

Step 1. Creating an Assessment Plan

Tips:

- Plan to assess no more than 1 or 2 PLOs in a given semester or year for each degree offered.
- Aim to assess all PLOs over a 5 to 7 year period for non-accredited programs and over the accreditation cycle for accredited programs.
- There are faculty-created rubrics available from the AAC&U and linked in the resources area that can be used as is or as a starting point to assess the big themes in program learning outcomes.
- Use the curriculum map to identify courses where students are expected to demonstrate mastery of a PLO. Use student work from this course for the assessment.
- In addition to samples of student work and the rubric, the prompt or description of the requirements for the student work and representative examples of work that demonstrate high achievement, moderate achievement and low achievement of the PLO are needed for the assessment work.
- The number of samples and size of the committee should be optimized to allow the work to be done in 1 to 2 days, including calibration and practice with the rubric, assessment, compiling and discussing results. The time between the rubric calibration process and the assessment of the work should be minimized.

Timeline: Early in the fall semester, develop the plan (PLO, course, assignment, number of samples to collect, members of the assessment team, identification of the rubric) with the goal of getting the work from the instructor of the course at the end of the term.

- During the semester, the assessment team should identify/develop, discuss and modify the rubric to use for the assessment.
- When the student work is collected, set aside a day or two (depending on the complexity of the student work, the number of samples and the number of people on the team) to do the work, including rubric calibration and discussion, and actual assessment.
- Time will be needed to analyze and interpret the data, to identify findings and make recommendations.
- During the spring semester, discuss the data with faculty, develop some conclusions and recommendations, celebrate achievements, and devise a plan to address any challenges identified from the assessment. Write up the annual assessment report, due in April.

Communicate the assessment plan widely to all faculty, but especially to faculty teaching the course that is used to assess the PLO.

- Advance notification and agreement about which assignment to collect and how those assignments are selected needs to be communicated to faculty teaching the course that is being used for assessment.
- In addition to the assignment, the assignment prompt and any guidelines provided to students should be made available to the assessment team.

How to frame an assessment conversation. It should be emphasized that the purpose of the assessment is to determine how well students have learned a particular PLO.

- Keep the assessment process focused on how well students demonstrate what they have learned and on using the findings to suggest ways in which students can be better supported to learn.
- Remember that each PLO is supported by multiple courses in the curriculum (see your curriculum map). A mismatch between the course and PLO anywhere along the path could show up as poor results when assessment of that PLO is done.
- It is important to stress the collective responsibility of the curriculum (all courses that support a PLO) in helping students achieve expected levels of learning.

- Keep the focus on meeting students where they are and supporting them to achieve desired levels of achievement.
- Ask not only how to get the students ready for the degree. Ask also about how the degree can get ready for the students.

Engage faculty on the assessment team. The length and complexity of the assignment to be used and the number of artifacts to evaluate should be taken into account to determine the number of faculty on the team. It's good to have at least two people independently assess each piece of student work.

- Consider having a standing assessment committee or recruit people on an ad hoc basis. Should assessment be rotated through faculty to even the load, or would it be more advantageous to have people who are more specialized in assessment?
- Consider recognizing participation in program assessment and curricular improvement as contributing favorably towards tenure and promotion. While inclusion of assessment work can be part of the service expectations, explicitly addressing the work of assessment in RTP can be a way to encourage more robust participation.
- Faculty and lecturers teaching courses that are used to assess PLOs need to be aware of their responsibilities for the assessment work, including any decisions about the student work to be used for the assessment and about providing student work for the project.
- Is there a mechanism to engage lecturers in the assessment process either on the assessment team or as part of the discussion of the findings?
- If assessing work from a particular class, it can be a good practice to invite the instructor of the course to participate in the assessment, to minimize any possible feeling that they are being assessed, to take advantage of their expertise in the course content and approach, and because they are likely to be the most direct beneficiary of what is learned during the assessment process.

Identify the assignment or instrument that will be used to assess each PLO. Aim to assess students who are close to graduating.

- Direct measures are works completed by students, such as written reports, embedded assignments, capstone projects, ePortfolios, poster or oral presentations.
- If there is a capstone project that will be used for assessment, take some time to evaluate the prompt and requirements of that project to make sure the assignment will align with the PLO being measured. If this is done early in the semester, changes to the requirements can be made in time to optimize the match between assignment and assessment.
- Agreements about assignment requirements for assessment need to be clearly communicated with the instructors of a course.
- Indirect measures include surveys that ask students to self-report on competencies and skills gained. Graduation surveys work well for this. Self-reflection papers asking students to write about what they've learned and how they've learned it can also be valuable indirect assessment for departments.

