Natural Sciences Division SLO Committee Meeting
April 22, 2014

Present: Nancy Freeman, Stephen V. Lloyd, T. James Noyes, Susana Prieto, Margaret Steinberg

STATUS REPORTS

All departments represented at the meeting (Astronomy, Biology, Earth Sciences, Life Sciences, Physics) have plans in place to assess the courses on the timelines by the end of the spring 2014 semester. Life Sciences has already assessed their SLOs and is analyzing the data.

Department representatives reviewed the printouts from TracDat with the courses to be assessed in spring 2014, and verified that the information in TracDat is correct.

GATHERING THE DATA NEED TO IDENTIFY ACTIONS THAT WILL IMPROVE STUDENT OUTCOMES

Committee members discussed the kinds of data that need to be recorded and analyzed to produce concrete actions for improving student outcomes. Total scores are useful for determining if the target standards are met, but are not very useful for identifying which actions should be taken to improve student learning. In addition to recording total scores, we need to identify students' typical errors or misunderstandings (e.g., the wrong answers they select most often, the characteristics place them as the lowest levels of a rubric).

The committee members strongly agreed about the need to be efficient: every paper does not need to be looked at in detail, every error does not need to be counted or tabulated. Instead, we need to identify trends and patterns, much as we do when we grade the assessments in our classes.

If there are many sections of the course, perhaps each professor could pick out 5-10 papers per course at random (a sample) and record students' responses to individual questions. Then, the results from many sections could be combined together for analysis. (This was David Marshall's advice in his flex day presentations in Fall 2013.)

If there are few sections or only one section of a course, the professor(s) could "eyeball" which questions students did most poorly on and their common mistakes or misunderstandings, much as they do when they grade their own assessments. It is not necessary to count exactly how times each mistake or misunderstanding takes place. Simply reporting that "the most common errors were…" in the data section of SLO reports is sufficient.

Also, instructors should not simply focus on where students did poorly. When writing an SLO assessment report, one should also mention what students did successfully. In this case, future actions may be to assess some other aspects of the SLO - or even to retire the SLO and write a new one - if there is no need or room for significant improvement.

GATHERING DATA FOR PLOS

Committee members discussed how to identify and distinguish between students at different stages within a program as part of PLO assessment. This can be challenging for many programs because students are not required to take courses in a specific sequence. In this case, some kind of survey questions probably need to be included on assessments (e.g., which courses in X - if any - have you taken before taking this class?)

Submitted by T. James Noyes