

June, 2000 - Frances Raleigh, Biology

I ask a lot of questions in my classes, and encourage students to ask theirs. But sometimes it's like pulling teeth to get anyone to respond, and then it is only a few students who speak up. A few semesters ago I tried an experiment to get around this problem, and it worked. It has worked pretty well since, so I'd like to share it.

I decided that I wanted to count class participation as part of the course grade (5%), but I was concerned about how to do this fairly. I didn't want to count on my memory of who had participated during a particular class, but I didn't want to be tied to my grade book either. I like to move around, and sometimes I get very involved in the material. I was afraid that if I had to stop and go to my grade book, find a name and make a mark every time a student spoke up, it would interfere with the flow of the class session. And while I might be able to remember at the end of class whether a particular student participated at all, after a lively class session, I wouldn't trust myself to distinguish relative amounts of participation.

So I made up "participation slips" with each student's name. I handed a stack of slips to each student at the beginning of the term, and each time a student asked or answered a question, I would collect a slip. Having been a very shy student myself, I announced that anyone who had a question that he or she didn't want to voice in class could write it on the back of one of the slips and turn it in at the end of class. After class I took the handful of slips, sorted them, and recorded in my grade book how many slips had been collected from each student.

When I first tried this strategy (in a junior-level Genetics class), I was afraid the students would think it too "grade-schoolish," but I told them it was an experiment, and that my goal was to be fair in assignment of a grade for participation. Very soon it became evident to me that the level of participation was higher and more balanced than in my prior classes. It required me to move around the classroom even more to collect the slips, and sometimes this took a few moments. But I can usually talk while I'm walking so it didn't seem to slow down class too much, only when I was at the back of the room and wanted to write something on the board. Very few students took advantage of the option to write questions on the back of the slip, but when they did, I tried to make sure I answered those few questions in the next class period.

At midterm I polled the students (anonymously) on their reactions to this experiment. Out of 25 students, 15 gave it an overall positive evaluation. One student said, "I like the class participation slip system because I feel it gives me more of an incentive to participate. Without it I would try to participate, but not as much. It helps to know that what you think, even if it is wrong, is worth something. Some teachers may forget who participates and who doesn't or have doubts as to who does. There is no doubt when the person's name is on the slip."

Another student commented, "I think it's a great idea! It's fun to answer questions - kind of like a game - trying to answer as many questions as possible to get the most slips in!"

Four students expressed dissatisfaction with the collecting of slips, and several suggested I record participation in my grade book instead. For example, one student said "I hate the whole idea, but at least you have a notion of who is actively participating in class. I hate it because it's distracting, and - - not completely efficient." Another said, "I think the way participation is being recorded is somewhat childish. Other teachers record it in their book."

Four students who didn't like the method evidently objected to counting class participation at all. For example, "I do not like the idea of having to use slips for participation. Everyone has the chance to participate - that's fine, but those of us that do not participate in class are in disadvantage. Participation is worth 50 points (out of 1000). I would much rather do problems to get the 50 pts, than lose them for not participating."

Three students gave the method what I call "mixed reviews." They didn't really like it, but they indicated that it did positively affect their behavior or that of their classmates. For example, "On one hand, I think the method of using cards is very helpful for me because it encourages me to read the text. On the other hand, honestly I don't really like it. Conclusively since it encourages me to read the text we should keep this procedure." Another student said, "I think that (it) is unnecessary. It should be obvious who participates. I think that although it doesn't waste a lot of time, it wastes some class time. Perhaps recording in a book would reduce the time it takes to collect slips of paper? (Like a tally). Actually, I think the class as a whole participates well."

Student comments indicated that the collection of slips not only encouraged participation and made class more interesting, but also encouraged students to prepare for class more thoroughly so that they would be able to participate.

One student raised the question of how many points were needed to earn a good grade for participation. Because I had no idea what kind of response I would get, and I didn't want to set too low a figure and thus discourage participation, I was unable to answer that question. At the end of the term I counted up the participation and calculated an average participation (per class session) for each student.

The first semester I did this, the students responded an average of 1.67 times per student per day (s.d. = 1.17). Of course some days were more interactive than others, but of the 22 days in which I collected slips, the number of times students spoke up ranged from 13 to 48 in a class of 18 students. Student averages for the term ranged from 0.23 to 4.45. Clearly some students participated more than others and, as in previous classes, I noticed that the

number of students participating declined as the semester progressed. But it seemed to take longer to decline, and at the end of the term there were still a fair number of students participating regularly.

I used the technique again in Ecology in the Fall, (with many of the same students) but without giving points for participation in the course grade. It still seemed to encourage participation, but was less successful than the previous class. This past term I used it again in Genetics and again counted participation as 5% of the course grade. This term the lowest participation average was 1.0 participations per day, with an average of 3.1. On many days nearly all students participated several times, and there was not the drop-off in the number of students participating as the term progressed. On the last day that I collected slips at the end of the term, 100% of students in the class participated.

I don't like everything about the technique, and by the end of the term I get tired of it and collect slips less often. It does take a few minutes after class to sort and record the slips, and it still seems a little sophomoric to me. But I will continue to use it because, in the words of one of my students, "Method seems childish but appears to be working. This is by far the most interactive biology class I've ever had."