

### Quantitative Skills (QS) in Science: Featured Speakers

## Assessing Student Learning in a Complex Major at a Comprehensive University



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Biology is a broad discipline, encompassing entities at the molecular level all the way to complex interactions within biomes. Assessing student learning in such a major can be challenging. The Biology Department at James Madison University, in collaboration with the Center for Assessment and Research Studies at JMU, has developed an assessment program to evaluate content/competencies, skill, and experiential development. Various instruments are used in this process. They include self-reporting mechanisms, direct measures of content/competencies and skills, and focus groups that allow feedback that is not addressed by the other instruments. In addition, emphasis has been placed on developing and measuring quantitative skills throughout the program. The results from all of the data collected are utilized by the department to monitor student learning. The data are also used to “close the loop”, or inform where curricular changes may be made to improve student learning in particular areas. This talk will focus on developing an assessment program focused on student learning, skills, and experiences for a complex major such as Biology. Development of quantitative skills, with examples of questions used for assessment, will also be discussed.

Kyle Seifert received his BA in Biology from Augustana College in 1997 and his PhD in Biomedical Sciences (Microbiology and Immunology) from the University of Florida in 2004. After receiving his doctorate, he joined the Biology Department at James Madison University, where he is currently an Associate Professor. His research interests include synthesizing novel antibacterial compounds, developing a clinical diagnostic for dry eye, microbiology education and assessment.

Kyle has acted as chair of the JMU Biology Department’s Assessment Committee since 2008 and has delivered talks on the topic of assessment in various national and international fora.