

Summary Report on 2019 ACS Chemical Safety Education Summit

At the request of the ACS President and Immediate Past President, on March 1 and 2, 2019, a group of more than 30 stakeholders, including subject matter experts, representatives of ACS governance committees, ACS technical divisions, ACS members and ACS staff met at ACS headquarters to discuss strategic opportunities for the Society in supporting its core value of “*Professionalism, Safety and Ethics*” relative to chemical safety education. This report provides a brief overview of the work of this group. A more complete report will be available at the Orlando National Meeting.

On Friday morning, the group was welcomed by the current and immediate past Presidents of the Society and then heard presentations on ACS chemical education resources and emerging opportunities that support chemical safety education efforts at all levels (as described by one speaker, “*from K to gray*”). That afternoon, the group worked interactively to review the outcomes of the 2018 Summit relative to safety education topics as well as identify new opportunities based on 4 exploratory questions:

- What expectations do employers of chemists have for the safety competencies of the chemists they hire?
- What emerging safety knowledge, skills, and attitudes do chemistry educators believe should be included in a 21st Century chemistry education?
- What are the differences between safety training and education, and how do they both support the development of the safety competencies chemists are expected to have?
- Within the current chemistry curriculum, how and where are chemists best educated in a safety culture ethos?

From these discussions, three key themes emerged:

- Chemical safety instruction is an important opportunity to develop critical thinking, chemical information and other technical skills that cut across the chemistry discipline;
- Safety culture knowledge and skills need to be consciously developed and are core to supporting **professionalism** and **collaboration** in the 21st Century chemical enterprise; and
- Development of chemical safety competencies is an ongoing opportunity for all chemists and should be approached with a “spiral” progressive education model.

To explore these themes more concretely, on Saturday morning the attendees broke into groups to develop conceptual strategic plans for six specific opportunities that were identified in Friday afternoon’s discussions. The goal of these groups was to define the opportunities as specifically as possible, identify stakeholders who would be interested in these opportunities, develop a time line that progress on these ideas might be expected, and measurable indicators of progress on these opportunities.

The ideas explored were:

- Developing a rubric for assessing the strength of safety case studies and lessons learned reports;
- Organizing a user-centered system for discovery and dissemination of case studies and lessons learned reports;
- Writing a white paper on how safety training and safety education efforts can partner to provide safety instruction for chemists;
- Disseminating information for ACS leaders in a variety of venues about the opportunities for professional development available in safety skills and instruction;
- Curating an “education toolbox” that would allow ready identification of and access to specific chemical safety education resources, including documents, videos, lesson plans and assessment rubrics; and
- Implementing a crowd sourced platform for peer sharing of safety insights for specific stakeholders in the chemical enterprise; two examples of such sectors are chemistry graduate students and high school teachers.

Over the next several weeks, CCS leadership will work with various ACS stakeholders to identify key champions for each of these ideas and these ideas will be further developed in collaboration with these partners.

For the complete report on this summit, or to provide suggestions for this work, please contact us at safety@acs.org.

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