Active student engagement in a large lecture course seems to be a contradiction in terms. How can the power of the teacher in this setting be used to remove the apparent conflict?

Student Engagement and Teacher Power in Large Classes

G. Stephen Monk

I was mildly flattered when I was asked to teach a large lecture course, since I was also faintly attracted by the power of having an effect, all at once, on 350 young minds. The request indicated that I had joined a circle of competent teachers in my department who could give the clear explanations that a large lecture demands; who are sufficiently well organized, patient, and self-assured to get the subject across to a large, diverse audience; and who are free of the idiosyncrasies of style that are charming in a teacher with a few students but disastrous in a teacher with many. For my part, I viewed this course as an opportunity to be a success as a teacher on a new, grand scale. I would not have time to do grading or to hold routine office hours, but I would stay in close contact with the course by directing the work of my five teaching assistants (TAs). The bulk of my effort was committed to the task of planning, polishing, and delivering three lectures a week.

Looking back to that time, I view my attempt to express my teacherly impulses as a lecturer in a large course as roughly parallel to attempts to express sensitivity for the less fortunate of our society as a county jailer. My first discovery was that I had no real power in the lecture room, unless I counted the capacity to cause 350 people to copy a steady stream of words and symbols into their notebooks as a sign of real power. Any sense that I had had in the past of affecting my students was based on interaction with them. But interactions are maintained by a wide variety of overt and covert social devices, and most of these seemed unavailable or inappropriate in the large lecture room. With just three hours a week in which to get my points across, I felt that not a minute of class time should be wasted. My lectures were highly polished performances meant to be transcribed in class and studied by students on their own time. After a while, I disciplined myself to stop to ask questions of the students or to solicit questions from them, but my requests met a chilling silence. The students were so busy transcribing my lectures that they did not have time to ask questions or to formulate answers of their own.

What of my staff of five teaching assistants? They were in engaged, and I was in charge of them. At first, we had regular staff meetings to discuss issues that came up in the course, but these meetings never progressed beyond purely administrative matters. Then, I began to type up one- to two-page memos describing my lectures and outlining the
material to be covered in quiz sections. I continued this practice until the second time I saw a TA deposit my memo in a wastebasket after a cursory look. Later, I learned that TAs, like sergeants in the army, see superiors with bright ideas come and go. They are close to the troops and they know what is best for them. My TAs knew that I was required to follow the textbook, so each TA followed it in his or her own way and ignored me. Far from being my agents to the students, they saw themselves as protecting “their” students against me.

The predicament that I was in would horrify any teacher who cares about students’ intellectual growth. But it was much more horrifying for me, because I teach mathematics. Any mathematician will tell you that there is only one way to learn mathematics, and that is to do mathematics. From what I knew about my own lectures and from that I gathered about quiz sections and office hours, my TAs and I spent all the course time telling students how we did mathematics. Their job was to imitate us when they did the homework. The message was that learning was to take place not on course time, but on their own time, away from teachers and away from one another.

The same vanity that led me to accept this teaching assignment propelled me to try to get students more actively engaged. It was intolerable to fill a room with my own talk and get so little response. I reasoned that I did not have to say everything that students needed to know, because it was clearly displayed in the text. So, I adopted an approach to my lectures in which students and I worked simple problems together. To keep students engaged, I asked them to vote on the correct answer. I also staged mini-debates. Generally, I withheld my own answers.

Despite the fact that lectures of this sort violated students’ expectations—they even seemed to inject such alien qualities as personal judgment and opinion into the case—most students became more involved in mathematics than they would have by listening to me. My worst fear—that the class would somehow fall apart—did not materialize. I could innovate without catastrophic results. At the same time, I realized that my innovation was inherently limited, since I could go only so far in a lecture room to change the student role from a passive one to an active one. Furthermore, my lectures were now seen by students as separate from the “real” course, since they contradicted the values of correct procedures and correct answers expressed by all other course components: text, quiz sections, homework, and texts.

A colleague and I then undertook to extend the idea underlying this kind of class presentation by preparing materials with a minimum of exposition in which carefully linked instructions and questions forced students to work through the basic concepts and procedures of the course (Curjel, Joss, and Monk, 1972). This, in turn, required us to write exam questions that tested for understanding and to help students study for such exams by distributing sample exams in advance. When we finished this project, a psychologist who worked with us pointed out that we had created two distinct cultures within our course. The lecture periods and materials were experience-based and intuitive. In contrast, the TAs spent quiz sessions explaining what students were to learn from the material, not making them go through it. In fact, the more the TAs perceived the professor and the materials to be process-oriented, the more they took it upon themselves to give students highly compressed summaries of the results of these processes. (For a discussion of the interactions among the components of such a course, see the chapter by Finkel and Monk in this source book).

