

Meeting: 1003, Atlanta, Georgia, MAA CP A1, MAA Session on Getting Students To Discuss and To Write About Mathematics, I

1003-A1-586 **Elaine Thompson Hale*** (thompson@che.utexas.edu), The University of Texas at Austin, Department of Chemical Engineering, 1 University Station C0400, Austin, TX 78712-0231.
Communicating the Problem Solving Process through Memoranda.

As the instructor of a semester-long course on probability, statistics, and statistical process control for chemical engineering students, I have assigned memoranda, which are designed to encourage students to confront realistic, open-ended problems that can be addressed with techniques learned in the classroom. In particular, the students are asked to find the best answer they can to the given problem and then write a short memo (1.5 to 4 pages depending on the subject matter) to a fictional decision maker.

Although technical accuracy is considered, the main purpose of the assignment is to get the students to think through the entire mathematical process of modeling the problem, calculating an answer, and then interpreting the answer in the original context. The assignment also prompts the students to explain their reasoning to someone that likely wants to know the general idea of how the student came up with their particular answer, but not all of the details. In order to guide the students through this open-ended process, they are provided with a detailed rubric that is also used to grade the memos. (Received September 23, 2004)