Student Learning Outcomes Assessment

Suggestions for embedded assessment activities

One of the main difficulties in implementing outcomes assessment is that it appears to require a large amount of additional, targeted effort on the part of faculty and department chairs. While that can be true, depending on the assessment plan that is being followed, there are ways to minimize the effort required. The most important principle is to use what you already have. However, any assessment tool used *must reflect student learning* and *must be related to student attainment of program goals for learning*.

Undergraduate Programs – Program goals often include attaining content knowledge, technical skills, communication skills, and people skills. The items listed below are mainly used to evaluate individual students, but can be used for outcomes assessment, if the program faculty also examine the student output collectively, to seek patterns, and then use these to identify needed changes in the curriculum. Systematic attention to any two or three of these five would probably constitute an acceptable assessment effort.

- Standardized exam (e.g., Fundamentals of Engineering Exam, GRE subject tests, certification tests of job-related skills at the AAS and Certificate level). If available in a given field, these can be useful *provided* that the exam addresses student learning relative to your program goals. So, not only pass rates but also the topics the exam covers should be documented. Generally used to evaluate knowledge of content. Cost can be an issue.
- Portfolio of selected work (exams, papers, projects) in an advanced or capstone course. May include a group assignment or project. Because undergraduate programs can be large, the number and length of items in such portfolios might need to be strictly limited. In the case of very large programs, perhaps only a standard evaluation of each item is collected and preserved for later consideration. Can be used to evaluate content knowledge, technical or academic skills, written communication skills.
- A senior thesis or project. In the case of large programs, perhaps only a standard evaluation is collected and preserved. Can be used to evaluate content knowledge, technical or academic skills, written communication skills, or oral communication skills.
- A senior seminar presentation. In the case of large programs, perhaps only a standard evaluation is collected and preserved; small programs might keep a videotape. Can be used to evaluate ability to organize and synthesize information or oral communication skills.
- Evaluations by the supervisor of an internship or similar student work or service experience. Can be used to evaluate professional competence as well as "soft" (people) skills.

Graduate Programs – Program goals usually include content knowledge, research (or performance) skills, and communication skills. Again, the items listed are primarily used to evaluate individual students, they can also be examined collectively to seek patterns and to identify needed revisions to the curriculum. Systematic attention to any two of these five would probably constitute an acceptable assessment effort.

- Comprehensive examination: useful to assess knowledge of content, written communications skills, especially if exams are carefully crafted around program goals.
- Thesis defense or project presentation: useful to assess oral communications skills, research skills (or performance skills in some fields).
- List of student (or recent graduate student) publications (peer-reviewed) related to thesis or project research; useful to assess research quality.
- Portfolio of selected work in an advanced or capstone course.
- Evaluations by the supervisor of an internship or similar work or service experience. Can be used to evaluate professional competence as well as "soft" (people) skills.