

EWU Programmatic SLO Assessment

AY 2014-15 and “Closing the Loop” for AY 2013-14

Introduction:

Assessment of student learning is an important and integrated part of faculty and programs. As part of ongoing program assessment at Eastern Washington University, each department is asked to report on assessment results for *each* program and *each* certificate for *at least one* Student Learning Outcome (SLO) this year. To comply with accreditation standards, the programs must also demonstrate efforts to “close the loop” in improving student learning and/or the learning environment. Thus, this template has been revised into two parts.

Resources:

Check this site for sample reports (created with the previous year’s template) by EWU programs and other assessment resources: <http://access.ewu.edu/graduate-education/academic-planning/faculty-support/student-learning-assessment/sample-program-slo-assessment-reports>

Additional resources and support are available to:

- 1) Determine whether students can do, know or value program goals upon graduation and to what extent;
- 2) Determine students’ progress through the program, while locating potential bottlenecks, curricular redundancies, and more; and
- 3) Embed assessments in sequenced and meaningful ways that save time.

Contact Dr. Helen Bergland for assistance with assessment in support of student learning and pedagogical approaches: hberglan@ewu.edu or 509.359.4305.

Use this template to report on your program assessment. **Reports are due to your Dean and to Dr. Helen Bergland (hberglan@ewu.edu), Office of Academic Planning, by Nov. 2, 2015.** (Some Deans have elected to move the deadline up.

Degree/Certificate:

Major/Option:

Submitted by:

Date:

Part I – Program SLO Assessment Report for 2014-15

Part I – for the 2014-15 academic year: Because Deans have been asked to create College-Level Synthesis Reports annually, the template has been slightly modified for a) clarity for Chairs and Directors, and b) a closer fit with what the Deans and Associate Deans are being asked to report.

1. **Student Learning Outcome:** The student performance or learning objective as published either in the catalog or elsewhere in your department literature.

Students will demonstrate a capacity to use modern instrumentation and classical techniques for the analysis and/or separation of chemicals and an ability to interpret data.

2. **Overall evaluation of progress on outcome:** Indicate whether or not the SLO has been met, and if met, to what level.

SLO is met after changes resulting from ongoing assessments, referencing assessment results from the previous year to highlight revisions;

SLO is met, but with changes forthcoming;

SLO is met without change required

3. **Strategies and methods:** Description of assessment method and choices, why they were used and how they were implemented.

The results of laboratory reports for three different experiments were used to assess the students' ability to use modern instrumentation. One experiment was chosen to be representative of a larger sample of lower-level instrumentation use, while the other two experiments exhibit higher-level instrumentation use by a smaller number of students.

One of the experiments is done in all sections of CHEM 372, Organic Chemistry Laboratory I, which is required of all chemistry majors. The experiment involves each student in identifying an unknown six-carbon cyclic alcohol. The alcohol is dehydrated to form a mixture of alkene products. Gas chromatography / mass spectrometry (GC/MS) instrumentation is then used to identify and determine the relative percentage of each alkene product. Using rules pertaining to dehydration reactions and carbocation stability, the student identifies the starting alcohol and proposes mechanisms for the formation of each alkene product. Three separate instructors taught this course

over the year, and they agreed amongst themselves that a score of 80% or higher on this lab represented a successful use of the instrumentation.

The two higher-level laboratory results were both taken from our Instrumental Analysis course, CHEM 420, which specifically addresses the use and operation of common instrumentation in chemistry. The first of these was the determination of riboflavin in vitamin tablets by fluorescence spectroscopy, using an Ocean Optics USB400-FL fluorescence spectrometer. The second experiment was the analysis of fatty acid methyl esters (FAME) in biodiesel using FT-IR spectroscopy.

The use of these three experiments provides results over several different levels of the chemistry program, and samples student use of several different important kinds of instrumentation.

4. **Observations gathered from data:** Include findings and analyses based on the strategies and methods identified in item #3.

a. Findings:

For the organic chemistry experiment, the success rate for the experiment was reported separately by the three different instructors for the course during the year as 85%, 86%, and 85%. Frankly, I am astonished that the success rates reported by three different instructors are so similar.

