

PROFESSIONAL DEVELOPMENT WORKSHOP · FALL 2005
ASSIGNMENT 4

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Classroom management. *What are the components of classroom management? How do you manage your classroom? Do you find your approach effective?*

Management is a dual notion to rapport and motivation. Management, to me, means *minimizing the negatives* in the classroom. Rapport and motivation involve *maximizing the positives*. These are distinct (although not entirely unrelated) concepts.

My classroom management is effective. There is almost no chit-chat, all eyes are on me, and I am in control of the room. As a result, I have no problems with students disrespecting me, talking loudly, etc. I am proud of this. Before the start of the semester, never having taught before, I feared my classroom getting out of control — what would I do with one against thirty, when the orcs breached the gate and began to pillage at will? As it turns out, I simply started the first day with the self-confidence that I owned the classroom, and there have been no problems since. People must have a natural inclination to accept confident leadership.

The down side to this is that I feel I have too *much* control, as it were — one of my ongoing goals is to get more students involved. Most of the teaching I've received in my life has been of the "chalk and talk" or "sage on the stage" form, and my natural inclination is to perpetuate that. Many of the questions I ask of the students are too low-level, e.g. one time I actually heard myself asking, "... and eight plus one is ...?". I am working on getting students involved with thought questions, waiting long enough for responses, etc.

Something I've occasionally been doing well on is to use student questions to modify my pre-planned lesson (usually for the better). One of the better moments was when one less-than-stellar student asked, "If 2 is a root, why don't we write $x + 2$ as the corresponding linear factor, instead of $x - 2$?" Before I could respond, another less-than-stellar student told him, "Doesn't that have to do with that thing where when the product of two numbers is zero, one of them has to be zero?" I wrote down the first student's point, as well as the second student's point, and then we went through how they were related: "... If we put $x = 2$ into $(x - 2)(x - 3)$, the minus sign is exactly what we need to get one of those two factors to be a zero." This interchange was completely unplanned but marvelous. This is the kind of thing I want to do more of.

Rapport. *What does "having rapport with students" mean to you? How important do you think having rapport with students is? How do you think it is established? How would you rate your rapport with your class?*

Rapport means that people feel comfortable talking, in a natural and conversational way. It means they feel free to talk about what they know as well as what they don't know. For this to happen, people must feel safe, in the sense that they are confident they won't be ridiculed for saying something incorrect. I've put a lot of effort into creating this kind of environment. Is it working? After the first exam I handed out a questionnaire regarding things that are and are not working well in the class. A common response was that the classroom environment is respectful and that people feel they won't be ridiculed for speaking up. I found this feedback gratifying.

When I ask an open-ended question and receive several different responses, I phrase what I say in terms of "I want to know what your thoughts are", "Yes, it certainly does feel like 2 ought to be a triple root of $x^3 - 8$! Let's see what happens." Etc. That is, I validate the students' sense of intuition, and then explore when we

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need to modify that intuition. Also, I ask for students' opinions so that I as an instructor can be aware not only of the right way (my way) to do something, but all the myriad wrong ways. Rapport is important to me in part because I want to catalog the kind of misunderstandings students have, so that I can teach to those misunderstandings in the future.

The rapport in my sense is moderate. The environment is respectful. As well, there are several students who always speak up, and several students who never speak up. This is to be expected. But there is not as much conversation as I would like. Perhaps this is due in part to my tendency toward chalk-and-talk. Also, I don't cold-call students — I just can't bring myself to do it. Third, maybe thirty is too large a number for complete casualness. Fourth, I'm not sure how much to *expect*. Most of these 110 students (I think) view 110 as a hurdle to be overcome — something they don't enjoy and won't remember. I can't expect it to be as jovial as a grad class; I don't expect 110 to be outright fun for my students. Does that really matter, though? I'm sure there's some psychological insight to be had — I'm sure it's possible for people to have a convivial environment even when performing an unpleasant task.

Attendance. *Do you take attendance? Give arguments for your answer.*

I take attendance via a sign-in sheet. I find this a very unobtrusive and non-time-consuming way to take attendance. I did this at first so that I could pursue administrative drops. At this point in the semester, that isn't so urgent. Furthermore, since I have some homework due every day, the sign-in sheet is a redundant indicator of attendance. However, I will continue to do it anyway. I suspect, but cannot prove, that my having a sign-in sheet gives students the notion that their attendance is being paid attention to.

Student Motivation. *How do you think student motivation is related to classroom management and rapport, if at all? How do you motivate your students?*

Clearly, if the classroom is poorly managed, people will feel uncomfortable and resentful. On the other hand, if it is managed too tightly, people will feel that they don't have permission to speak. Third, I think people will be more easily motivated if they're at ease and comfortable.

As above, it is not clear to me how much I *can* motivate these students (or any students). They bring their own attitudes with them. To what degree can I realistically hope to modify someone else's attitude? I think the best that can be done is the following (all of which I do): (1) Ask open-ended questions, not just things requiring routine answers or little thought. (2) Leave time for people to think. (3) Don't take myself too seriously — treat math as a work in progress rather than something carved out of marble by the ancients, point out my own mistakes, let my students know that they have permission to get their hands dirty with these concepts. (4) Talk about some things outside of the book. (Not too many!) Here's a recent example: the book talks about the maximum number of turning points a polynomial can have. What is the minimum number? What are the possible numbers of turning points for various (even and odd, as it turns out) degrees? It turns out that the no-skips (continuity) property and the extreme behavior provide some information. We're in college now, and one of our privileges is that we can take the concepts we've learned, then give ourselves permission to reason forward from those concepts and draw conclusions.