

PI: Scott Lewis, Ph.D.	Department: Chemistry
Institution: University of South Florida	Agency: National Science Foundation

Data Management Plan

The proposed work involves a data management plan that seeks to both protect the privacy of individuals who are participants in the research and make the results and products of research freely available to interested educators and researchers. All data collected will be done so with the permission of the Institutional Review Board (IRB) at each setting. The primary source data collected will be student responses to assessments and audio recordings or student interviews. Both types of data may have identifying information on it and will necessarily remain confidential to protect the privacy of the participants. To ensure the confidentiality of the data the following safe guards will be in place: data will be stored in a locked research lab on a password-protected computer at one of the collaborating institutions. Identifying information will be replaced with a code-number or pseudonym and the pseudonym code list will be maintained in a locked research laboratory. The assignment of pseudonyms and codes will include a component that identifies the source institution and class to aid in data management across multiple institutions. The data structure will include a file hierarchy system where the highest level is institution, followed by year collected, followed by class collected. All data will be backed up on an external hard-drive and ongoing data analysis work will be backed up at least once a month. Data is expected to be stored for five years upon the completion of data analysis.

As a multi-institution longitudinal project considerable attention is paid to ensuring data consistency and error checking. For data consistency across multiple sites, the project team meeting in year one will focus on consistent data collection methods and formatting of data. Error checking in data will occur through multiple means as described in the proposal. First, the consistency of the coding scheme will be evaluated via coding a sample of responses and discussing discrepancies. Second, two members of the project team will code each open-ended student response independently and discrepancies will be discussed by the entire project team.

Findings from the project will be disseminated primarily via peer-reviewed publications, presentation at conferences and through an established network of Analytical Chemistry educators. Publications will detail the data collected in the project and indicate that upon request, de-identified data will be made available to interested parties for further research. Upon receiving such a request, the corresponding author will work to obtain IRB approval for sharing the de-identified data relevant to the request. Finally, at all opportunities for dissemination of research products, an invitation will be extended for audience members to request a copy of the developed assessments. The assessments will be sent to any interested parties free of charge.