

**Biological Science Departmental Assessment Plan**

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HIED 840: Assessing Student Outcomes & Evaluating Academic Programs

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March 7, 2021

## **Biological Science Assessment Plan at State University**

We in the Biological Science Department of State University (SU) are united in our commitment to supporting students in establishing a strong and broad base of biological concepts, developing scientific skills and practices, applying theoretical knowledge to real world problems, and engaging in our local communities (North Carolina State University [NCSU], n.d.). These foundational learning outcomes are specific to our program and reflective of SU's mission as an institution. To continue improving student learning and development, we must undergo a departmental assessment initiative to identify our strengths and weaknesses regarding student learning outcome attainment (Banta & Palomba, 2015).

### **What is Assessment?**

#### **Basics of Assessment**

In an effort to respond to “declining global rankings, rising tuition and student debt, and poor prospects for employment of college graduates” state and federal decision makers have become increasingly concerned with the quality of higher education (Banta & Paloma, 2015, p. 6). As your department chair, I strive to foster a departmental environment that encourages excellence in our students and provides longevity and stability to you, SU's biological science faculty.

More stringent accreditation requirements and concern surrounding the quality of higher education has prompted the need for departmental assessment (Banta & Paloma, 2015). Assessment, in short, is the process of collecting credible and measurable evidence of the quality education our department is providing through defining and evaluating student's mastery of the Biological Science Department student learning outcomes (S.L.O.s) (Banta & Paloma, 2015).

## **The Assessment Process**

First, an assessment committee including faculty within our department and student affairs professionals will be assembled to focus on “curriculum development and improvement, general education, teaching excellence, or assessment” (Banta & Paloma, 2015). The committee members will first identify desirable S.L.O.s then determine when and how to assess these S.L.O.s. Brown University (n.d.) suggests maintaining these learning goals “in a document that also maps where in the curriculum students will develop the related skills and knowledge” (para. 2). Next, the assessment committee will identify convenient and accurate data collection techniques to either directly or indirectly assess students’ attainment of the learning outcomes. Finally, we, collectively as a department, will analyze assessment findings, share and use the assessment results, regularly revisit our assessment techniques, and continue regularly conducting assessment of student learning (Banta & Paloma, 2015).

## **Institutional Support for Participating Faculty**

Assessment of student learning enhances the quality of education through providing measurable proof of a student’s growth and development. This not only reaffirms the value of a department, but also elevates the prestige and necessity of a university as a whole. Therefore, the faculty who choose to participate in assessment efforts will be fully supported by the institution to attend external professional development conferences and internal faculty training workshops. These opportunities will provide training to support your assessment efforts and facilitate networking opportunities between faculty and staff from other departments and universities (Banta & Paloma, 2015; Penn State World Campus, n.d.) Furthermore, assessment coordinators may qualify for release time so they can fully commit to studying and implementing assessment of student learning outcomes (Banta & Paloma, 2015).

## **Assessment Methodology**

### **Embedded Direct Assessments of Student Learning**

A rough estimate of student success can be determined by simply collecting and reporting percentages of student grades (Brown University, n.d.). However, detailed grading rubrics must be adopted from an external source such as the VALUE rubrics, or internally developed to collect data that can be standardized, aggregated, and used in longitudinal departmental studies (Association of American Colleges & Universities [AACU], n.d.; Banta & Paloma, 2015). Developing standardized rubrics is a time-intensive, foundational step in departmental S.L.O. assessment (Banta & Paloma, 2015).

Some examples of embedded direct assessment measures include formal research papers, experimental design projects, thesis statements, or examinations. I have had the pleasure of being your director for some time, so I have no doubt that the faculty of this department value assessing students' understanding through examinations, lab practicals, and other direct measures. Faculty involved in the assessment process will be tasked with identifying existing evaluations that provide proof of student learning and developing a rubric that can be used to assess all assignments according to a predetermined standard (Banta & Paloma, 2015). If the student is directly demonstrating the learning outcomes specified by the department and the assessment is graded by an agreed upon rubric, then the assessment can be used to gauge current students' learning and future students' learning (Banta & Paloma, 2015).

### **Indirect Assessments of Student Learning**

Indirect assessments of student learning can be gathered through distributing surveys to students entering and finishing courses within the Biology Department. For example, students may be required to take a survey anonymously to respond to prompts assessing general aspects

about the course as well as the S.L.O.s associated with that course specifically (Penn State World Campus, n.d.). Students can also provide feedback regarding what they have learned and what they hoped to gain from classes offered by our department through participating in focus groups. Participants of focus groups should be strategically chosen to represent members of diverse student populations to assess their engagement with the current curriculum (Penn State World Campus, n.d.).

### **Using Assessment Results**

Scientists know better than most that research and its corresponding data is only useful if it is shared and applied. Assessment results will be shared with the institutional research (IR) department of State University to provide concrete proof of the biological science department's quality of education provided. The IR department uses assessment data to illustrate an institutional program's performance, inform federal and state accreditation agencies of the program's effectiveness, and encourage data-driven decisions by the executive leadership of the university regarding resource allocation (Dickeson, 2010).

As the chair of this department, I will provide context to the assessment data we produce and share our assessment results with other department chairs. I will pursue open communication and resource sharing between departments and prioritize our departmental mission as we identify areas of weakness and pursue pedagogical changes (Penn State World Campus, n.d.). Areas of specific successes will be identified based on evidence from students and perspectives from you, the faculty (Brown University, n.d.). Similarly, areas with room for improvement will be identified through addressing missing areas of student learning outcomes, areas where resources are not being utilized efficiently, or areas lacking measurable assessment opportunities (Banta & Paloma, 2015; Brown University, n.d.).

### **Join the Assessment Committee**

Please join the assessment committee to grow professionally, support our department, and provide expert input regarding the most vital student learning outcomes (Banta & Paloma, 2015). I am looking for part-time, tenure track, and tenured faculty volunteers to advise on the committee. The committee will be responsible for developing departmental learning goals and outcomes, review courses and assessment measures, interpret assessment results, identify areas for improvement, and recommend improvements (Penn State World Campus, n.d.). Your participation will be considered favorably in promotional and tenure processes, qualify you for teaching release time, and provide both networking and professional development opportunities (Banta & Paloma, 2015). Please respond directly to me via email if you are interested.

## References

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