USABILITY TESTING AND THE RELATIONSHIP BETWEEN COMPUTER LITERACY AND EFFECTIVE USE OF A CHEMICAL KNOWLEDGE BASE BY FIRST-SEMESTER ORGANIC CHEMISTRY STUDENTS

Kristin Matthews¹, Derek Glass (Rob Elliott and Ryan Denton¹)

Department of Computer, Information, and Leadership Technology, Purdue School of Engineering and Technology, Indiana University–Purdue University Indianapolis, Indianapolis, Indiana 46202

Usability testing is a technique that allows for the examination of a specific user's effectiveness, efficiency and satisfaction in achieving goals (Law, Hvannberg, 2002). This user-focused design process has been found to be particularly important in early site development. In this study, multiple interfaces of the knowledge base will be examined comparatively, changing only the aesthetics. Using a think-aloud process, users will be walked through seven scenarios in the IUPUI Chemistry Knowledge Base, and asked to vocalize their thoughts as they attempt each situation. Completion of user questionnaires and a post-test System Usability Scale (SUS) will provide recommendations from which improvements may be made to the design, layout and management of the Knowledge Base (Brooke, 1996).

References:

Law, L.-C., & Hvannberg, E. T. (2002). Complementarity and convergence of heuristic evaluation and usability test. *NordiCHI 02 Proceedings of the second Nordic conference on Humancomputer interaction*, *31*, 71-80. ACM Press. Retrieved from http://portal.acm.org/citation.cfm?id=572020.572030&coll=portal&dl=ACM&CFID=6 0015656&CFTOKEN=56411871

Brooke, J. (1996). SUS: A quick and dirty usability scale. In P. W. Jordan, B. A. Weerdmeester, B. Thomas, & I. L. McClelland (Eds.), *Usability evaluation in industry* (pp. 189-194). Taylor and Francis. Retrieved from http://www.itu.dk/courses/U/E2005/litteratur/sus.pdf

¹Department of Chemistry and Chemical Biology, Indiana University–Purdue University Indianapolis, Indianapolis, IN 46202

This study was sponsored by the Indiana University Purdue University Indianapolis Multidisciplinary Undergraduate Research Institute (MURI).