Develop a rubric to assess student work. Write or adapt a rubric to be used to assess the PLO. AAC&U has a series of VALUE rubrics which are available on the annual assessment help site (where this document was found) that cover big topics like critical thinking. Disciplinary-specific topics may require original work, though there may be examples out on the internet somewhere that will turn up with a search. The faculty engaged in assessment should review and adapt the rubric.

- The creation of the rubric should be done before looking at any assignments so that the rubric represents more objectively the desired levels and dimensions of learning associated with the PLO.
- Rubrics should have an even numbered scale (e.g. 1 to 4) to assess the level of achievement to avoid a tendency to assign the middle score when there is an odd numbered scale (e.g. 1 to 5).

- A 4 point rubric is preferred to a 5 point rubric to reduce the tendency to think of the rubric scale as corresponding to letter grades.
- Discuss and resolve any ambiguous language or possible subjective interpretations of the rubric. Modify as needed.

During the rubric normalization process, the rubric can be tweaked based on an evaluation of an initial set of assignments.

How many sample assignments to select? Most guidelines recommend evaluating assignments from 10% of the students or 10 students, whichever is more.

- The length and complexity of the assignments and the size of the committee should be taken into account for the sample size.

Selecting samples of student work to assess. If classes are small, then assignments from all students can be evaluated (census sampling). If assessment is being done from a large class, there are four ways that samples can be selected:

- Simple random sampling: Order the roster by ID and randomly select assignments from students in the course using a random numbers table or random number generator or drawing IDs from a hat.
- Stratified sampling: sort students into groups and then select randomly from those groups. This approach is useful to make sure that all groups are represented in the population, such as selecting from sections that are taught in a different format (online vs in person) to make sure the representation from each format is present.
- Systemic Sampling: select the n^{th} student from a list. For example, if you have 100 students and want 20 artifacts, select every 5th student from a list alphabetized or ordered by student ID.
- Cluster Sampling: randomly select sections from a multi section course and evaluate all assignment in that section. For example, if you have 15 sections of 30 students and want to evaluate 90 assignments, randomly select 3 sections for the assessment and assess work from all students in those 3 sections.

Prepare student work for assessment.

- Redact student names and IDs from the work. If using student work from multiple sections of a course, redact any information about the section of origin. Redact course information and instructor names if this information is not known to the team doing assessment.
- Assign a letter or number to the paper so that the papers can be easily referred to by letter or number.
- Make copies of work for reviewers as needed.

Next: Step 2 – Assessing a PLO

Step 2. Assessing a PLO

The assessment plan is in place, the rubric has been developed, the student work has been collected. Now it's time for the assessment team to do the assessment.

The team should set aside a block of time to do this work and not try to fit this work around normal activities. The number of artifacts and size of the committee should be optimized to allow the work to be done in 1 to 2 days. The time between the rubric calibration process and the assessment of the PLO should be minimized. The requirements of the assignment, and any information given to students about the assignment should be available for the assessment committee.

Rubric Calibration: The assessment team should spend some time practicing using the rubric on some representative assignments before doing the full assessment. If possible, identify an assignment that the instructor thinks demonstrates high achievement of the PLO, one that demonstrates intermediate achievement, and one that demonstrates low achievement. If not already done when the rubric was first developed, review and discuss the rubric, identifying and clarifying any ambiguous or subjective language. Then have the entire group read the same articles and apply the rubric, keeping the following in mind:

- This is not grading. The assignment is being evaluated against the dimensions of the rubric, not against other assignments. The assignment is not being evaluated as a whole or holistically, but is being evaluated against specific dimensions of skills and knowledge that contribute to the PLO.
- Do not add the scores given in each dimension of the rubric together to get a total score, and do not average the scores given in each dimension. Each dimension of the rubric, representing a different aspect of the skills and knowledge needed to demonstrate the PLO, should be evaluated independently.
- Do not give half scores.

After the group has assessed one assignment, discuss the results:

- Tabulate the score for each dimension of the rubric for each evaluator.
- Share and discuss the results as a group.
- Share the thinking that led to different scores in the same area.
- Clarify and modify the rubric to contribute to a better consensus interpretation.
- Do not force consensus – it is acceptable for scores to be within 1 point of each other. But if there are scores that are 2 or more points off (e.g. scores of 1 and 3), further discussion is needed to come to a more common agreement of a consistent interpretation and application of the rubric.