To bring the two cultures together—or, more accurately, to bring the TAs around to our point of view—we decided to hold an extensive orientation and weekly staff meeting. TAs were happy to meet with these energetic and enthusiastic faculty members, but since their only dissatisfaction with their own teaching was the result of strange educational ideas that we had brought to the course, they saw no need to reconsider their own approach. We were struck by the parallel between our students and our TAs. Students do not learn mathematics by being told about it; they need to plunge in and do mathematics. Teachers do not change their attitudes toward teaching by being told about better approaches; they need a changed teaching activity, so that they can experience their teaching in a different way.

With our next group of TAs, we began by discussing the problems involved in teaching a
learning mathematics. Then, we suggested that—as an experiment they break students in their quiz sections into four- or five-member groups to work on the course material. They could move around and listen to one group, help another, and prod a third; but, because there were so many students in the class, the separate groups would be on their own a good deal of the time. By introducing learning groups, we proposed to solve two different problems: Students would plunge in and do mathematics, while TAs would experience their teaching in a radically different way. Four of the five TAs agreed to this approach.

The experiment proceeded smoothly for four weeks until we were swept by a wave of discontent among the TAs. We had deprived them of their rightful place in the classroom and deprived the students of the TAs’ expertise. TAs had heard our suggestion that they leave their powerful posts at the front of the room as an injunction against giving answers, and they felt irresponsible. They were deeply troubled by the “wrong ideas” that were hardening into truths in students groups that they could not attend. Listening to student groups struggle with the material seemed to prove that their attentions were critically necessary. Some students made it clear that they felt abandoned, and immediately the TAs decided that these feelings were objective descriptions of fact. The students had generally done well on the midquarter exam, but this did not reassure the TAs, who interpreted the high grades that many students received as indications that “teachers really aren’t necessary”; however, they said, students who failed “might have been saved by some direct teaching.”

They all agreed, however, that the students worked together with new energy and motivation and that it was much more gratifying to teaching in an environment in which teachers shared the responsibility for learning with students. Students generally seemed to appreciate a course in which they could be so directly engaged with the language and ideas. And, after all, they had done well on a substantial exam. The discontent of the TAs was focused on the format of the learning groups, yet none of them advocated a return to the conventional classroom format. We were experiencing the stress that always seems to accompany social change. When the time came for the TAs to decide how to handle the remainder of the quiz sections, all four decided to continue with learning groups.

Thus, after only one quarter of rocky but successful use, the idea of breaking a quiz section into groups had become a fixture of the course, as if things had always been done that way. TAs entered the experience knowing that “they do groups in this course” and that the format would require them to make adjustments in their teaching, adjustments that could be dealt with in staff meetings. Now, after nine years of use in the course, learning groups seem so unremarkable that TAs no longer discuss them at staff meetings.

Having finally achieved at least a measure of what we had set out to do—namely, get students to engage actively in the course—my colleagues and I were in a position to make changes that caused the course to fit together better as a whole. The course material has been expanded (Monk, 1981) to supply more of the exposition than the standard text provided. Since the quiz sections serve both as a center for student activity and as a basis for forming outside study groups, the lectures can serve an increased variety of teaching functions. Generally, the lecturer uses the format of “Let’s do a problem together”, but sometimes gives careful explanations. Friday lectures are always reserved for answers to students’ written questions. The fact that TAs cannot hope to cover all the material gives them an incentive to read reports from the lectures about what he has done. At the same time, the experience of listening to students and guiding them gives TAs an occasion to do some reporting of their own. Their daily descriptions of the confusions, insights, and moods of their classes together with the lecture reports, form a written chronicle of each quarter—a chronicle that TAs and professors consult regularly and that they find extremely helpful.

The original view of my power to affect 350 minds was illusory, because I interpreted my power as the capacity to tell students how to do mathematics and to direct my TAs in their teaching. Slowly, I came to realize that I could have more influence both on my students and on my TAs by shaping the terms of their experience—by having the students become
more actively engaged in doing mathematics together and by having the TAs relate to the classroom in a more flexible manner. I could then have an effect on their minds through the written materials that I provided as grist for these experiences. The prospect of lecturing to a hushed roomful of students busily taking notes had seemed so momentous, yet lecturing alone had little real effect. At first, the suggestion that my TAs should break their classes into learning groups seemed innocuous enough, yet it causes a great initial uproar. Finally, however, it proves to have had an enormous influence both on the students’ learning and on the course culture.

References

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