

COMPILATION: homework management

See also the compilation: "Worksheets use and management"

Date: Thu, 10 May 2001

From: bill jameson <bjameson@MAIL.DEFOREST.K12.WI.US>

Subject: Whiteboard gone overboard

I have my AP physics students white board their homework assignments. Yesterday we had a problem fill 7 boards, and it still wasn't completed. It took them 45 minutes to prepare the boards, because no one in the class had gotten the whole problem solved, but as a group (with a little help from me) they got it done.

I am finding with this class that the activity of preparing the boards is probably more beneficial than the presentations. I assign them into groups, but those with easier, shorter problems end up congregating around the group with the hardest problem, and nearly every one in class participates in solving that final, killer problem. (it's a class of 12 students)

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Date: Wed, 23 May 2001

From: Joseph Vanderway <jvanderway@CSUN.EDU>

I was just re-evaluating my use of the worksheets. Here's what I currently do, and how I plan to change it.

What I do:

1. Post Lab (mini-lecture/discussion).
2. Hand out the worksheet (cold) and assign a few problems for homework.
3. Next day, groups whiteboard these problems. Every group does the same problem, or two problems are divided among the 12 groups. After a 7-10 minute preparation period, I check all the boards, give some token points and select a group to present their solution strategy.
4. The selected group presents, students ask questions and there is much learning.
5. Worksheets are collected the day of the quiz. Each worksheet is worth about 1/10 the total value of a quiz each.

The problems:

Students have discovered that we will work out the problems in class, and that they most likely won't have to present so they don't spend the time necessary outside of class to understand the application of the models. This means that they can't prepare a whiteboard in 7-10 minutes, so I end up giving them more time in preparation so at least they will have something to present and discuss. We rarely get more than two problems done in a class period. This slows down the pace of the course considerably, so that students lose the continuity of moving building and expanding the models. Students also fail to connect the abstract pencil-paper problems to the real world.

My untried idea:

1. Post the lab.
2. Hand out a worksheet with very few, basic pencil-paper problems that ask students to apply the model developed in the previous lab.

3. Students come into class the next day and are presented with a NEW problem which has been physically created in class. ...
4. Students spend a fixed amount of time (variant depending on the complexity of the problem) and then WBs are evaluated and a group is selected to present.
5. The selected group presents and the class asks questions.
6. We actually do the problem (in the example, we drop the cart) and see if these models are actually good for anything...

Repeat with a new problem the next day. What do you think? ...

[Note: read Joseph's complete post in the compilation on "worksheets use & management"]

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Date: Thu, 24 May 2001

From: John Barrere <forcejb@YAHOO.COM>

I think Joseph Vanderway raised some excellent points. It is VERY difficult to get many students to do any work outside class. I long ago gave up collecting homework, since well over half of what I was checking appeared to be copied and I refuse to spend more time checking an assignment than what the student did in its "preparation". So here's another idea to add to Joseph's.

Allow a FIRM 10 min for board prep, 20 min for student presentations & discussion. Then a 10 min quiz based on the concepts and skills of the 2-3 problems presented. (The cumulative quiz grade would be a pretty good proxy for HW grade/effort). Use the rest of the class period to review other WS questions and extend the model/concepts a bit to prep class for next assignment.

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Date: Thu, 24 May 2001

From: Maria Consuelo Rogers <mcr@LAVA.NET>

This struck me! that " It is VERY difficult to get many students to do any work outside class." Is this happening across the country? I thought it was just my students, particularly my sophomores, but also more and more of the seniors (the students in my school) who will not do any studying outside of classtime. I do all these things - encourage, bribe, threaten, talk with their parents, cajole - these students to do some studying on their own. I even require them to report to the classroom during the lunch hour to "make up" the homework. But find it an exercise in futility. These students want to do their "homework" during class time. I continue to stand firm, that "homework" is an assignment to be done outside of classtime. But sometimes I feel like giving in.

However, I continue to give home assignments, and check that the practice sheets are at least filled in. I spot check and "interview" - ask a student - say, to explain why s/he chose to answer a question a certain way (today I was checking a practice sheet on ionic and covalent compounds and asked each student who usually merely copies the work of another student, any of the following questions: which of the compounds on the list is ionic; why is this ionic? or why is this covalent? If s/he can't successfully explain his answer, then I don't count the homework for that student. Tough luck! This sometimes forces them to ask the person from whom they copied the answers, to help them understand the concepts I intended the practice sheet for.

