

## Greg Johnson - Math Lesson Video Annotations

Mathematics Student Teacher

For Thursday Oct 28, 2004 - CMP 8, "Looking For Pythagoras" Investigation 3.3

Notes updated April 30, 2005

*Accompanying lesson plans outline what I wanted for two, 50-minute, eighth-grade "Core Math Program" sessions I conducted as a student teacher. The students and I demonstrated achievement of these goals. I also saw much room for improvement. Following are self-criticisms--expanded for readability--that I jotted when I first viewed videos of those classes.*

*The original aim in taping was to catch student reactions and behavior I missed. Hence, the camera is not always on me. Another college student and my host teacher are visible.*

*Fifth hour (12:05-12:55) is interesting for engagement challenges. Sixth hour students are more on-task. Anticipating this, in sixth hour I planted seeds for later lessons on non-terminating decimals and irrationals, on distinguishing symbols for exact values such as  $\sqrt{13}$  versus not-exact approximations such as 3.6...*

*Codes: (-) I feel I need improvement. (+) Keep this. (?) Ponder. [X] student identification.*

### General Observations

(-) I did not quickly notice some quietly disengaged students--not attentive, playing with class tool box, taking an unassigned seat without permission.

(?) Is it better to man the overhead myself (and miss some misbehaviors) or have a student transcribe on the overhead or board some of the problems we solve as a whole class?

(+) Students were good but not perfect at raising hands. I gestured or said I needed hands rather than a blurted answer.

### Fifth Hour

12:06 Bell. I am talking from overhead projector off frame to right. **Students correct and discuss homework**, just 3 problems.

(-) Too noisy until we start routine.

(?) I clarify with synonyms; might I just speak more slowly?

(+) Students blurted. Required hands.

### 12:08 Launch.

(+) To engage unfocused students, I asked [Q] (off screen to left) lowest level **review**, "is it a leg or hypotenuse?" She responded, "hypopamoose". I asked, "Why?" She said, "I guessed."

(-) I was too happy with [Q] engaging in any form. I failed to hold [Q] to elaborate. ([Q] is a new student, lacks requisite skills, work avoider, pleasant.) Other students volunteered.

(+) Kids responded to connections to "The Apprentice", "Euclid Song"

12:10 Many hands up! (+) I waited for even more to go up!

12:11 Segued to new material, referred to as “notes”.

12:12 (?) The kid in a pod whose seat does not face front is more likely to disengage. Notice [A] at right. I move around room, but projector and board can't move. I sympathize with discomfort. Furniture is too close to easily turn. Face-away is problem in all classes with small groups! Some rooms are much worse, with glare, dim projection, or small projection. I wish I could run projector from back.

12:14 (+) Elicited ideas about “exact” vs “approximate” expression for square root.

(+) Gestured to show I wanted hands, not blurring.

(-) My hand in pocket, hunched over projector.

12:18 (+) I moved around room while students present at overhead.

12:20 (-) [A] (at right) plays with her group's supply box. I did not notice this.

12:21 (+) Effective switch of symbols for triangle sides from  $a, b, c$  to  $x, y, z$ . Students see there's nothing magic about use of symbols. Verified next day. Yay.

12:23 **Guided Practice.** Passed out Work Sheet 3.3.

12:25 (+) [C] checking with [S] at another table for math help, which I recall verifying. I enlisted [A] to draw on projector. (+) Students comparing notes.

12:28 (?) "Make point you want to draw to, then draw line." My procedural tip to [A]. Did this help [A] better than a student making this observation? “How do we know that this is a right angle?”

12:28 Students calling out, "we don't have a calculator." They know procedure.

12:29 (-) [Q] watches passers-by. But at least copying board notes. I did not confront.

(+) Random selection of students by card has been very worthwhile! All students alert. Yay.

12:33 (-) [C] up talking with Seth. [Q] not clearly on task.

12:35 (-) [Sa] up, [Q] up. Mainly for tissues, but visiting with others at each step. I did not confront this time.

12:38 (-) Student math talk and some non-math talk obscured student response. Had to beep. [Sa] “I hate that thing.” Of course, it interrupts her chatting to an often unwilling audience! Still, I need better solution to her compulsive talking.

12:39 (+) Prompted students to see issue with length units versus area units.

12:41 (-) [Sa] grooming.

12:43 (-) Called on [C] to gain attention.

12:44 (+) Students really listened to other students make presentations, esp attentive in this case with [C].

12:47 (-) [C] calls loudly for other students to be quiet.

12:53 (+) Students stayed on task even when warning bell rang. Exit slip. Tell students, "I will check your exit slips for certain key words. I will not check closely that this makes sense, just that you use some of the right terms."

## Sixth Hour

(+) 6th hour was generally more easily engaged than 5th, as usual.

12:59 Bell.

1:00 [A] leads **Homework Discussion** on problem #8.

1:03 (?) I nod with my whole body. Hm.

1:04 (?) Relevant entertainment such as "The Euclid Song" gets attention, but maybe too much. "I'm gonna take a trip to Euclid / The people are so friendly there / They always know where they're going / 'Cause everything is ...."

1:06 Passed out Work Sheet 3.3, probably prematurely, but it kept one eager kid from marking in his book.

1:08 (+) Student read aloud. I readied materials. (+) **Launch.** "Heads up. Look this way."

1:09 (+) Good use of "what's next?" moving from student to student. (-) In using cards, once a student card is drawn, I should leave their card out only for the next question, then put them back in contention. Otherwise, student might disengage.

1:10 (+) "Measure twice, saw once," words to live by. (-) I should have saved the remaining aphorism for another day.

1:16 (+) Students did do most of the math. (?) I seem to ask a lot of questions. I wonder if I can get them to ask the questions too. (-) I still seem hunched over the overhead projector.

1:19 (+) **Guided Practice.** Through all of this students in view have been quite on task. Now students are released to work. They are still mostly on task, some playing with pencil or other release of energy. Students seated.

1:32 (+) Offered advice, if you don't know what to do, make a drawing. (?) Eventually, ask them to come up with their own what can I do next.

1:32 (-) When [K] came up to present, [J] went to a different seat (near fan) without asking. Started chatting with [A]. The two moved closer together. I did not catch this!

1:35 (+) While students worked on a challenge, I saw [J] had moved and went to check. His work was started, but he looked out of window about every 15 seconds. About every minute, he had some brief visual or verbal interaction with [A].

1:37 [J] gets up to lean over [A] & talk. (+) They work on math; (-) for about a minute! [C] turns around to check with [E] - on math. [Sar] up talking to [Al].

1:39 (-) Had to beep class to attention. Did not get complete attention. [J] back in assigned seat but looking out window.

1:40 (+) Brief wave of talking damps as I pass out exit slips. Then up again, on math, but too loud. Beep. I wait for attention, for about 15 seconds. Finally students come.

(-) [Tr] possibly not engaged with writing - hard to tell.

1:45 (+) Absolute silence as students finish exit slip. I clean up materials.

1:49 Two students were away from seats at final bell. I was picking final exit slips.

(?) Can I handle exit slips better? I just checked them as they finished.