

# Editorial

## Studying Living Organisms

It seems that every day my mail contains at least one announcement of a new teaching tool—a new film, textbook, chart, computer program, etc. claimed to help improve my laboratory teaching of biology. We're all familiar with these products, and most of us use them in our teaching to some degree. Are we becoming too dependent on these products? Stated another way, are our students studying films, charts and computer screens in lab when they should be studying living organisms?

The temptation to rely excessively on audiovisual materials is strong. Many of the advertised products sound exotic and are well prepared. And, it's certainly easier to show a film or hang a chart on the wall than to collect living organisms for examination in the lab. I've even heard stories of administrators who somehow equate the use of audiovisuals (especially computers) with good teaching. Equally disturbing was my being informed last week of a "self-contained, computer-based" laboratory course for introductory biology. With this program, students would never examine a living organism first-hand—they would only

interact with a computer program containing the programmer's interpretation of the living organism. Studying a computer screen instead of studying living organisms—any wonder why many of our students don't seem to be too excited about biology?

Let me state emphatically that I believe that audiovisual materials can be valuable aids to teaching and learning. However, no computer program or photograph can capture the beauty of a living *Volvox* colony. And, no diagram can replace the learning experience of making a smear of an onion root-tip and identifying stages of mitosis. And, a model of a "typical" flower can't help a student understand floral structure like hands-on dissection of a variety of flowers. Biology is a *process* that requires hands-on experience with living organisms rather than with charts, computer screens, etc. Biology must be taught as biology is done—with living organisms.

Whenever possible, let's begin our studies of living organisms by studying living organisms. Use audiovisuals in the lab as supplements to help explain the organism.

**Randy Moore, editor**

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