Engineering Education Research Seminar

Speaker: Staci N. Johnson, Ph.D. Candidate in Engineering and Science Education at Clemson University, and Associate Professor of Biology at Southern Wesleyan University

When: Thursday, November 14, 2019
Time: 3:30pm-4:15pm-Presentation
       4:15pm-4:45pm-Informal discussion w/light refreshments
Where: ARMS B071

Undergraduate Student Definitions of Learning, Memorizing, Studying and Understanding

Abstract: Discipline based education research (DBER) within STEM often utilizes the terms learning, memorizing, studying, and understanding without providing specific definitions for these terms. Publications which do define these terms often define them in ways that are not congruent with other publications. As part of a larger research study, we interviewed 11 participants on two occasions while they were enrolled in a sequence of anatomy and physiology courses. The semi-structured interview protocol asked for the participant’s definition of the following words: learning, memorizing, studying, understanding, followed by a request to rank these terms based their general preference and on their importance for success in the anatomy and physiology course. Definitions were isolated from the transcript, de-identified, and sorted by qualitative similarities. The research team developed code categories and assigned definitions to these groups after discussion of any coding differences. Multiple definition groups emerged for each term. Learning, memorizing, and studying had definition groups which highlighted processes, outcomes, or a combination of both a process and outcome. Understanding definition groups focused solely on an outcome. These findings highlight the need for communication between students and instructors in regard to the use of these terms. In addition, future DBER work should be careful to provide working definitions of these terms to promote both transferability and repeatability of findings.

Bio: Staci N. Johnson, M.S. is a PhD Candidate in Engineering and Science Education at Clemson University and an Associate Professor of Biology at Southern Wesleyan University. Her dissertation focuses on the cognitive processes and pathways utilized by undergraduate students in anatomy & physiology courses. Her research interests include student learning in biological sciences and sub-disciplines, improving team-based student experiences, and broadening participation in the biological sciences. She also mentors undergraduate research students in physiology and biological sciences. She received an M.S. in Animal Physiology from Clemson University in 1999 and a B.S. in Animal Science- Science & Technology from the University of Tennessee in 1997. She is a current recipient of the Clemson University Doctoral Dissertation Completion grant.

Next Week: 11-21, Explorer Poster Presentations in Wang Hall Commons