I also write on papers that the work is a "copy" of another's paper. Both (as many as there are) papers are marked the same way, not identifying the suspect copier. "This is a copy of Mahea's paper" on one and "This is a copy of Ian's paper" on the other. Generally, the copying student will ask to do another version of the homework, so s/he can get credit for the learning.

A lot of work. Monitoring, following through, designing effective practice sheets..... Also a lot of frustration. But....

However I think that John Barrere's suggestion is an alternative worth trying.

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Date: Sat, 26 May 2001  
From: Jim Clark <jrclark2@AZ.RMCI.NET>

Here's how I do it [deal with homework] (stolen from my cooperating teacher Sean McKeever during student teaching). A couple of example problems (not on the worksheet) are done at the board by me. I then set a simple problem for the students to do at their desks, individually. While they are doing that I circulate to see that they understand the basic application of the model (they get the problem right). Then, depending on time and/or schedule, they may get some time to try a couple of problems on the worksheet before they take it home.

When they come back to the next class with their homework, I check each student to see that they have made a good effort on the problems. This is a judgement call on my part, but I usually look for some work or evidence of effort beyond just scribbles on every problem, and final answers for at least half of the problems (they don't have to be correct). If they pass muster, they get a "stamp". The stamps are just a collection of random shapes/designs that I got at a local craft store. I find that most students (~80-95%) will get a stamp every time. Each stamp is worth 5 points of their homework grade (which is 10-15% of their course grade). All homework for the unit is collected on unit test day. All I look for is whether or not the worksheet is stamped. I grade these and enter them while the students take the test.

When reviewing the worksheets, we whiteboard every problem usually. Each group does one problem, with no groups doing the same problem (usually). Board preparation time can vary widely. I have let them take between 10 and 30 minutes depending on the difficulty of the problems and how many students are having trouble. In any case, I set a time limit at the beginning of the session to keep them moving. Presentation time requires each group to present their problem. Each person in the group is required to present something. If one person doesn't speak or contribute, they know that they will be asked a question (by me). Students in the audience are required to provide one question per group in order to get points on their presentation grade (I have a rubric, that I stole from another teacher). This level of accountability during the presentation phase tends to motivate the students not only to understand things before they get up and speak, but to do a better job at home on the problems. They know that the harder they try at home, the less likely it is that they will look like an idiot in front of the class. This has worked fairly well so far....

[Note: read a related post by Jim in the compilation on "worksheets use & management"]  
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Date: Sat, 26 May 2001  
From: John Roeder <JLRoeder@AOL.COM>

I have the sense that my students want to do their homework in class." On the other hand, I have realized the value of their working together to learn from each other, so have encouraged this and have stopped collecting and grading homework. Instead I have groups of students work problems on whiteboards in class -- and I can see how they go about thinking about the problems and solving them, something I can't do if they did the problems at home.

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Date: Sun, 27 May 2001  
From: Beverly Cannon <tcannon7@EARTHLINK.NET>

This past year was the first year that I used all of the modeling materials. I used the worksheets in a different way. When it was time for the worksheet to follow the classroom work, I used them as instructional tools. We work together in class. Sometimes I lead the work, sometimes one of the students led the work. Then I always had a quiz that was related to the types of problems the students had worked on. Sometimes I had an additional paper for the students to take home and work, sometimes I found problems/questions in their text for the students to complete for homework.

The hardest "battle" I fought this year was making the students connect Monday's work with Tuesday's work with Wednesday's work, etc. Also, should I give the students a list of assignments to be done through the week, I found them waiting until the night before it was due to do it and turn it in. Then one of them would say, "If I had done my homework on the assigned date, I could have done better on the quiz!" So although the true spirit of the modeling program does not support this "old style" of classroom instructional design, I find that I have to resort to this so that the students realize that daily work is important and homework requires them to re-visit the classroom work at night as they are responsible from day to day.

We have a chronic problem with students and homework. I have yet to find a solution to the problem that seems to be getting worse.

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Date: Sun, 27 May 2001  
From: stan hutto <fizwiz2@YAHOO.COM>

The homework problem is evidently nation-wide and a sign-of-the-times. Last year, homework problems/worksheets only were 10% of the overall grade and will possible drop to even less this next year, with more short quizzes, or grading on how they answer to questioning during WB sessions - putting some pressure on "group learning/tutoring"

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Date: Sun, 27 May 2001  
From: Jean Oostens <oostens@CAMPBELLSVIL.EDU>

As I am preparing for a 2-month stay in Belgium, I want to report on a similar trend about homework.

