E118 Chemical Murder Mystery: Two Decades of Experiences of Forensic Science Education in Delivering a Hands-On Event for 15- and 16-Year-Old Students at a University

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Learning Overview: The goal of this presentation is to present experiences of writing and presenting hands-on forensic science events for school students between the ages of 15 and 16 years old. Some of the problems and pitfalls will be discussed along with some of activities that worked. Consideration will also be given to changes that have been made over the two decades of running these events and of what students expect from these events in 2020.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by relating experiences to attendees who may have undertaken, or plan to participate in, forensic science school outreach programs.

The Chemical Murder Mystery (CMM), a hands-on, day-long activity for 15- to 16-year-old students, has been run at the South Australian Branch of the Royal Australian Chemical Institute ([RACI; the equivalent of American Chemical Society) and The School of Chemistry, Physics and Earth Sciences at Flinders University, Adelaide, South Australia, over the past two decades. The basic format has been to gather the students (up to 144 per day) and split them into 12 teams with different colored T-shirts. The students then gather in a lecture theater for a presentation, "CSI: Adelaide. Forensic Fact or Forensic Fiction," that illustrates the breadth of forensic investigations from DNA, drugs, fingerprints, soil, toxicology, etc. The presentation is interrupted by a policeman or security guard who says that the head has been found dead. The students then become crime scene investigators and go to the (reconstructed) crime scene. Two representatives from each team collect evidence from the car, the tires, the shoes, and the body of the deceased. After a short overview of the evidence collected, they go to the lab and analyze the evidence at 1 of 12 stations, then rotate stations. After the evidence has been analyzed, they congregate in the theater again, which serves as a court room. One representative from each team comes to the stand and presents what they did and what they found. The different evidence is then placed on the white boards under the appropriate suspects. At the conclusion, the students vote on who they think "dunnit" and how. This has proven popular with local schools and some who travel in from the country. At peak, there were 850 students enrolled for six days with 500 on the waiting list. This is a major event for a small department and small RACI group.

Over the two decades of training, many changes have taken place and the CMM has developed and changed to: keep relevance with the changing school curriculum; enable more students to attend; adapt to changes in students' expectations; include input from new forensic staff; and keep up with changes in Health and Safety requirements. The initial aim of the Chemical Murder Mystery was not to attract students to Flinders University's Forensic Program (BSc, BSc[Hons], MSc, and PhD in Forensic and Analytical Chemistry and Biology/DNA), but to encourage students to choose to continue studying science in the last two years of school by having a day of fun using science to solve a crime. This presentation will discuss some of hands-on activities that worked well with this age group but will also indicate some of the problems and pitfalls for discussion with others doing such forensic science outreach activities. It will also discuss additional potential forensic science outreach.

Education, Schools, Outreach

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