

Chairman's Comments

WHERE DO WE GO FROM HERE?

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In the previous issue of the Newsletter, my editorial focused on the achievements of the CCCE under the chairmanship of Don Rosenthal. This was appropriate, since these accomplishments have been significant. It would be a mistake, however, to think that the work of the Committee is largely completed. The changes in chemical education in the past few years are only a prelude to what lies ahead.

Let me give you an example of how far we have to go. Two years ago, during the ACS meeting in Orlando, I attended a symposium on the international chemical industry. My main motivation was curiosity; how have changes in communications affected the way that chemical companies do business? The answer surprised me.

One speaker discussed the development of a new product, which began with an initial discovery at a university in Massachusetts. Then the Massachusetts group worked with the main company laboratory in New Jersey to confirm their results. There was almost no face-to-face communication; the two groups exchanged information mainly by means of teleconferences and electronic mail. Next, a pilot plant in Holland was brought into the process, and now all three groups communicated by telecommunications. Finally, a production plant in the Carolinas produced the product, while all four groups now cooperated by means of electronic communications.

As I heard this description, I could not help but ask myself, "Are we preparing our students to work in this kind of workplace?" When I looked around the room, I was startled to realize that I was probably the only chemical educator present. The total audience was only a dozen people, and most of them were the speakers from the symposium. It left me with an uneasy feeling about how far we in higher education have to go in order to give our students a solid preparation for the world they will encounter after graduation.

This fall I attended the ACS meeting in Boston and came away with at least a partial answer to my concerns. During a symposium organized by Dr. George Long (Indiana University of Pennsylvania), a member of this Committee, I heard several papers that described how electronic collaborative methods were being used for teaching. In two cases, consortia of professors from several different campuses had created an opportunity

for their students to work together in the physical chemistry course. Another paper reported on the latest On-Line Chemistry Course, in which students from several different campuses work cooperatively. I was delighted and gratified to note that many of the faculty who are involved in these projects are members of the CCCE, and, of course, the On-Line Chemistry Courses are sponsored by this committee.

Higher education will not adopt new technologies overnight, nor will there be an immediate consensus about how to use these technologies for teaching. The process of exploring and implementing new methods will require both time and dedication. One job of the CCCE is to test the most promising new technologies. There may still be a long way to go before I can be satisfied that we are preparing our students for the new world of telecommunications, but the members of the committee are working hard to learn how to do this. It is clear that the CCCE has a full agenda for some time to come.

Multimedia in Lecture First Attempts

Brian Pankuch, Editor
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Lady luck came through for us at my college and we obtained some funding for updating computer equipment. I was able to purchase a Mac PowerBook 292 Mhz/9 G HD, and 160 M RAM. It's got a 14.1 inch active matrix screen and is probably the fastest laptop available at the moment.

I'm using it with an Epson 5000, 750 lumen projector. This is bright enough to work with lights on, though I tend to shut the lights at the front of the room off. I project the PowerPoint lectures on the sidewall, this leaves me with the freedom to use the front board, to answer student questions.

I queried a number of people about the methods they find most effective and I'm trying two with somewhat

CALL FOR PAPERS FOR THE ANAHEIM ACS MEETING (SPRING, 1999)

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The following symposium is co-sponsored by the Divisions of Chemical Education and Computers, as well as the Committee on Computers in Chemical Education. It was not included in the early listing of symposia under the Chemical Education Division, but Dr. Parrill has asked me to indicate that she would be delighted to receive abstracts from readers of this Newsletter and other chemical educators. Please notice that, because the primary sponsor is the Computer Division, the deadline for submitting abstracts is Nov. 18, 1998, rather than the announced deadline for the Division of Chemical Education.

USING COMPUTERS TO FACILITATE LEARNING

This symposium will include two half-day sessions on the use of computers in chemical education. One session will include talks that discuss new computer-based learning tools for students and some evaluation of their impact on students. Talks appropriate for this first session may discuss hypermedia learning tools, intelligent tutoring tools or many other possible types of learning tools. The second session will include talks that discuss computerized tools that facilitate learning activities (which may or may not actually take place at a computer). Talks appropriate for this session may describe communication tools that facilitate collaborative learning, scheduling tools that allow faculty to include writing assignments in large classes, or tools designed to help faculty develop course content and printer active materials to be delivered by computer. Please send abstracts to Abby L. Parrill, Department of Chemistry, University of Memphis, Memphis, TN 38152 by November 18th, 1998. Send electronic submissions to aparrill@memphis.edu.

MAY AND JUNE 1999 ON-LINE CONFERENCE

GENERAL PAPERS IN CHEMISTRY AND CHEMICAL EDUCATION

Papers on any aspect of chemistry and chemical education are being solicited for an on-line conference which will be held during May and June of 1999. Those who are interested in submitting a paper should contact:

Donald Rosenthal or Brian Tissue
Department of Chemistry Department of Chemistry
Clarkson University VPI & State University
Potsdam NY 13699 Blacksburg VA 24061
rosen@clvm.clarkson.edu tissue@vt.edu

SOME INFORMATION FOR AUTHORS

Papers are expected to be the equivalent to at least ten typewritten pages in length.