Most European countries have all of the school requirements centralized by the government. And last year, in Belgium, homework has been eliminated for the early grades, and limited to no more than 20 minutes for a second tier of age. (I will look up at the exact details later). The reason advanced is that some kids do not have a room at home to sit and do their homework. Another example where the worse situation becomes the standard for everybody.

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Date: Mon, 28 May

From: John Barrer <forcejb@YAHOO.COM>

Hearing from Consuelo, Trina, and Stan, at least I realize the no HW effort problem is not unique to me. I don't think I could use the approach Trina suggests and still come close to getting through all the content that the NC DPI mandates. The only hook that still seems to work for most students is the magic phrase "extra credit". So I think I'm gonna try some version of STRICT time limits for board preparation and presentation followed by a short quiz over same with the stipulation that, in addition (or instead of?) a quiz grade, the students are really earning bonus points which will be applied to the next test grade. Assuming a 55 minute period starting at 9AM, a sign up front would announce "Today's Quiz starts promptly at 9:40". The previous day's quiz would be handed back as the students enter (or already on their tables, if possible). I'd devote 5 minutes max to review of the previous day's quiz (preferably by a student who got it correct). Then board prep 9:05-9:15 with presentations ending at 9:40. Waiting until the following day to review the quiz is necessary to minimize problems with later-in-the-day sections. The last 9-10 minutes would be spent on "plowing the field" for that night's work.

I truly don't see any way around the need to rely on HW for a substantial part of student learning if we are to simultaneously strive for understanding in depth while dealing with an overly broad state-mandated curriculum. The devil's in the details.

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Date: Mon, 28 May 2001

From: Joseph Vanderway <jvanderway@CSUN.EDU>

A few thoughts come to mind when reading these posts about homework and worksheets:

What happened to student accountability? To generating positive motivation? Are we responsible if students refuse to put in the effort necessary to learn? I seriously doubt it is a lack of ability. If an adolescent is motivated - watch out! There is hardly anything in the world they can't accomplish. I really feel that students need to be responsible for their own learning.

It's like the horse and water thing. We can lead them to the water, show them that the water is good, drink the water ourselves, point out a horse that died from thirst, and even point out that they won't get a high mark if they fail to drink, but if they don't want to drink, they won't. A veteran teacher - very dedicated to his students I must observe - made this suggestion on teacher survivability: "You can't care about it more than they do."

A second thought: Is our goal to get students to be able to solve paper-pencil problems? or to understand the models that modern science uses to describe the physical world? Are these one and the same? I'm not sure.

My mother, a veteran of over 40 years in secondary education made this observation: "We used to attempt to prepare students for success in life. Now we just prepare them for success in school." This really struck a chord with me - since our physics class is the only physics class many of our students will take.

Lastly, to those who "spot check" homework during class, when do you do it, and what are the students doing while you are working on this? I'm afraid the 36 students in my classes would

prohibit use of this strategy, along with the daily quiz thing. My solution has been to give points to the WB preparation, even if the group doesn't present.

What is the maximum presentations in a period, including prep time?

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Date: Mon, 28 May 2001  
From: mitch johnson <mitchjohnson@EARTHLINK.NET>

I too only count hw as 10% of total grade but I remind them that it is the easiest grade they get in class. As they are preparing their w/bs I walk around the room and glance at their homework. If they have work for their answers, correct or not, they get 5 points.

When they are taking their tests I walk around and write the tally of points on their tests. Also to spark discussion and Socratic questions from the audience I start each student with an 80/100 for their participation grade. Every time they ask a Socratic question of the group presenting, labs or work sheets, I bump their grade once per day: Applied: 5 points, Honors and AP: 3.

Unfortunately, some students still go all year stuck at 80% The only way that they can lose these points is to be totally unprepared to present when it is their turn. If they had trouble in the lab and put an educated guess on their w/b I let them slide. I guess it is a philosophical decision on my part. I believe that homework is the place to make mistakes. As far as tests go, I generally end up with 50-70 points on the honors tests on the cd and end up "curving" by dropping 5-10 points in order for the mean to be around 65-70%. Is this normal for our kids? Does anyone else have to adjust the tests to get a decent pass rate?

p.s. I already have the reputation as being the hardest teacher on campus but when students transfer in from out of state, I notice that they tend to not have trouble scoring well on tests. I ask because again this year my principal has asked me if my class has to be this hard.

