

A sample of letters by chemistry teachers who laud Modeling Instruction.

Teachers wrote the letters in Nov. 2015, after their summer 2015 ASU Modeling Workshop. Four of these 5 teachers teach in large comprehensive high schools in metropolitan Phoenix.

MODELING WORKSHOP IN CHEMISTRY: CORE UNITS (July 2015: 3 weeks)

* I took the Modeling Chemistry I workshop with Russ Shaffer. When taking this workshop in July I had to make a tough sacrifice, to only take half the course or to take off a full week of school (our first week back from school overlapped with the last week in the workshop). Needless to say, I decided to stick with the workshop and plan for a substitute for the entire first week of school. It paid off tremendously! I can tell the difference between modeling and traditional teaching my first day back. The experience I am having now with my classes (compared to previous years without modeling) is incredibly different and rewarding. My students are learning every day to think for themselves and that it is okay to get things wrong as long as we keep fixing our model and conceptions. Instead of just plugging-and-chugging numbers into a mathematical formula or algorithm, the students are understanding why the math is needed and what they are doing with the math involved. Before, I would say that this is the way the math works and this is how you need to do it. Now, it is why we need to do it this way and how it works into our model and understanding of chemistry.

* The course I took through ASU was just what I needed. I am currently re-writing my entire chemistry curriculum to incorporate what I learned over the summer. The students have a much greater participation in the class. They love how engaging the material is and how their minds are being stretched to really understand what is happening instead of just repeating back memorized answers. We are working to learn how to think about science problems and how to take information and apply it to the problems. The students have fun and are feeling far more empowered this year than I have ever seen them before.

ADVANCED CHEMISTRY MODELING WORKSHOP (June 2015: 2 weeks)

* I took the Chemistry Modeling Workshop Part II this past summer, and it was very informative and helpful to me as a chemistry teacher. I have been using the chemistry modeling curriculum for the past 3 years, but this class really helped me to get a better understanding of the curriculum and how to use it in my classroom. It really is improving my teaching skills, which in turn is very beneficial for my students.

* I believe that modeling is the only way to teach chemistry. This summer's course will help me extend the course beyond the first 9 units. I also used some of these strategies with my IB Chemistry Higher Level course with great success.

* I was a traditional teacher for almost 8 years. I took the first modeling course in 2009 and since then I am a modeler. It makes so much sense to the students when they draw the particle diagrams and white board. Today my assistant principal walked into my classroom and saw students white boarding; they were correcting their own mistakes and I was just guiding them. He was very pleased to see the students engaged. My students' scores for the quarterly benchmark assessment were very high. We are preparing the students to think and analyze instead of rote memorization. The modeling program has helped me to become a better teacher.

See <http://modeling.asu.edu> for more information.