

Mom Always Liked You Best: Examining the Hypothesis of Parental Favoritism

Prologue: The Interrupted Case Method

by

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There are many roads to Rome and many ways to do case studies. Although the case method was first initiated in the Harvard law and business schools as a Socratic discussion between students and faculty, within a few decades cases were being delivered by the lecture method by no less than a Harvard man himself, chemist and eventual president of that illustrious citadel, James Conant.

If cases are stories with an educational message, as I contend, then there should be innumerable ways to teach them. Indeed, as years have passed, the list of techniques grows ever longer (see Herreid, 1998, *J. Coll. Sci. Teach* 27:236). Here, I wish to describe a method that I have been using for many years in classrooms and faculty development workshops. I call it the *Interrupted Case Method*, where information is fed piecemeal to students working in small groups. This method of "progressive disclosure" is characteristic of Problem-Based Learning (PBL) but in the Interrupted Method the case is accomplished in one class period rather than over several days. It shares with PBL the great virtue of engaging all students in problem solving. And (here is the real beauty of the method) faculty find they can easily write and teach cases of this type!

A little background: The *New England Journal of Medicine* publishes cases called "Clinical Problem Solving" each week. The format of the exercise is that "information about a real patient is presented in stages to an expert clinician, who responds to the information, sharing his or her reasoning with the reader." This is done in a series of steps: first, the case writer provides a paragraph or two of information about the patient. The clinician then reveals his thinking about the case, speculating on possible diagnoses and perhaps suggesting a test that might be performed. Next, the case writer gives some more information about the patient. Again the clinician responds. Several more rounds of case writer and clinician remarks follow, usually ending with the case author providing a summary analysis.

This method of case analysis, where a problem-poser's remarks alternate with a

problem-solver's remarks, can be used in the classroom in several effective ways. The most obvious but least inspired method is to use the lecture method. The teacher must develop a problem and then write the appropriate script--a dialogue between the problem-poser and the problem-solver (expert or novice). In the classroom, the instructor might present the case using the "two hat" technique--first acting as the problem-poser, and then switching roles and acting as the problem-solver. As the two roles are read, different hats could be literally worn. Alternatively, students could take turns reading the parts in the dialogue. This method of case presentation is largely passive, yet it does illustrate how an expert (or novice) reasons his or her way through a problem. It has the same weaknesses of any passive form of presentation unless the instructor stops periodically and has a discussion with the students.

A more exciting way to use the idea is to actively involve all of the students in a problem-solving exercise using the Interrupted Case Method. Perhaps the easiest way to use the method is to select an article from a scientific journal. The instructor chooses a question drawn from the introduction section of the paper. Small groups of students are asked to design an experiment to solve the problem that the article raises. After a suitable time for discussion, groups are called upon to present their experimental design and explain the reasons for their approach. Commentary is then solicited from other class members on the appropriateness of the approach.

In the next stage the instructor briefly describes how the authors of the paper decided to attack the problem. Their actual methods are described. Then the groups are asked to predict what the results might look like. Perhaps a blank table or blank graph is given to the groups to fill in. Once again the groups are asked to report out their solutions to the entire class with their reasoning made clear to all. Commentary from students and teacher follows.

At this point the instructor reveals the actual data published in the article. The groups are asked to interpret the results and draw conclusions in light of the original hypothesis. After a suitable discussion, the instructor reveals the author's actual interpretation of the results and their conclusions. Closure follows.

I think you will see the potential for the method by looking at the accompanying example drawn from the pages of *Nature* magazine.