

## EXERCISE: Interpreting Assessment Data<sup>1</sup>

Use this exercise with the program's Assessment Committee. The exercise is to encourage decisive conversations about the program's assessment data. This example is for one outcome, but can be used for any and all outcomes.

- Step 1:** Review the outcome and if appropriate, review the standard, performance criteria, or metric for the outcome. What level of achievement is to be attained by those who are measured by the outcome? Review previous assessment cycle's evidence, findings, and recommended changes. What changes were made, when?
- Step 2:** Only analyze the data that relates to the outcome. Collect together all the evidence that relates to that outcome. Determine the quantity of data that is best reflective of your program. For example, if the response rate on a survey is less than 25 percent, should this data be considered? (Most likely this response rate is not reflective of the entire group of students, so should not be used.) If samples were used, ensure that there were enough samples to make appropriate interpretations.
- Step 3:** Interpret and summarize the data. Below are some questions to consider.
- Does the students' performance show that they meet your metric for this outcome?
  - Is the data consistent? (typically within 3–5%)
  - Does the percentage of the data increase or decrease over time? (typically an increase or decrease of more than 3–5% is considered "change")
  - How does this evidence compare to all engineering programs at your institution, if available? (typically more than 5–8% difference is considered "different")
  - How do the modifications or changes to the program or curriculum since the last assessment cycle impact the interpretation of this data?
  - Is part or all of the outcome met? Is one dimension of the outcome an area of strength or concern?
  - Is there a positive or negative trend over the past few years?
  - Does one assessment method provide better quality data? How would you compare the results from the senior design course with assessment within a junior-level course?
  - Are there areas where their performance is adequate but where you would like to see a higher level of performance?

1. Copyright material from: Spurlin, J. (2008). Assessment methods used in undergraduate program assessment. In J. Spurlin, S. Rajala, & J. Lavelle (eds.) *Designing Better Engineering Education Through Assessment: A Practical Resource for Faculty and Department Chairs on Using Assessment and ABET Criteria to Improve Student Learning*. Sterling, Va: Stylus Publishing.

**Step 4:** Recommend modifications that the program needs to make based on the findings from step 3. The following types of modifications can be recommended:

- Modify learning outcome
- Modify assessment method
- Change performance metric
- Change order of material within a course
- Change order of courses or adding more courses into curriculum
- Increase the number of lab sessions or problem sessions within a course
- Conduct more in-depth assessment of the cause of the issue during the next academic year
- Modifying content within a course
- Modify pedagogy for that course or material

**Step 5:** Document the summary of the evidence and the recommendations and discuss with entire program faculty.

**Step 6:** Document the final decisions about the findings and modifications the department wants to make. Be sure to note any procedures that need to be followed for this modification to take place. For example, to add or modify a course, approval may be needed from the department curriculum committee and others. Ensure that procedures are followed.

**Step 7:** Next assessment cycle, review above results, follow modifications, if any, and consider new data.