February 1, 1999 - DEADLINE for receipt of titles and abstracts

April 1, 1999 - DEADLINE for receipt of final papers in HTML or ASCII format.

The conference is free to all Internet users.

Those who are interested in obtaining more information may subscribe to the CONFICHEM Listserv or the website.

To subscribe send the message:
SUBSCRIBE CONFICHEM your-first-and-last-name
To: LISTSERV@CLVM.CLARKSON.EDU

Brian Tissue (tissue@vt.edu) is managing the CONFICHEM World Wide Web site:<http://www.chem.vt.edu/confchem/>

Also, additional information may be obtained by contacting either Donald Rosenthal or Brian Tissue.

SEPTEMBER 1999 ON-LINE CONFICHEM

WHAT SHOULD STUDENTS KNOW WHEN THEY LEAVE GENERAL CHEMISTRY?

Organized and moderated by:

Professor Paul B. Kelter
Department of Chemistry
University of Nebraska
Lincoln NE 68588
pkelter@unlinfo.unl.edu

Five papers will be presented by invited speakers.

General chemistry is a course that serves a vast and diverse student audience. Deciding what students need to know upon finishing the course is difficult because the audience is so varied. For example, how are the needs of pre-medical and pre-health students different from those of agriculture majors? What does the chemical industry think that students ought to know? What is needed for the one-semester vs. two-semester course? How do faculty define a student "need" vs. a faculty "preference" in the curriculum? What are some creative ways of dealing with diverse needs?

The CONFCHEM Listserv and Website will be used for this session.

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JULY 1999 ON-LINE CONFERENCE

DISTANCE AND COLLABORATIVE EDUCATION USING THE INTERNET

There will be a focused five paper session after the May and June general session. The session will last from Monday, July 5 through Friday, August 6, 1999 and the tentative list of presenters is:

Doris Kimbrough, CU-Denver - Distance education for non-traditional students

Carl Snyder, Univ. Miami - An Innocent Tries Distance Education

Lindy Harrison, York College - On-line chemistry courses (OLCC)

Deborah Sauder, Hood College and Marcy Hamby Towns, Ball State University -

Physical Chemistry On-Line (PCOL)

Joe Merola, Assoc. Dean for Research and Outreach, Va Tech - "The (cursed) administrator's viewpoint"

The conference is free to all Internet users. More information will be posted on the CONFCHEM website: <http://www.chem.vt.edu/confchem/>

or can be obtained from the session organizer:

Computer-Based Facilitation of Pedagogically Valuable Learning Activities in Large Classrooms

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The presence of large classrooms in our universities is a reality that is not likely to change in the near future. Large classrooms unfortunately deter educators from using the broad variety of pedagogically valuable learning activities that have been reported in the educational literature. Examples of valuable learning activities that are challenging to incorporate into large class formats include collaborative (group) learning, writing assignments, guided-inquiry, interactive class discussions, portfolio-based assessments, and group projects. This article describes several ways in which computers can be utilized to facilitate the incorporation of some of these activities into large classrooms.

Writing Assignments in Large Classrooms: Select-A-Due date

The value of writing has long been recognized as evidenced by the fact that institutions of higher learning have 'writing across the curriculum' requirements. One deterrent to the incorporation of writing assignments in large classes is the time-consuming nature of grading such assignments. I have utilized a web-based form to allow students to register for due dates distributed throughout the semester to facilitate the grading of writing assignments in large enrollment courses. The web-based form collects name, student

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The CONFICHEM Listserv and Website will be used for this session.

PROPOSALS FOR CHANGE IN THE INTRODUCTORY CHEMISTRY COURSE

An On-Line Session - March 29 to April 10, 1999

Chaired by: J.N. Spencer
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An on-line conference will involve over 800 participants focusing on "Proposals for Change in the Introductory Chemistry Course". While both process and content need to be considered, content is often stressed to the detriment of process. Changing just one or the other will not result in the best learning experience for students. Only if content and process are seen to be mutually inclusive will the full potential for educating our citizens be realized. This conference, however, will be limited to a discussion of content. If we can begin to examine the current content and how and why certain topics came to be considered as essential for the course, we may be able to approach a common curriculum so that the process of how to best implement it may then be developed.

Stephen J. Hawkes of Oregon State University compiled suggestions for the content of general chemistry. He served as leader of the Zero Base Course discussion group for the Task Force on the General Chemistry Curriculum. The goal of the zero base approach is a detailed curriculum in which topics are developed so that students understand the phenomena considered necessary for the course. This analysis requires that the principles that should be in the course be identified, that those not necessary be removed, and perhaps additional principles be added. This on-line conference will list 127 proposals compiled from many viewpoints (not necessarily those of the Task Force). Proposals are worded as debatable propositions to engender serious discussion. After discussion, amendment, deletion, extension, and some consensus, the proposals will be distributed to the chemistry community in various forms. Future discussions are also planned.

The March and April session is free to all Internet users.

Those who are interested in obtaining more information may subscribe to the CONFICHEM Listserv or access the website.

To subscribe to the CONFICHEM Listserv send the message: SUBSCRIBE CONFICHEM your-first-and-last-name To: LISTSERV@CLVM.CLARKSON.EDU

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