Commentary

We'll Make You a Better Teacher: Learning from *Guitar Techniques*

by Thomas J. Greenbowe

Last June our Division of Chemical Education held a strategic planning session, and I was on the committee that reviewed comments and questions submitted in response to a survey of DivCHED members. Two questions really struck me:

> I have been a DivCHED member for five years, how do I get to know other chemistry instructors who have the same interests in teaching that I do?
>
> Why doesn't DivCHED do more to help us become better chemistry teachers?

Here are some thoughts on these issues.

Musicians and Teachers

I am a better science instructor today than I was 30 years ago when I first started teaching. I attribute my improved teaching and professional growth to my involvement with DivCHED and to the advantage I have taken of the resources and services offered by DivCHED. Over the past 30 years, I have had the very good fortune to observe master teachers in their classrooms and when they were presenting papers at meetings, facilitating workshops, and serving on committees. Nearly all of these individuals were members of DivCHED or members of other international chemical education professional societies. Observing chemical educators at work is similar to observing musicians. Musicians develop their skill and knowledge in a genre of music. They can play with other musicians in a band or they can perform solo. They can be recognized by their signature sound.

Most guitar players do not have the talent for playing world-class music, though many individuals devote considerable time, effort, and money to developing specific knowledge and skills so that they might approach this level of playing. It is worth noting that there are more resources and *more uses of technology* available world-wide to help individuals become better guitar players than there are resources available to help individuals become better science teachers.

Technology and Music Instruction

One example of what I consider to be an effective combination of technology and instruction is the monthly magazine *Guitar Techniques* (*GT*) published in Great Britain (UK). This magazine provides high quality and effective instruction on a variety of guitar styles, techniques, and applications of theory. It is available worldwide and features a variety of internationally known master guitar instructors who are professional working musicians. The most effective features of this magazine are the lessons that are played by instructors on an accompanying DVD. One can both hear and see how a guitar player should be playing a segment of a song. Using *GT* and the accompanying DVD with a local guitar instructor, a student can receive feedback and assessment on how he or she is playing the guitar. This is one of the most important steps in improving anyone's knowledge and technique regardless of what one is trying to learn. The slogan of *Guitar Techniques* is "We'll make you a better player."

We need to make use of the expertise of chemical educators from around the world.

Technology and Chemistry Instruction

Providing resources and services to help individuals become better guitar players is analogous to what DivCHED can do to help chemistry teachers improve their chemistry teaching and expand their range of techniques. DivCHED through *JCE Software* and the National Science Digital Library, along with other professional chemical education societies, provide a variety of tools and resources to use in instructional presentations to students. DivCHED through the Examinations Institute provides standardized exams to assess students' understanding of chemistry. We can do more to provide chemistry instructors world wide with effective, modern resources and services. What is needed is *Guitar Techniques* for chemistry instructors.

We need to develop a resource and a service that focuses on the practice of teaching and learning chemistry in the classroom, at all levels, in all areas. This proposed magazine should be developed and designed to complement and augment the *Journal of Chemical Education,* the Examinations Institute, the BCCEs, and programming at regional and national meetings.

Individuals who have received local, regional, or national awards in teaching or who have made excellent presentations at regional and national meetings should be featured on a Web site. While it is nice to read the articles from award winners in *JCE,* read an abstract of a presentation, or review Power Point presentations given at a meeting, it is far better to see these master teachers in action—giving a presentation, working with their students, or giving a one-on-one tutorial to a colleague. Professional videographers could film both scripted and live classroom presentations and student interactions by master chemistry teachers at all levels. Digital segments of these events can be placed on a DVD or on an Internet site. This proposed magazine would have explanations, descriptions, and discussion that accompany the digital sequences.

Guitar Teachers and Mentors

Guitar teachers advertise their services in a variety of ways. It is up to an individual to gather information about a teacher and to seek recommendations from current or former students. In order to provide a listing of people who want to serve as

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mentors, we need to make use of a "face book" or a wiki. On a Web site, mentors would have their curriculum vitae detailing their experience, a brief video segment explaining their qualifications, a short demonstration of a particular teaching skill, and recommendations. Mentors might be able to observe teachers in their classrooms, perhaps in person, perhaps by using technology similar to existing I-Sight cameras. Mentors can provide feedback and engage the teacher in a discussion about a variety of chemistry topics as well as teaching techniques. Just as *GT* has an editorial board that decides whom to feature as a guitar instructor, this proposed magazine might have an editor and an editorial board that decides who would be featured in each issue and the chemistry instructors who are highly qualified to serve as mentors.

Assessment of Teaching

In the UK, there is the Registry of Guitar Teachers (RGT) whose members work with the London College of Music Exams to produce a series of graded exams for guitar players to earn a certificate and even college credit. Each issue of *GT* has a column explaining a specific section of the exams and providing a lesson designed to help students get ready for the practical exam. In addition, *GT* has links to interactive Web sites that offer a range of resources and additional instruction. This proposed resource for chemistry instructors can offer guidance for putting together a portfolio that highlights their teaching. Committees appointed by the ACS Division of Chemical Education Examinations Institute could assess these teaching portfolios.

Summary

We need to make use of the expertise of chemical educators from around the world. We need to be making better use of current technologies to deliver timely, high quality, and effective resources and services to chemistry instructors. I suggest we use the following slogan on the cover and Web page of this proposed magazine:

Chemistry Teaching Techniques:
We'll make you a better teacher!

I invite the chemical education community to begin a discussion of the ideas and issues raised in this commentary by using the ChemEd Digital Library blog, which is located at *http://expertvoices.nsdl.org/chemeddl/*.

Supporting *JCE Online* Material

http://www.jce.divched.org/Journal/Issues/2008/Feb/abs191.html

Abstract and keywords

Full text (PDF) with links to cited URLs and *JCE* articles

Blogged at *http://expertvoices.nsdl.org/chemeddl/*

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