LDR Workshop: Design and implementation of effective teamwork for student learning and leadership development

Agnes Scott College Tuesday, May 11, 2015 | 9:00am – 4:00pm

Facilitators: Karl A. Smith, Cooperative Learning Professor of Engineering Education, Purdue University and Morse-Alumni Distinguished Teaching Professor and Emeritus Professor of Civil Engineering, University of Minnesota. *Lilia C. Harvey,* Interim Associate Vice President for Academic Affairs & Associate Dean of the College, Professor of Chemistry, Agnes Scott College

The overarching goal for the workshop is the systematic integration of teamwork into the Foundational Skills Seminars (LEAD 101). Teamwork skills are frequently cited as essential for new hires in the workplace and effective civic engagement. There is also a growing body of evidence that high quality teamwork in learning environments can lead to more and deeper learning. Teamwork is essential for formulating and solving complex problems that require the integration of knowledge and diverse perspectives as well as effective communication and time and project management skills.

During this one-day workshop participants will learn key elements of successful teamwork and strategies for creating and maintaining effective teams. Participants will also design team-based assignments and activities for their individual courses to increase student learning and for the development of leadership skills that are essential for success in the classroom, workplace and community.

The principal format will be Challenge-based learning (problem-based, project-based, case-based, etc.) that requires students to work cooperatively in groups as active participants in their own learning and as contributors to a larger group effort. Faculty member's role in creating conditions for effective teamwork will be emphasized. Common challenges for faculty include engaging students with one another and with the instructor, and deeply engaging the students with the concepts, principles and heuristics of the field. Many faculty members are exploring cooperative learning or other forms of active engagement to encourage students to be active participants in their own learning as well as the learning of other students. But how do we structure these experiences to ensure that they lead to enhanced learning and create welcoming and inclusive learning environments?

This workshop emphasizes the instructor's role in designing and implementing individual and group strategies based on cooperative learning to facilitate the development of teamwork and leadership knowledge and skills. Strategies include individual reflections follow by pair discussion, book ends on a class session, problem-based and case-based learning, and several classroom assessment techniques. Key elements of cooperative learning that are research-based are explained. These include positive interdependence, individual and group accountability, face-to-face interaction, teamwork skills, and group processing.

Participants will learn more about their role in designing, structuring, and implementing cooperative learning activities that support teamwork and leadership skill development by all students. Specific learning outcomes include:

• Describe key features of Cooperative Learning

- Explain rationale for Pedagogies of Engagement, especially Cooperative Learning & Problem Based Learning for the development of students' teamwork and leadership skills
- Describe key features of the Understanding by Design and How Learning Works
- Describe design and facilitation decisions and options associated with implementing cooperative learning and problem-based learning focused on teamwork and leadership skill development
- Apply cooperative learning to classroom practice
- Develop an application of cooperative learning for an activity that helps students develop teamwork and leadership skills.
- Identify additional cooperative learning techniques and associated applications in course

Challenges and barriers to implementing cooperative learning and how to overcome them will be addressed. Participants will experience hands-on activities, video examples, small and large group discussion, and have the opportunity to design and review activities for their own courses.

Suggested Workshop Preparation:

- Identify a course that you will use as the re-design site
- Bring current syllabus and course level learning objectives
- Reflect on aspects that work well and those that need improvement

Suggested Readings:

- Smith, K. (1996). Cooperative learning: Making "groupwork" work. New Directions for Teaching and Learning, 67, 71-82.
- Smith, K. A., Cox, M. F. & Douglas, T. (2009). Supportive teaching and learning strategies in STEM education. New Directions for Teaching and Learning, 117. Available at http://personal.cege.umn.edu/~smith/docs/Smith-Douglas-Cox-Supportive_Strategies_STEM_Ed-NDTL117-2009.pdf
- Smith, K.A., Sheppard, S.D., Johnson, D.W. & Johnson. R.T. (2005). Pedagogies of Engagement: Classroom-based Practices (cooperative learning and problem-based learning). Journal of Engineering Education, 94: 87–101. Available at <u>http://personal.cege.umn.edu/~smith/docs/Smith-Pedagogies_of_Engagement.pdf</u>

Additional Readings:

- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. Proceedings of the National Academy of Sciences, 111(23).
- Pellegrino, J. W. (2006). Rethinking and redesigning curriculum, instruction and assessment: What contemporary research and theory suggests. A paper commissioned by the National Center on Education and the Economy.
- Smith, K.A. (2014). *Teamwork and project management*, 4rd Ed. New York: McGraw-Hill.