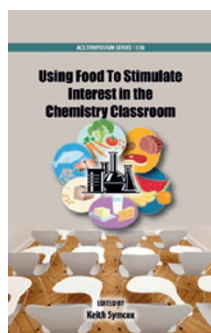


Food for thought



Using Food to Stimulate Interest in the Chemistry Classroom

Edited by Keith Symcox

AMERICAN CHEMICAL SOCIETY: 2013. 192 PP. \$150.

The task of designing a new class can be greatly alleviated by finding a text that helps an instructor with content, scheduling and pace. For chemistry faculty, the course support that comes with a textbook can often be as important as the textbook itself. Unfortunately, when chemists try to branch out from traditional chemistry courses, there is very little support, and often no text, to guide the coursework. This circumstance is especially pertinent for food chemistry classes.

A lament that echoes the above concern comes up often in a new book published by the American Chemical Society: *Using Food to Stimulate Interest in the Chemistry Classroom*. As an edited symposium series, the contributing authors share their diverse experiences engaging their students with both food and chemistry. For many of them, the primary text for their individual classes is *On Food and Cooking* by Harold McGee, but the instructors have still had to put in considerable effort to provide chemical depth to their course's culinary context. Throughout the ACS book, the authors share how they have filled in the blanks where the available

texts come up short. As a faculty member who teaches a course on the chemistry of cooking, I have faced the same problems. The challenge of describing basic chemistry to non-specialists may seem trivial. I can attest to the fact that it is not. Writing lectures and designing laboratory experiments that contain accurate and pertinent chemistry while ensuring that they can be digested by students with varied appetites for chemistry, is difficult.

The ACS book will be most useful as a guiding post and a collection of references for the intrepid faculty member looking to add an 'interesting topics' course to their department's catalogue. The book's editor, Keith Symcox, has done a fine job in assembling a group of authors who teach their courses under very different circumstances. In my mind, this was a very smart decision. Although many of us have opinions on what our ideal class might look like and how it might be scheduled, we are constrained by our universities in how we can go about implementing those ideals. Having such diverse voices ensures that curious faculty members can match their constraints to at least one of the presented chapters.

The book is split into two sections. The first contains chapters that describe typical classroom arrangements of courses: three-week seminars, semester-long ones for majors and non-majors, capstone (final year) courses, and those that highlight the interdisciplinary aspects of food preparation and appreciation. These examples also include a variety of teaching environments (catering-quality kitchens, chemistry labs, classrooms, local farms and restaurants). The second section covers innovative use of food in the classroom: from novel research labs to the use of role-playing in education. From this second section, I was particularly inspired by the description of a metal ions and nutrition seminar that was developed to engage and empower young women in India.

My biggest complaint is one of style. The authors were tasked with writing pedagogy articles. And they did that. But, in the process, some of the authors struggled to effectively translate their enjoyment of these classes onto the written page. As a practice, many faculty members can see discussion of pedagogy as forced medicine. This point of view is detrimental to the overall text because, as a reader, I need to

be motivated and engaged in order to want to respond to the authors' calls to design my own culinary chemistry class. For this reason, I do not believe that this book, alone, will entice new course offerings.

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The chapters that worked best for me are those that described their students' experiences and experiments with new techniques and problem solving. Malapati described an ethnic cuisine research project for students at Clarke University in which they had to learn and be able to describe the science behind cooking techniques with which they had little previous experience. Das really brings to life how his students are immersed in advanced molecular gastronomy techniques. And I was especially impressed with his students' creativity in designing their final projects: novel food presentations with corresponding scientific descriptions. I am aware that a similar project is required as part of Harvard's well-received food science course.

Perhaps the concept I am most likely to adopt in my own class is Daus's use of creative problem solving. She gives her students a recipe and states that the recipe is not as good as it should be (the final dish may have too much fat or may not have the proper texture). The students are then required to experiment with the recipe, using the chemical training they have received in class. I am a big proponent of laboratory protocols that expect students to use the scientific method to achieve an expected result.

In short, this is a useful reference book. And, although it is not quite the textbook that many of us are hungry for, I would recommend it to anyone already teaching, or committed to teaching a kitchen chemistry course. □

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