Reflection has become a major theme in science education. Teachers are prepared to be reflective practitioners who think about their teaching practices in an effort to make improvements. One thing teachers must reflect on is how to cope with teaching failures. No matter how well we prepare, and no matter how carefully we choose our teaching strategies, we should expect failures in our teaching. We should also expect successes.

What, me fail at teaching? Never! I prepare thoroughly, rehearse each class session in my mind, and am eager to convey my knowledge and enthusiasm about biology to my students. How can I fail to do a good job of teaching? How can I fail to get universal acclaim in student evaluations?

First, I have discovered that in a large class consisting of hundreds of students, it is virtually impossible to please everyone. Although the majority of students in my introductory biology course of about 670 students rate the overall quality of the course from good to excellent, about 4% rate the course as poor. Open-ended evaluations are very positive, but there are always some negative comments. These negative comments tend to stick in my mind. My way of coping with the psychological trauma caused by the negative comments is to convince myself that every student is different and, in a large course, I should expect a variety of responses that range from poor to excellent. I should think about the validity of the negative comments and use them as a basis for possible improvements.

Some negative student comments may reflect a student’s misconception of the stated goals of the course. For example, much of my lecture content is provided to students via CDs in lab, recitations taught by graduate teaching assistants, and readings. Since I have already explained the content as well as I can on the CDs, I resist teaching it in regular lectures. Instead, my lectures are intended to highlight and reinforce topics that the audience will think about in a new way. The “nuggets” that you want to present, and do not try to present simultaneously translated my lecture into English. After the lecture, I thanked the translator for doing such a great job of translation. I commented, “They even laughed at my jokes.” The translator responded: “No, I’m sorry to say they did not laugh at your jokes. When you told a joke, I said to the audience: “The speaker has just told a joke. Please laugh!” (I hope he was joking.)

That same translator told me he had once translated for another speaker who told an inappropriate joke. So, the translator told his own joke instead, and the audience laughed. (I assume he was again joking.) Incidentally, these two digressions were not “tangents.” They were “enrichments.”

Another memorable lecture was one that I gave in Cincinnati. I reported the results of a national survey on the status of college science teaching. A large audience and the press were present. I was president of the Society for College Science Teachers at the time, and this was supposed to be a significant event. I “bombed.” This time I confused my data, was disorganized, and did not provide a coherent picture of the results of my study.

The lesson I learned was to prepare thoroughly, identify the “nuggets” that you want to present, and do not try to present everything. For each lecture, focus on the few, important elements that the audience will think about in a new way. The outcome of a good lecture should be the student saying, “I never thought about the topic that way before.”

We can survive teaching failures, learn from them, and move on.
Recent Syracuse University commencement speakers demonstrated the importance of focusing on “nuggets.” Bill Clinton, former U.S. president, was the commencement speaker in 2003. He gave a wonderful speech, and covered a lot of topics in about 20 minutes. I recall enjoying the speech, but I cannot recall anything that he talked about. On the other hand, Phylicia Rashad, the entertainer, was the commencement speaker in 2004. She spoke slowly and articulately for about 6 minutes. She had one message that she repeated several times: “The world should be run with a mother’s heart.” Although I forgot what Bill Clinton said, I’ll probably never forget Phylicia Rashad’s message. This was a lesson in teaching that verified the importance of selecting a few important “nuggets,” instead of trying to cover many topics in a presentation.

I gave a third memorable lecture as newly elected secretary of the Education section of the American Association for the Advancement of Science (AAAS). I spoke to the section members at the AAAS meeting in Seattle. I had just completed an 8-hour plane journey from Syracuse, NY, to Seattle, WA. My fatigue was amplified by lack of audiovisual equipment that I anticipated being on hand. I “bombed” again. I rambled for several minutes while waiting for the meeting attendant to bring the audiovisual equipment (it never arrived). Then I proceeded to read tables and results without displaying them, and I jumped from one topic to another in a disorganized fashion. My voice was clear and strong, but coherence was lacking. As I proceeded, the “pocket” in my mind was thinking, “What am I talking about?” The ensuing discussion saved the day, since the audience participation redeemed an otherwise questionable presentation.

That night, I could not sleep well. I felt depressed and disappointed about my inaugural address as the incoming secretary of the Education section. I vowed that this would never happen again. From then on, I would anticipate personal factors (such as fatigue) and equipment failures, and I would prepare appropriate alternative strategies in advance.

An important outcome from teaching failures is to realize that every lesson will not be a success, to expect failures, and to learn from each negative experience and make appropriate adjustments in the future.

Another outcome is to realize that we often exaggerate in our own minds the effects of our presentation. I recall making an error in teaching my class about the metric system. I inadvertently mixed up micrometers and nanometers. I fretted about this error for a week, thinking I had seriously damaged my students’ respect for my knowledge. I corrected the error in the next lecture. Most students never even noticed the mistake, and those who did notice it did not think it was a big deal.

Reflect on Our Teaching

So, we should be reflective and critical of our own teaching, but we should not be devastated by an occasional failure. Oftentimes the failures were not as bad as we thought. We can survive such failures, learn from them, and move on.

Fortunately, the few notable failures that I have mentioned are dwarfed by the many successful presentations. I have experienced enthusiastic applause and congratulatory comments for many presentations. But perhaps the greatest satisfaction is to observe the faces of the audience and to see that they are absorbed in the lecture and are thinking about the topic.

I recall observing a physics demonstration presented by an excellent teacher. The face of a student in the front row was literally glowing with interest and excitement. “This is wonderful!” seemed to be what he was thinking. Such facial expressions are a teacher’s delight. We thrive on seeing such glowing expressions of interest.

I once gave a lecture when I had a bad case of the flu. I demand regular attendance by my students, so I felt obliged to give the lecture, despite my illness. I could barely speak, but I used a microphone to have my whispered words project to the audience. The attentiveness was amazing. Students were at the edge of their chairs, straining to hear what I was saying. “Is he going to collapse and die?” must have been in their minds. I sensed this absorption of students, and I enhanced it by stopping abruptly in the middle of sentences, mopping my pale, sweaty face with a handkerchief, and occasionally taking a sip of water. Despite the real reasons for attentiveness, I remember this occasion as a model for the inspirational results of a good lecture.

These examples of memorable lectures, both good and bad, can result in improvements if we remember them and make appropriate changes in our teaching. When we have a negative teaching experience, a comforting thought is that it happens to everyone sometime or other. It is also useful to tell ourselves, “This, too, shall pass,” and think to the future.