Repeat the group assessment with another piece of work. If all scores are within 1 point of each other, then assessment can begin. If not, continue the discussion.

Decide on benchmarks of achievement. What level of achievement do you want students to demonstrate for each dimension of the rubric?

- Do you want 80% of the students to achieve the highest score for a particular dimension of the rubric and no one to achieve anything below the 2nd highest score? Or do you want 80% of the students to score 3s and 4s, with no one scoring less than a 2?
- Is the level of achievement the same for each of the dimensions of the rubric or will it be different?

Assess the assignments. Assign two evaluators to each sample of work.

- **Review.** Each evaluator reviews the work and applies the rubric. Record scores and comments on the **Individual Rating Sheet** (available on the resource page where this document was found).
- **Conference.** Compare your ratings with your partner's ratings for each paper. You can do this for each paper as you finish them, or after the full set is done, whichever the two reviewers prefer. There is an

Agreement Worksheet to facilitate the conference. The goal of the conference to determine if inter-rater reliability suggests that the assessment is reasonably consistent or if reconciliation is needed.

- Inter-rater reliability is a measure of the consistency of ratings across multiple evaluators. Minimal agreement is needed on 75% of the dimensions of a rubric, which means the individual scores can be accepted as given with no discussion or reconciliation needed.
 - The goal for inter-rater reliability is to have each dimension rated within one point of each other by the two evaluators for 75% of the dimensions (e.g. on 3 of the 4 dimensions).
 - If there is more than one dimension in which there is no agreement within one point, then a discussion of how the rubric was applied is needed to see if reconciliation can be reached. If one or the other person is comfortable, upon discussion and review, to modify their rating to bring the two ratings within one point of each other, then modify that rating and report the modified scores on the final rating sheet. If reconciliation is not possible, report the scores and provide information about why reconciliation was not possible.
- **Transfer** scores to the **Final Rating Sheet** and share copies with all members of the assessment team.

Interpret the evidence. This discussion can be done by the assessment team before a meeting with all faculty to share the results, with the faculty as a whole, or in whatever combination of participants makes the most sense. The end result, however, is to discuss the results with the faculty, identify and celebrate good outcomes, make recommendations to address any challenges identified, and plan the implementation of those recommendations.

Are students meeting the benchmarks decided upon and demonstrating the expected level of learning?

- Determine if the benchmark is being met for each element of the rubric on the **Benchmark Worksheet**.
- What student learning can you celebrate and why?
- What challenges to student learning were identified? What are the possible origins of those challenges?
 - Discuss the benchmarks. Are the benchmarks reasonable or too ambitious?
 - Discuss the alignment between the work evaluated and the PLO. Are changes needed in the assignment for better alignment? Does the PLO clearly articulate the intended outcome or does it need to be revised?
 - Discuss any deficiencies in the rubric used for the assessment. How can the rubric be improved?
 - Discuss how the curriculum supports student learning of the dimensions of the PLO. Is sufficient time devoted to the introduction and development of the PLO across the curriculum (the curriculum map can help with this analysis)?
 - Discuss the placement of the course within the curriculum and the expected roadmap students follow to get this course. Is the pathway defined so that students take courses in the best sequence with minimal gaps between sequenced courses and no concurrent enrollment in courses that should be taken sequentially?
 - Discuss the content and approach taken in the course. Are students where they need to be to demonstrate the PLO? Is the course either assuming too little or too much of the students? Is better alignment possible through intermediate assignments, additional opportunities for practice, refinement of the work being assessed?
- What are some solutions to the challenges identified? How can these solutions be implemented?
- What adjustments are needed to the assessment plan or process? How can assessment work more smoothly next year?
- What are the recommendations for closing the loop on this assessment?
- What are the recommendations for the next PLO to assess?