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Date: Tue, 29 May 2001  
From: Jane Nelson <nelsonjb@IX.NETCOM.COM>

I was quiet the first time around, but believe that homework is a good thing, and we have to encourage it. There are still some who try to work at home, and they deserve the credit for their effort. Some do not test well, and to get a quiz grade for homework would hurt many of my learners. So yes, many do it in class, but you know what, it is not my class, but their other classes where they are not so "busy". The students are kept pushed during the whole time in physics so they complain that they can't do homework in class. I tell them that when they spend as many hours in the class as I do then they can call it home and do their home work there. Until then, it is to be done outside of class.

When it is time to do a white board on problems, I assign two problems to each group, give them a specified time, and blow the train whistle for "boarding time, all aboard," when the time is up. They know that whatever is on the board is what they will have to present. Since the others

want to check, or "copy" the answers, they are mad when one group has let them down. They know that will often be one of the questions I will check. I don't do every set of worksheets. Sometimes I do book problems or new ones that I create for the day. Since they have yet to figure out my mind.... anyone who knows me can agree with that!!... they never know what to expect so if they want to have a good homework grade, they have to be consistent about doing it. I also have a homework mail box on the outside of my door. Students can put it into the box anytime before I leave for the day. Yes, some could just take it out and copy it, but you know what. No one puts it in until so late, that the copying has to take place earlier in the day. But at least I am getting my pound of flesh out of them because they are doing physics more hours than without the homework being assigned.

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Date: Tue, 29 May 2001  
From: Brenda Royce <brroyce@attbi.com>

If I may add a couple of comments on homework: I found a simple digital kitchen timer a real benefit in enforcing WB prep times. I'd set it with a one minute warning. It really helped me set time boundaries to protect discussion time and put a bit more pressure on them to be prepared (though it doesn't solve the problem of the unmotivated). It also made it easier for me to interact with the students without losing track of the time.

As far as checking homework in class, I use WB prep time to check if they have their homework sufficiently worked through. I walk through the groups with my stamp and a roster check sheet and record their effort grade (4-pt rubric: good, fair, poor, zero). This also lets me survey the groups to see who is floundering before making my way back to the ones who most need some guidance.

Quite frankly, the WB process itself seems to raise the interest in actually doing the homework and understanding it to at least some degree. Peer pressure comes to bear in a positive way for many in this WB-ing process.

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Date: Wed, 30 May 2001  
From: Tim Burgess <tburgess@JAGUAR1.USOUTHAL.EDU>

I read your posts on whiteboard presentation efficiency and homework with great interest. These issues are real problems for me. But I struggle with an issue that places us in the middle of the forest.

My struggle is with the lack of ability I have in transmitting the extreme pleasure there is in figuring out something, in comprehending words and events in new ways or in generating tests that verify or refute my model with clarity.

To compensate for this lack of student owned learning I generate all sorts of behavioral gimmicky rewards like "test corrections" (to improve test grades), or "bonus problems" for extra credit on homework or 10 minute prep time followed by a 2 point a minute penalty for whiteboard preparation (up to 10 minutes). I feel like a circus ring master with dogs jumping through hoops for biscuits or monkeys dancing for bananas.

I am positive that homework is important. The problems though are numerous in evaluating homework:

(1) Can I differentiate between homework "genuinely done" or if it is just "done" (either copied or mindlessly performed.)

(2) Do all students need the same level of homework?

(3) Do all students need the same amount of homework? Some students are overwhelmed by particular problems. Some students are bored by those same problems.

(4) Should EVERY student get the same "PROBLEMS"?

(5) "Some students, due to differing talent and/or background, may be required to invest more (or less) time outside of class than other students. Talent, initiative, confidence and effort interact to support the acquisition of the knowledge and the garnering of skills required to do well in a science class." [this is from my standard letter to parents concerned about grades in my class... at <http://umswscience.50megs.com/BetGrade.htm> ]

Due to confidence in my testing instruments I have structured my AP classes to "drop" homework grades if they are LOWER than the test average. This clearly sends the message that "genuine learning" as indicated by my tests are most important. After a couple years of this policy I can confidently say: "Those who least need to do the homework do it. Those who most need to do the homework are least likely to do it."

Those who spend the time genuinely struggling with problems, if at the same talent level, will do better. Sometimes it is apparently unfair when one student works less and gets a better grade (that indicates skill level rather than effort or achievement while in the class).

Homework has all sorts of problems. It can even backfire and generate frustration, resentment and foster little learning. It is a huge issue because we all know that pondering, thinking and thoughtful effort are critical to growing intellectually. We certainly want our physics problems to foster this. I just wonder if this is actually accomplished with the standard set of "assigned problems" for all.

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