

Malcolm Drewery, Jr. | <mailto:mdrewery@nae.edu>
National Academy of Engineering
Washington, DC, USA

Student Engagement and Faculty Best Practices towards Student Learning Outcomes in Engineering Education

Description of session

We are developing and piloting two surveys: one survey to assess the extent to which engineering faculty are engaging in identified "best instructional practices" and the other survey to assess the extent to which engineering students are achieving certain learning outcomes desired of engineering graduates. We endeavored to correlate the instructional principles with the desired student learning outcomes. By adapting some of the items used in the National Survey of Student Engagement, Faculty Survey of Student Engagement, and a study of the impacts of revisions to the engineering accreditation regime, we developed two survey instruments (faculty and student versions). We conducted two 90-minute focus groups (one with faculty and one with students) at each of five engineering colleges in February and March 2005 to establish that each of our survey items meant the same thing to each reader and to provide input for refinement of the instruments. The draft instruments are currently undergoing pilot testing with engineering students and faculty on nine diverse campuses.

Objective of session

In this session we seek to engage the broader SoTL community in the work we are doing so that we might learn from each other. We have particular interest in formative feedback that might inform our on-going pilot. While researchers and educators have developed a number of classroom and college-wide assessments, no national assessment exist to measure engineering student learning outcomes and the instructional practices that support those outcomes. Our aim is to produce instruments that not only assess student and faculty engagement in the learning process, but also seeks to promote their direct participation in improving the learning process.

Ways to involve the audience

Audience members will be invited to review the draft instruments, the study design, and preliminary results. We will seek their input on what adjustments can be made to the on-going study to improve its rigor and the broad applicability of its results.

What attendees can expect to experience and learn

Attendees will attain a better understanding of on-going work in the engineering education research community, have an opportunity to share the knowledge of their disciplinary communities with engineering education researchers, and develop collaborative models for education research results might best be transitioned to improved classroom practice in support of teaching and learning.