My earliest classroom experiences as a science teacher were both challenging and humbling. Being responsible for my students’ knowledge empowered me to the extent that it terrified me. I believed that I was responsible for imparting knowledge to my students, and this belief forced me to work very hard. I spent hours in the library mastering science content. How could I not? After all, I had to be an authority and I had to teach them everything they needed to know for the exam. I was terrified at the mere thought of the possibility that my students might fail, as this would be seen as a reflection of my inability to do my job and I might even be called a failure.

My desire not to fail my students, and to “pull” them into knowledge, forced me to adopt a very strict attitude in my classes. As I soon learned, this was my first mistake. The classroom is not a static place governed by fixed laws and behaviours. Instead, it is a dynamic environment. It is certainly true that teachers have authority in the classroom—we mark, we grade, and we assess students’ knowledge—but students are also a very powerful force.

My initial practice of pulling students towards knowledge was a total failure. This experience of classroom failure did not come from any lack of preparedness—I had my own learning style and I had considered many complex teaching issues. But despite all my thinking and planning, I failed. This failure eventually led me to re-evaluate my philosophy of teaching.

My earliest teaching style was one that was “pushy” and controlling, in which I attempted to compel students to learn. In the process of re-evaluating my philosophy of teaching and learning, a number of thought-provoking questions arose in my mind: What is learning? Is learning a specific and definable process? Is learning dynamic and ever changing? Is the classroom static? Are the students static? I attempted to answer these complex questions through thinking, planning, and implementing various teaching strategies, which I thought would be helpful and revealing.

In my discipline, physics, learning is enhanced through critical thinking, practical activities, application, and questioning. Mastering the content was not the way to facilitate or achieve these outcomes. My solution was to focus on students’ understanding and their ability to transfer and apply learned knowledge to new situations and to solve everyday problems. My assessment became more formative—rather than the summative types that were easy to prepare, administer, and grade—and tested students’ understandings rather than their ability to reproduce material learned.

What I came to realise is that neither the classroom nor the students are static. Students change from year to year, and class dynamics differ from one class to the next. In addition, as teachers we need to be sensitive to other issues that produce and affect students’ learning, such as gender and race dynamics, and students’ different educational and financial backgrounds. Students do not all learn at the same pace: some students are
more receptive to visual stimulus; others learn best when there is a clear methodology; yet others prefer to learn through interaction--either hands-on with materials and equipment or in small peer groups. As teachers, therefore, we need to be open, adaptable, and flexible in the teaching styles we choose to effect learning and to overcome limitations.

As teachers, too, many times we go to class with the genuine intention of helping students to learn, and we take with us our own enthusiasm, intrigue, and passion for the subject. But often students are not so zealous. I remember once trying various strategies to get my students motivated--I made silly jokes to lighten the atmosphere; I moved around the classroom; I divided the class into small groups; I tried the question and answer method. However, despite my best efforts there was silence and downcast eyes in the classroom. I remember seeing the blank look that students have when they just don’t get it, and as I walked out of that class I felt dejected, thinking that I had failed my students. I could not encourage or motivate them to learn. They simply refused to participate.

The interesting and perhaps the greatest eye-opener for me, arising from that episode, occurred a short while after the lesson when one student came to me to say that while she appreciated my efforts, she had found the scientific language, jargon, and formulae difficult to understand. I immediately felt humiliated. I had assumed that the material was straightforward and uncomplicated. I had assumed wrong. With this intimation of what might have produced the silence in the classroom I adopted a new approach--one that allowed me to work with my students in ways that not only identified problems with understanding physics, but also with finding solutions.

From this early failure I discovered that I could not assume that even my best students had understood the material presented. I realised that with “loose control,” I could make most students learn something. This early failure was also my greatest success, because I realised that I cared and that I genuinely believed that I could have made a difference in the classroom.

This experience taught me that teaching is learning, and that just as learning is a lifelong process, so is teaching a lifelong journey of growth, exploration, and, even sometimes, failure.

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