For the two instrumental chemistry experiments, the success rates reported were:

Fluorescence: 69%

FAME: 71%

b. Analysis of findings:

I feel quite confident that a substantial majority of our students are successfully learning to use modern instrumentation and interpret the data that it provides.

5. **What program changes will be made based on the assessment results?**

a) Describe plans to improve student learning based on assessment findings (e.g., course content, course sequencing, curriculum revision, learning environment or student advising).

No improvements are suggested by these findings.

b) Provide a broad timeline of how and when identified changes will be addressed in the upcoming year.

N/A

6. Description of revisions to the assessment process the results suggest are needed and an evaluation of the assessment plan/process itself.

This assessment of this SLO seems quite reasonable, but given the wide variety of instrumentation that a chemistry student is expected to use, it seems wise to choose a different selection of instrumentation uses the next time this particular SLO is assessed.

NEW: PART II – CLOSING THE LOOP
FOLLOW-UP FROM THE 2013-14 PROGRAM ASSESSMENT REPORT

In response to the university's accrediting body, the [Northwest Commission on Colleges and Universities](#), this section has been added. This should be viewed as a follow up to the previous year's findings. In other words, begin with findings from 2013-14, and then describe actions taken during 2014-15 to improve student learning along, provide a brief summary of findings, and describe possible next steps.

PLEASE NOTE: The College-Level Synthesis report includes a section asking Deans to summarize which programs/certificates have demonstrated "closing-the-loop" assessments and findings based on the previous year's assessment report.

***Working definition for closing the loop:** Using assessment results to improve student learning as well as pedagogical practices. This is an essential step in the continuous cycle of assessing student learning. It is the collaborative process through which programs use evidence of student learning to gauge the efficacy of collective educational practices, and to identify and implement strategies for improving student learning." Adapted 8.21.13 from <http://www.hamline.edu/learning-outcomes/closing-loop.html>.*

1. Student Learning Outcome(s) assessed for 2013-14

Students will demonstrate a knowledge of major concepts in the areas of inorganic, organic, analytical, and physical chemistry.

2. Strategies implemented during 2014-15 to improve student learning, based on findings of the 2013-14 assessment activities.

No changes to curriculum have been made, since the results were already satisfactory.

3. Summary of results (may include comparative data or narrative; description of changes made to curriculum, pedagogy, mode of delivery, etc.): Describe the effect of the changes towards improving student learning and/or the learning environment.

N/A

4. What further changes to curriculum, pedagogy, mode of delivery, etc. are projected based on closing-the-loop data, findings and analysis?

None.

Definitions:

1. **Student Learning Outcome:** The student performance or learning objective as published either in the catalog or elsewhere in your department literature.
2. **Overall evaluation of progress on outcome:** This checklist informs the reader whether or not the SLO has been met, and if met, to what level.
3. **Strategies and methods used to gather student performance data,** including assessment instruments used, and a description of how and when the assessments were conducted. Examples of strategies/methods: embedded test questions in a course or courses, portfolios, in-class activities, standardized test scores, case studies, analysis of written projects, etc. Additional information could describe the use of rubrics, etc. as part of the assessment process.
4. **Observations gathered from data:** This section includes findings and analyses based on the above strategies and methods, and provides data to substantiate the distinction made in #2. For that reason this section has been divided into parts (a) and (b) to provide space for both the findings and the analysis of findings.
5. **Program changes based on the assessment results:** This section is where the program lists plans to improve student learning, based on assessment findings, and provides a broad timeline of how and when identified changes will be addressed in the upcoming year. Programs often find assessment is part of an ongoing process of continual improvement.
6. **Description of revisions to the assessment process the results suggest are needed.** Evaluation of the assessment plan and process itself: what worked in the assessment planning and process, what did not, and why.

Some elements of this document have been drawn or adapted from the University of Massachusetts' assessment handbook, "Program-Based Review and Assessment: Tools and Techniques for Program

Improvement” (2001). Retrieved from
http://www.umass.edu/oapa/oapa/publications/online_handbooks/program_based.pdf