

Random Thoughts on the COVID-19 Experience as a Faculty Member at H-SC

By Herbert J. Sipe, Jr.

Spalding Professor of Chemistry

The following are excerpts from letters to a chemistry colleague and former H-SC faculty member

Preface: I have a list, and it's not short, of stupid things that Sipe has said such as "when is a chemist ever going to need to know about computers?" [September, 1962]. Joining the list is my expectation last March that the internet infrastructure would crash nationally when secondary and higher ed all moved to on-line instruction. As a consequence I chose to prepare and record my lectures last spring and make them available to my students on a private YouTube channel in the expectation that if anything internet related survived that influx, it would be Google and YouTube. That also allowed students to choose the time of their viewing the class power points, an important consideration since I had two 8:30 AM classes going. YouTube allowed me to assess how many viewers there were for a given session but not their specific identities. Students in the two science courses were responsible in their viewing, but only 30-50% of students in the non-science course were viewers. However, both groups faithfully executed assigned work.

Friday – April 17, 2020

If my file is correct the last time I wrote you was in mid-December which amounts to a new record of neglect on my part. No excuses – just that this has been *le semestre terrible*. We have one more week of "classes" and I must say for possibly the first time in 52 years, that I will be glad when it's over. I have settled into a routine, and a not very satisfying routine, of preparing a med chem lecture for about 4-6 hours, then video recording myself presenting it, followed by some editing of the initial part when I am trying to get Power Point to be full screen (using a neat program called Bandicut – the recording program is called Bandicam), followed by a session with YouTube converting my recording to their format. That process seems to be either very quick or very slow and may be related to what other YouTubers (little potatoes?) are doing. Then I prepare my instrumental chem lecture and repeat the process. In a fit of intellectual guilt I changed textbooks in med chem in hopes that I could learn more of the biochemical under-pinnings. However, I didn't review the new book thoroughly enough and it turns out to have not so much more biochemistry as more molecular biology, which is an arcane discipline full of "factor X" and "segment alpha prime" and Toll-like receptors and TATA boxes – I am not making this up! It's like a parallel arcane language that is clear to the initiated and opaque to the rest of us. I also find myself annotating the PowerPoint slides more than I would have for a face-to-face class lecture where I tend to ad lib additional comments. Fortunately the instrumental chem text is the one I have used before and have more-or-less complete lectures and at least partly annotated power points for it so that "preparation" take only 2 or 3 hours. I have been routinely at my office until 10 or 11 PM on Sunday, Tuesday, and Thursday for the MWF med chem and instrumental classes. My classes are officially scheduled for 8:30 and 9:30 MWF, so I get to the office in time to send out links to the

videos at 8:15 and 9:15 AM. And I am certain that almost no students are keeping those hours to view the “class.” I think I am much too old to adapt to this new way of providing instruction. And deep down I doubt that the students are benefitting from it.

For a number of years I have been having the students in Chemistry 105 – Toxic Chemicals in Society – do group term papers so that I get to read ten 24-page papers that are long enough to have at least a chance of not being superficial instead of thirty 8-page papers that are guaranteed to be superficial. Before we stopped having classes on campus, the students had chosen partners and topics and had done preliminary literature work. I have been very fearful that their being off campus would make it difficult if not impossible to collaborate as groups to produce a finished product. Yesterday was the due date and I was surprised to receive 9 of 10 papers and an explanation of why the 10th would be somewhat late. Let’s hear it for the internet and on-line collaboration. (Of course I have yet to read the papers and my opinion may change but at least they submitted them!)

Saturday – April 25, 2020

The series of on-line (or at least, distance) “classes” ended yesterday and good riddance. The students, at least those in my classes, in general have been conscientious about sending in homework assignments. I have 30 students in the Chem 105 – Toxic Chemicals course and they have completed two projects and a term paper with close to 100% participation – probably better than if they were on campus. What I have done is to print copies of their emailed book report and over-the-counter drug project attachments, grade the work, have the secretary scan the graded papers as pdfs which she sends to me as email attachments, and I return the graded pdfs to the students as email attachments. This is cumbersome and convoluted but it works. Interestingly, it is the chemistry seniors who have been more desultory in getting work to me – I guess they feel guaranteed of passing? It will be interesting to see what the student course evaluations will be like this semester. Now I have a plethora (deluge?) of grading to catch up on having deferred much of it to prepare for the daily videos.

As you might imagine, the labs have turned into disasters since students were only about halfway through by spring break when this all started. The general chem students were at the NMR part of the liquid unknowns with almost all having obtained C-13 NMRs and some had H-1 NMRs as well. So to recover some semblance of instruction, Nick Deifel took the initiative to provide some problem sets that he made available to the students and graded their answers so that they would at least have some H-1 NMR background when they take organic lab in the fall.

July 14, 2020 – Bastille Day

Locally all is a-tizzy (as we old folks say) with planning to reopen for fall classes with social distancing, masking, and assorted other precautions. The one that most directly affects the academic program is a decision to split the fall semester into a 10-week segment from late August to the end

of October, during which student will take 3 courses, and a 4-week segment that splits 2-weeks before a Thanksgiving week vacation and 2-weeks after, during which students will take 2 courses but those will meet M-Tu-W-Th-F for extended class periods so the total class time is the same as it would have been in a 14-week term. (The 10-week classes will meet on a more conventional M-W-F or Tu-Th schedule, again with extended class sessions so the total class time in a 10-week course will be the same as it would have been in 14 weeks.) So I am now in the process of shoe-horning Chem 110 for 42 class meetings into 30 (longer class meetings).

All of this rejiggering is because last spring's on-line experience was that both students and faculty had a lot of trouble prosecuting their work with 5 classes on-line. It is hoped (crosses fingers!!) that we will not have to do on-line instruction this fall, but if we do, it would only be the 4-week segment.

Bill Anderson retired at the end of the semester so once again I'll be teaching the two-semester instrumental chemistry course, the first semester of which will be in the fall 4-week segment. Until he was hired in 1986, I had done both semesters (as well as both p-chem semesters) for several years. In recent years I have taught the second semester routinely and the first semester when he was on sabbatical leave.

Sunday – February 21, 2021

Obviously we got through the fall semester and stayed open for mostly face-to-face instruction. I had the glorious experience of teaching a whole semester of instrumental analysis in four weeks of five-days-a-week classes from mid-November through mid-December, and then repeated the experience from mid-January to mid-February with the second semester course. The latter went much better and smoother than the earlier course because I was teaching that for the first time in about ten years. Previously that had been Bill Anderson's gig until he retired at the end of 2019-2020 AY. We also did the entire second-semester general chem lab in four weeks of every-day meetings. We set it up with three lab segments per day: 12-2:30, 2:30-4:30, and 4:30-6:30. My segment was the last one and was not popularBut it did make for long days since the instrumental course met 8:30-10:15 AM.