main problems are: 1. Ideally, the dialogue should be between students, with me (the teacher) offering occasional guidance. Instead, I ask most of (if not all of) the questions. As a result, students sometimes feel that they are being publicly grilled rather than engaged in a genuine public conversation. When I try keeping my mouth shut for long periods of time, the conversation quickly loses its focus. 2. I have difficulty keeping 20+ students engaged in a single conversation. As soon as someone says something really interesting, it stimulates a half-dozen small group conversations, rather than a single large-group conversation. I grow weary of constantly regrouping the class, particularly when the small-group discussions result from genuine curiosity. I would like to see a video of Wells or some other expert in this technique. I suspect that I am missing something. In the last two years, I have been experimenting with the following reforms in whiteboarding methods: 1. Using the "board meeting" ideas presented in this listserv, *I have rearranged my classroom so that students can sit in a large circle while presenting.* This helps somewhat with issue #2, but does not address issue #1. 2. I have been experimenting with a "whiteboard gallery." I ask the students to present conclusions, solutions, etc. on their whiteboards, along with three check-boxes across the top. One box is labeled "yes," one box is labeled "no," and one box is labeled, "maybe." The students prop their boards around the classroom. Then each student (or group of students) examines the other boards and places a tally mark in the "yes" box, the "no" box, or the "maybe" box of each whiteboard. Afterward, I go from board to board, asking for comment. This seems to improve the student-to-student dialogue, and also greatly reduces the feeling of a public grilling. 3. Modifying the techniques developed by Lillian McDermott at U. of Washington, I divide the class into four groups, one group per corner of the room. The students work through materials until they reach specific "check points." When a group reaches a "check point," they call me to their group, where I roll a die to determine which student will be the spokesperson for the group. I ask a series of Socratic-style questions about their work. If their answers are consistent with each other, I sign off on that part of the material and they move on to the next section. If not, I ask them to discuss it further and call me back when they are ready. The student-to-student dialogue is terrific in this model.

At present, I am using reforms 2 and 3 quite regularly. However, I have also noted that the *students need variety*. Even good ideas gradually grow stale if they are overused. -----

-----Date: Thu, 17 Apr 2003 From: WILLIAM JAMESON

<WJAMESON@DEFOREST.K12.WI.US> I have a 'resistance to whiteboarding' problem in 1 of my 4 Physical Science classes, but not the same as Chris Horton's. My students in that one class refuse to get or keep whiteboardmarkers! None of my other classes has this problem. All of the solutions I have thought of end up making the few marker owners carry the load of whiteboarding, which seems unfair. Any tips on marker-management? -----

-----Date: Sun, 20 Apr 2003 From: DoYost@AOL.COM I keep whiteboard markers in a test-tube holder. There are just enough pens to provide 1 marker per group. At the end of the period, no one is released until all holes in the test-tube holder are filled with markers. -----
