

Philosophy of Teaching

Even before I started my undergraduate career, I knew that I wanted to teach chemistry because I enjoy discussing, presenting, and doing chemistry and teachers or professors serve to inspire, stimulate, and challenge others. In my opinion, teaching chemistry is driven by three main factors: my philosophy of chemistry and science in general, my philosophy of student learning, and finally my desired expectations and outcomes for my students.

My Philosophy of Chemistry

Most people fail to see that chemistry is around us everyday and neglect to realize the importance of chemistry. For instance, we are facing many issues ranging from global warming to the problem of nonrenewable energy resources. Such problems and issues will inevitably be solved by chemistry. Therefore, I often try to impress upon people (my students in particular) the importance of at least a general understanding and appreciation of chemistry. Chemistry has also paved the development of common materials such as rubber or nylon as well as vaccinations or common medicines which many people rely upon today. When I teach, I use such descriptions and facts to impress upon students the relevance of certain concepts or facts – after all, what would the world be like today without some of these chemical inventions?

My Philosophy of Student Learning

Students can learn by passive teaching methodologies such as lecturing; however, students are rarely truly engaged by such methods and often they fail to take responsibility for their own learning. Therefore, I believe that more active learning methodologies such as case – based, cooperative, or inquiry driven learning are key methods for actively stimulating students and in essence, forcing them to be more responsible for their learning. Research has shown that students' attention span lasts for only 15 to 20 minutes, thus, how much do students really learn in a 50 or even 75 minute lecture? With this in mind, I work to combine active methodologies with traditional lecturing techniques to foster learning among my students.

My Desired Student Outcomes and Expectations

The central goal in chemistry as with most science classrooms is for the development of sound problem solving skills as well as the development of higher order critical thinking skills. We are training people to be chemists and scientists not technicians, therefore, it important that students develop such skills. It is true that students must know some basic facts, but it is more important that they can effectively synthesize these facts and apply them to real world situations. Thus, my lectures and assessment methods go beyond simple recall questions, and emphasize higher order thinking skills that will be pivotal to their success as both professional chemists and scientists or as graduate students. If we are not preparing students for their future careers and education, then what is the point of teaching?