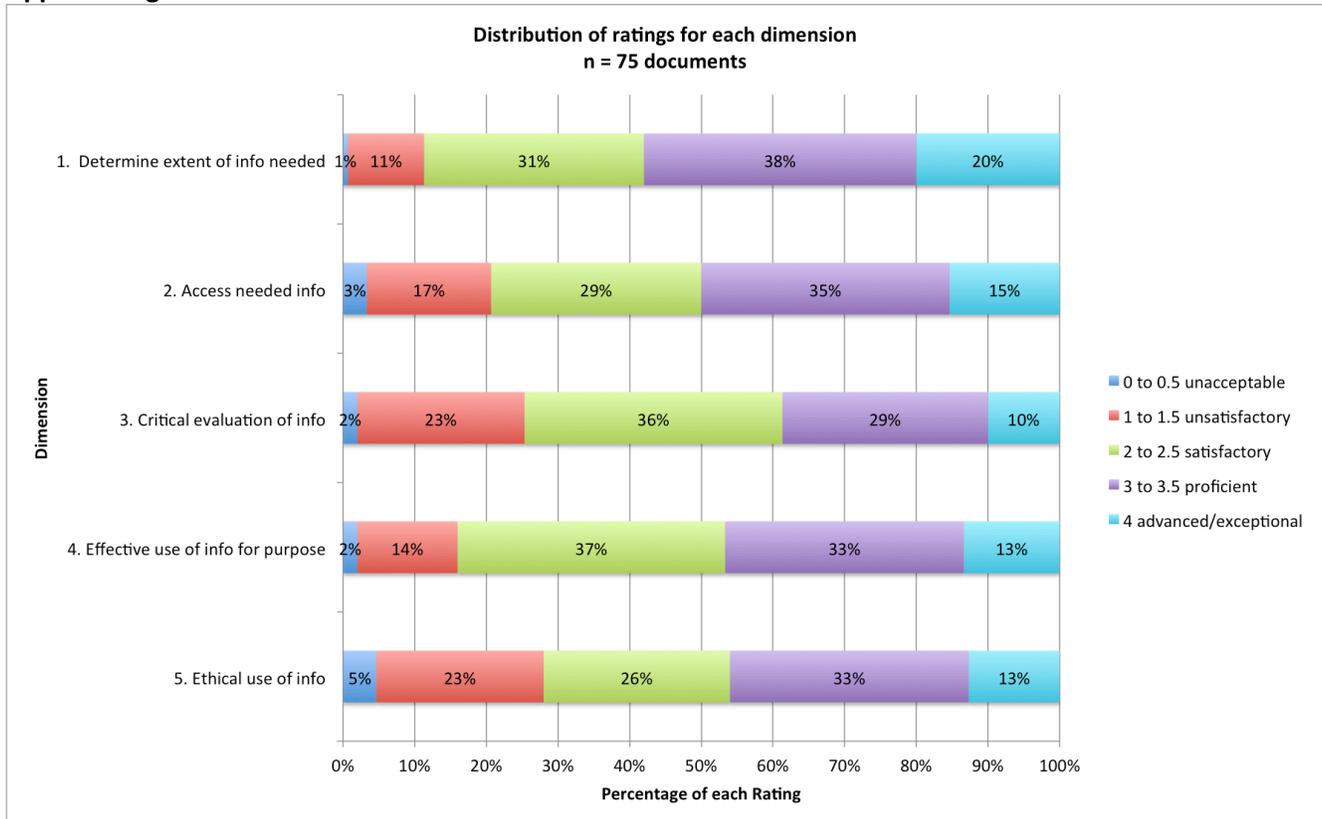
Next Step: Sharing Results and Closing the Loop.

Step 3. Sharing Assessment Results

The assessment work is complete. Now it is time to share and discuss the results with your colleagues, identify any steps needed to improve outcomes and implement those steps.

It can be helpful to present the data from assessment graphically. An example from an assessment of Information Literacy is provided below:

Figure 1. Distribution of ratings for each dimension for all 75 documents. Benchmark: to have 80% of students rated at 2 or better for each dimension. Benchmark achieved for dimensions 1 and 4. Approaching benchmark for dimension 2. The most work is needed in dimensions 3 and 5.



Sharing and discussing assessment results. Share the results with colleagues in whatever way works best for the culture of the department. Some suggestions include:

- Present the assessment plan and discuss the process.
- Present the results, including benchmarks.
- Prepare a summary of preliminary findings and recommendations to initiate the discussion.
- Celebrate achievements.
- Point out challenges identified and discuss the possible origins of those challenges.
 - Discuss the benchmarks. Are the benchmarks reasonable or too ambitious?
 - Discuss the alignment between the work evaluated and the PLO. Are changes needed in the assignment for better alignment? Does the PLO clearly articulate the intended outcome or does it need to be revised?
 - Discuss any deficiencies in the rubric used for the assessment. How can the rubric be improved?

