Dissection in the Classroom

What the Jenifer Graham case means

For most high school students, dissection is a rite of passage. The prevailing attitude is that dissection separates those tough enough to slice up a dead animal from the squeamish "others" who will never have the right stuff to be scientists.

For most high school teachers, dissection is a tradition. When they were in high school, their teachers told them they must prove their interest in science with "hands-on" experience, and it is this tradition they pass down to the new generation of would-be scientists.

Into this established pattern has come a quiet, but insistent, generation of students who can not stomach what they see as institutionalized and ritualized death. Some plan to make a career in the sciences. Some are just passing through biology class on the way to graduation.

One student, just as insistent as the others, but who made a louder splash with her refusal to dissect, is Jenifer Graham of Victor Valley High School in California (see the interview on page 27). Her grade was lowered because she refused to dissect a frog in order to pass her biology class. She also objects to the entire system of frogs being captured or raised to become dissection specimens. Jenifer sought help from The Humane Society of the United States to plead her case in court. The judge recently offered a compromise that Jenifer found acceptable. Jenifer agreed to study frog anatomy using three-dimensional models, computer graphics, overlays, and other alternative methods. She'll be tested using a frog that has died of natural causes and that will be previously dissected by a teacher.

Aside from the practical problems with finding a frog that died naturally, the case highlights the whole issue that has been subtly growing in our educational system: does science education depend on dissection?

Science education involves critical thinking, creating and testing hypotheses, and collecting and analyzing data. Dissection requires merely manual dexterity and rote memorization of body parts.

In a sworn statement filed with the court in Jenifer's case, Paul Hurd, professor emeritus of Stanford University, said, "With the development of modern teaching technology such as the manipulation of computer graphics to simulate frog dissection, actual dissection in the classroom has become old-fashioned and is not important in modern biology."

But do students need dissection to prepare them for the "real world" of science?

In another sworn statement, plastic surgeon Dr. Donald E. Doyle, who is affiliated with Cedars-Sinai Medical Center, among other hospitals, says he was required to dissect a lobster and a frog in college.

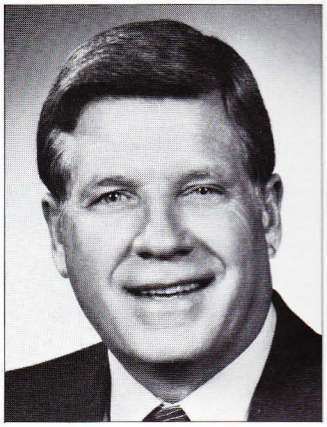
"None of what I was exposed to in the laboratory helped me understand any more fully the anatomy or physiology of the dissected creatures," Dr. Doyle said.

Teachers who are being forced to accommodate students' sensibilities are understandably anxious about any encroachment onto their curricula. If the students' rights must be considered in dissection, it allows the students to control their method of learning.

But, teachers must realize that it is natural for students to be uncomfortable with cutting open an animal and that discomfort has a moral foundation; students who are desensitized and demoralized by being forced to dissect have learned nothing but compliance.

The nation's largest biology textbook publishers, Holt, Rinehart and Winston, have revised their modern biology textbook to make frog dissection optional. In addition, the teachers' edition of the text says, "...We have chosen not to include dissections of animals such as earthworms, crayfish, starfish, and grasshoppers since for most students behavioral observations foster a greater respect for living organisms."

A greater respect for living organisms is, finally, what the Jenifer Graham case is all about. Teachers are learning that the old way is not necessarily the best, and the new generation of students is being taught that animals are not merely disposable commodities. ■



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