Food and More for Thought

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Especially for High School Teachers

by Diana S. Mason

Food and More for Thought

Let's start with "thought". Teachers of today can't circumvent our dependence on the various forms of media that inundate our classrooms, but have you ever asked yourself "What is the best way I can use these 'instruments' in my classroom?" I would assume each of us has. Robinson *(1)* reports on presenting multimedia instruction designed to enhance learning. The ability of humans to learn may be unlimited, but incoming information can overload our working memory's capacity in the auditory–verbal or visual–pictorial channels. In this article Robinson presents the eight principles of multimedia learning (pp 10–13) that highlight our abilities to process words and pictures and promote deeper learning. To promote deeper learning we need words and pictures presented simultaneously with narration and without extraneous distractions under the control of the learner.

Accepting the above as true, it sounds like a "just stick to the facts, ma'am" scenario. Yet we invariably want to give our students more and more information and provide them with opportunities to connect what they are learning to the "real" world. How can we do both—prevent cognitive overload and complete the suggested curriculum? Finding the happy medium between too much information (resulting in cognitive overload) and providing needed connections for our students to the real world is an art to itself. Our quest is to find examples that both nourish and stretch our students' understanding without burdening them with extraneous information.

Consumer Chemistry

Bringing chemistry into the classroom at a practical level should never detract from teaching about the foundations of chemistry; it should complement it. Whether you teach a traditional chemistry course or one that relies heavily on the applications of chemistry, you can find articles of interest in this issue of *JCE.* Chemistry is central to our lives and can contribute to a liberal arts education *(2)* just as much as to a technical science education. We can teach and learn about chemistry in the classroom, at play, at work, and in a museum. Silberman, Trautmann, and Merkel *(3)* give some excellent suggestions and examples of how to introduce young learners to the wonders of chemistry at a science museum. Our selection this month for the *JCE* Classroom Activity *(4),* complements that article nicely and suggests that students investigate the practical side of chemistry by making their own cold and hot packs. Fortineau *(5)* addresses many issues about perfumes, and Mabrouk *(6)* explains the chemistry behind making lotions. Use of environmental issues is most important when bringing chemistry into the classroom *(7).* (Don't forget that the next issue—February 2004—will prepare us for doing classroom activities in support of the upcoming Earth Day!) Ingersoll *(8)* contributes to this practical knowledge with a review of *The Practice of Chemistry* by Wink, Fetzer-Gislason, and McNicholas. Also, Pagni *(9)* reviews Coultate's *Food: The Chemistry of Its Components.* Environmental issues along with chemistry needed in the consumer world are two things we can bring into the classroom to help our students bridge the gaps between passing the course and learning how all this knowledge applies to them personally. Helping our students prepare to take on the demands of an ever-changing world is what makes the teaching of chemistry so valuable.

Secondary School Featured Article

- *JCE* Classroom Activity: #59. Some Like It Hot, Some Like It Cold, by Robert G. Silberman, p 64A.

JCE DLib Is Open—Come on in and Check It Out!

JCE's new Web address is *http://www.JCE.DivCHED.org* (see pp 26–29 for more information). Also in this issue we introduce the *JCE* DLib (Digital Library). We will expand our current system to include many new and exciting collections *(10–12)*. One of the most exciting updates for teachers is the WebCT online collection of questions (some with answers) from the University of Wisconsin–Madison chemistry department *(11)*. The *JCE* DigiDemos debuts in this issue *(12)*. For a couple of examples of our updated version of the very popular Tested Demonstrations, see the articles on conductivity *(13–15)*. More teacher and student resources will be coming our way, so stay tuned. Think about what you can do to contribute to this exciting time and to the *JCE* Qbank—a new and innovative, dynamic feature!

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