- Discuss how the curriculum supports student learning of the dimensions of the PLO. Is sufficient time devoted to the introduction and development of the PLO across the curriculum (the curriculum map can help with this analysis)?
- Discuss the placement of the course within the curriculum and the expected roadmap students follow to get this course. Is the pathway defined so that students take courses in the best sequence with minimal gaps between sequenced courses and no concurrent enrollment in courses that should be taken sequentially?
- Discuss the content and approach taken in the course. Are students where they need to be to demonstrate the PLO? Is the course either assuming too little or too much of the students? Is better alignment possible through intermediate assignments, additional opportunities for practice, refinement of the work being assessed?
- Present and discuss possible solutions to the challenges identified.
- Create a plan and timeline to implement possible solutions to the challenges, including identifying the people willing to take on the implementation.
- Discuss any recommendations to improve the assessment process going forward.
- Discuss the plan for assessment of the next PLO or the other assessment activity for the next year.

Summarize the assessment work by completing the Assessment Findings report (or your own version of that report). Share it with colleagues and submit it to academic planning (see the templates and submission area on the site this document was found on for the template and submission link).

Individual Rating Sheet – for each set of papers **Name** _____

Ratings: 4 - exemplary; 3 - proficient; 2 - satisfactory; 1 - unsatisfactory

Paper Number	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5

Paper _____	Comments about ratings:
Dimension 1	
Dimension 2	
Dimension 3	
Dimension 4	
Dimension 5	

Paper _____	Comments about ratings:
Dimension 1	
Dimension 2	
Dimension 3	
Dimension 4	
Dimension 5	

Paper _____	Comments about ratings:
Dimension 1	
Dimension 2	
Dimension 3	
Dimension 4	
Dimension 5	

Agreement worksheet (if needed)

Paper number: _____

Background Information:

Inter-rater Reliability Benchmarks – the scores given by two reviewers should be within 1 point of each other on at least 75% of the rubric dimensions.

Number of Ratings	Minimal Agreement
4 or fewer dimensions	3 out of 4 dimensions (75%)
5 – 7 dimensions	4 out of 5 dimensions (80%) 5 out of 6 dimensions (83%)

Agreement Analysis: For a pair of ratings in a given category, if the individual ratings are identical or within one level of each other (i.e. 3 and 3 or 3 and 2), then there is agreement for that category and inter-rater reliability is acceptable.

Example for a 5 dimension rubric:

dimension	rater 1	rater 2	agreement (1 = agreement; 0 – no agreement)
1	2	2	1
2	3	1	0
3	3	3	1
4	4	3	1
5	2	1	1
agreement ratio:			4/5 (80%) <i>acceptable inter-rater reliability</i>

Agreement Analysis:

Ratings: 4 - exemplary; 3 - proficient; 2 - satisfactory; 1 - unsatisfactory

Rubric dimension	rater 1	rater 2	Agreement – enter 1 if ratings are within 1 pt of each other or 0 if ratings differ by more than 1 pt.
Dimension 1			
Dimension 2			
Dimension 3			
Dimension 4			
Dimension 5			
agreement ratio			sum of "1"s in column / no. of dimensions

Conference: If the agreement ratio is less than 75%, then please discuss the dimension(s) for which there is no agreement. Focus on how the rubric was applied to that dimension and see if either reviewer would be comfortable modifying their rating to bring the ratings into agreement (within 1 point of each other). If so, please report the **modified** score on the final rating sheet and indicate in that sheet what was modified. Please do not change the initial score on the individual rating sheet.

If reconciliation is not possible, please report the original scores on the final rating sheet and provide comment about the conference process.

Final Rating Sheet after discussion and any reconciliation of scores.

Ratings: 4 - exemplary; 3 - proficient; 2 - satisfactory; 1 - unsatisfactory

Paper Number	dimension	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5
	rater 1					
	rater 2					
	rater 1					
	rater 2					
	rater 1					
	rater 2					
	rater 1					
	rater 2					
	rater 1					
	rater 2					
Was a conference needed to bring scores within one level? If so, indicate which dimensions by number. If not, leave blank.						

Please provide (brief) comments about ratings if needed on other side of sheet.

Paper Number		Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5
	Comments					
	Comments					
	Comments					
	Comments					
	Comments					

Benchmark worksheet. For each dimension report the number and % of scores received for each rating.

What are the benchmarks for each dimension?

Dimension	Benchmark
1	
2	
3	
4	
5	

Dimension	Total ratings for each dimension	Number of 4s	% of 4s	Number of 3s	% of 3s	Number of 2s	% of 2s	Number of 1s	% of 1s	Benchmark met?
1										
2										
3										
4										
5										