Topic: Distinguishing Between Degree Programs via Student Learning Outcomes and Targets

Office of Assessment and Evaluation at Virginia Tech

Introduction and Background

Many departments on a university campus oversee multiple academic programs. It is important that these departments identify specific student learning outcomes for each degree offered in the department. By focusing on the student experience in each program, departments can use learning outcomes to show the distinctions among the degrees offered.

Student Learning Outcome Development

Academic departments that administer multiple degree programs should develop outcomes that represent each program's specific curriculum. These outcomes should relate directly to what students experience while in the program. For each degree program, student learning outcomes should:

- Clarify the mission of the program.
- Allow the program to collect information that can be used to make evidence-based changes to the curriculum, program, or student learning.
- Address observable, attainable knowledge, skills, or abilities.
- Provide stakeholders (e.g., interested students, accreditation agencies, graduate schools, etc.) with an accurate depiction of what students would have achieved by the end of the degree program.
- Be at the appropriate cognitive level for the degree (e.g., at the bachelor's degree level the program would want the majority of its outcomes to be focused on students being able to describe, explain, or even identify certain concepts whereas for master's degree and doctoral degree programs, outcomes would emphasize more complex skills such as analyzing, synthesizing, evaluating, or applying concepts).

Generally, each program should have between 5 and 8 student learning outcomes. The outcomes developed should distinguish that program from other programs within the same department and from other programs offered across the university. It is appropriate to have some overlap in outcomes for programs offered at two different degree levels. For example, master's degree and doctoral degree programs might have a few common outcomes that pertain to both degrees. However, the programs should be sure to devise distinguishing outcomes for each degree (e.g., programs might have 4 overlapping core outcomes and then each degree would define a few degree-specific student learning outcomes).

Measure Development

Once a department has developed student learning outcomes for each of its degree programs, measures need to be identified to assess each outcome. The measures used for each program should be distinct and consistent with the curriculum that students experience. Measures developed for student learning outcomes should:

- Be compatible with the stated cognitive level of the outcome (e.g., if an outcome states that students will "explain" a concept, the program should use a measure that requires students to "explain" the concept such as a short-answer or essay question as opposed to a multiple choice item).
- Provide accurate, useful information and yield results specific enough to make programmatic improvements.
- Contain at least one direct measure for each outcome.
  - A direct measure is one in which student learning is directly observable, usually via student work embedded in a course (e.g., capstone projects, papers, presentations, exam questions, etc. all examined at the outcome level). In contrast, an indirect measure asks students to reflect on their learning but not does provide direct evidence of learning (e.g., it infers student knowledge) such as a student exit survey.
  - Direct measures assess the extent to which a particular outcome has been achieved. For example, "passing" a dissertation defense does not demonstrate the extent to which student learning in the area of oral communication has been achieved since numerous other student learning areas would be included in "passing" a defense. In this case, the program would develop rubric items that specifically rate only the student's oral communication skills during the dissertation defense.

Target Development

Achievement targets define the achievement expectations for each outcome-measure pair established in an academic program's assessment plan. Achievement targets are usually expressed as percentages or numbers expected. Targets should be realistic for the degree level of the program and should be rigorous yet achievable. Targets are not "predictions" of how students will perform but rather what achievement level is deemed as acceptable given the program's expectations.

In some departments where there are multiple degree programs, similar student learning outcomes may be used for some of the required 5 to 8 outcomes. In these cases, achievement targets should be developed that distinguish among the degree programs. For example, if a MS and a PhD program use the same outcomes for 3 of the 5 to 8 required student learning outcomes, the targets for those outcomes should be different for each program. In this case, the PhD program targets should be more stringent than those developed for the MS program.

Example: Distinguishing Between MS and PhD Programs in the Same Discipline

The example below demonstrates how a department could distinguish between MS and PhD programs in the same discipline.

- Student Learning Outcome Development
  - o The programs could have 3 common/shared student learning outcomes:
    - Students will be able to communicate effectively in written form.
    - Students will be able to effectively synthesize prior literature on a research topic in (discipline).
    - Students will be able to design an effective research study in the area of (discipline).
  - o The MS program could identify additional outcomes not required of the PhD students. For example, MS students will be able to:
    - Discipline-specific knowledge area outcome. (This would be something the program chooses based on the specific discipline content areas students are exposed to through the curriculum.)
    - Discipline-specific knowledge area outcome #2.
  - o The PhD program could identify additional outcomes to distinguish the program from the master's degree. For example, PhD students will be able to:
    - Effectively analyze the results of a research study.
    - Effectively present their research findings.
- Target Development: For the three common student learning outcomes, different achievement targets would be developed to further distinguish between the two degree programs. For example:
  - o Student learning outcome: Students will be able to design an effective research study in the area of (discipline).
  - o Measure: Dissertation committee (thesis committee in the case of a master's degree) uses a rubric to evaluate the written dissertation (thesis) proposal in regards to the research design. Each committee member uses a rubric and rates the student proposal on the following 5-point scale: 1 = significantly below acceptable performance, 2 = somewhat below acceptable performance, 3 = meets performance standard, 4 = slightly exceeds performance standard, and 5 = significantly exceeds performance standard.
  - o Targets:
    - Master's degree: 75% of the students will receive an average committee rating of 3 or above (indicating that the student is meeting the performance standard) and 35% of the students will receive an average rating of 4 or above.
    - Doctoral degree: 90% of the students will receive an average committee rating of 3 or above and 70% of the students will receive an average rating of 4 or above.

Contact: **If you need assessment assistance or have questions regarding assessment, please feel free to contact the Office of Assessment and Evaluation by email at oae@vt.edu or calling 231-6823.**