

Educational Outcome Assessment at CWRU

A brief guide to assessment plans for academic programs

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This brief guide presents recommendations to academic programs on creating and/or refining assessment plans that reflect good practice, provide information for improvement and decision-making, and supply evidence that the educational mission of the university is being fulfilled.

The Context for Educational Outcome Assessment

In the 1996 Case Western Reserve University "Plan for Assessment of Student Learning and Academic Achievement" the university faculty created and endorsed a framework for an ongoing, evolving assessment process to improve teaching and learning. The current "Philosophy Statement on Educational Assessment," approved by the Faculty Senate in 2004 (and most recently reviewed in 2019), reiterates this focus on measuring the impact programs have on CWRU students for improvement and for enhancing the university:

Case Western Reserve University commits to a comprehensive educational outcome assessment program, wherein we measure how our students have changed, what knowledge has been learned, and what competencies have been developed. Our educational outcome assessment programs will not only provide information on how well we are achieving our objectives, but also identify what types of programs and experiences have the most powerful impacts. The ultimate goal is to incorporate continuous evaluation into the educational culture for the improvement of programs and for enhancing the distinctiveness of our university.

Educational outcome assessments will be based on the core vision of each school and the university as a whole. The faculty, empowered by adequate resources and support to carry out assessment activities, accepts that educational outcome assessment is a part of academic duties. Outcome assessment is embraced as a means that can lead to improvements in teaching and learning, plus provide evidence of teaching effectiveness for institutional purposes. (CWRU 2018-19 General Bulletin, <http://bulletin.case.edu/about/accreditation/>)

As stated in the university mission, CWRU "improves people's lives through through research that capitalizes on the power of collaboration and education that dramatically engages our students," realizing this goal in part through "active, creative and continuous" learning. The university vision statement also expands upon that goal to describe that CWRU will "provide students with the knowledge, skills and experiences necessary to become leaders in a world of rapid change and increasing interdependence" (CWRU 2018-19 General Bulletin). Themes of academic excellence are also woven throughout the university's new strategic plan, *Think Beyond the Possible*, as well. From engaging in pedagogical and curricular innovations to sustaining and expanding upon CWRU's academic strengths, educational outcome assessment provides essential data to inform decisions and strategies. In addition to providing crucial information for internal improvements, the assessment process also provides evidence to external stakeholders that the university is fulfilling its educational mission.

The university's accrediting body is the Higher Learning Commission (HLC). As part of maintaining accreditation, the institution is required to provide evidence that it meets federal requirements as well as the HLC's accreditation criteria. Federal law requires that a higher education institution undergoing accreditation provide evidence of "success with respect to student achievement in relation to the institution's mission." A statement endorsed in July 2013 by a collection of national higher education associations and regional accrediting commissions ("Principles of Effective Assessment of Student Achievement" <http://tinyurl.com/m7solc6>) sets an expectation that all institutions should be able to provide evidence of success in three domains: evidence of the student learning experience (describe the targets for the kinds of experiences students are expected to have inside and outside of the classroom), evaluation of student academic performance (have defensible standards for evaluating whether students are achieving curricular goals) and post-graduation outcomes (articulate how students are prepared for successful careers, further education and provide data about whether these goals are met). The HLC explains "This statement is intended to emphasize the need to assess effectively student achievement, and the importance of conducting such assessments in ways that are congruent with the institution's mission" (<http://www.higherlearningcommissionc.org/>).

The wording of the accreditation criteria is intentionally broad in order to fit the wide variety of academic institutions the HLC serves. As a result, no specific methods of assessment are endorsed or preferred by

the HLC. However, there is an expectation for assessment processes to reflect good practice and to be deeply embedded in an institution's regular activities:

Criterion 4, Core Component 4B: The institution demonstrates a commitment to educational achievement and improvement through ongoing assessment of student learning.

1. The institution has clearly stated goals for student learning and effective processes for assessment of student learning and achievement of learning goals
2. The institution assesses achievement of the learning outcomes that it claims for its curricular and co-curricular programs
3. The institution uses the information gained from assessment to improve student learning
4. The institution's processes and methodologies to assess student learning reflect good practice, including the substantial participation of faculty and other instructional staff members

Barbara Walvoord (2011), a nationally renowned expert on assessment, states: "Accreditors, no matter how many pages of guidelines they publish, require three steps of assessment: 1) Articulate goals for student learning in this format: at the end of this program, students will be able to...; 2) Gather information about how well students are achieving the goals, 3) Use that information to inform decisions and actions" (p. 337). This statement is true in its entirety. The intent of this brief guide is to identify where Case Western Reserve University currently is in this process, and to provide more detailed suggestions for how schools and the College can successfully complete these three steps.

Assessment of Educational Outcomes at CWRU

A review of existing documents, findings from the Assurance Taskforce, discussions with the Outcome Assessment Coordinating Committee and meetings with each school suggest the following summary of the current status of assessment at CWRU:

- A university assessment plan and an assessment philosophy statement are in place.
- School plans are in place in varying formats, but in some cases may be out of alignment with current assessment practices.
- Reporting of assessment results occurs primarily to professional accrediting bodies and to committees within schools.
- Programs range from mature assessment processes to having little apparent evidence of measurable learning outcomes or using assessment for improvement.

Depending on where a particular program is in their ongoing assessment process, the following steps may be necessary to demonstrate that assessment efforts are effective for quality assurance and improvement:

1. Create or update student learning outcome statements for academic programs.
2. Describe when, where, and how student learning takes place in programs (curricular and co-curricular experiences linked to intended outcomes).
3. Update program assessment plans and draft new ones where needed (see template example on page 8).
4. Compile existing documentation of assessment activities, the use of assessment results to inform program improvement, and the success of graduates. Utilize existing reports whenever possible, particularly those created for professional accreditation activities. Committee reports or meeting minutes may also provide a good source of evidence of student learning assessment. An online repository such as a Google site provides an easy way to access documents for planning purposes as well as to locate evidence of student learning when needed.

Student Learning Outcome Statements

Accrediting bodies and assessment practitioners alike use a variety of terms when referring to the outcomes of the educational process. Terms like “competencies,” “educational objectives,” “characteristics of the graduate,” “performance/behavioral indicators,” “abilities,” or “learning goals” may be used when describing what students are expected to learn. Regardless of the terminology used, the expected student learning outcomes for academic programs need to be articulated in a way that permits them to be measured in order to improve upon educational quality of those programs.

Discussion about the outcomes of academic programs often includes a combination of outputs and learning outcomes. The following definitions are provided to help clarify the difference between these elements:

- Program output - indirect evidence of learning that quantifies the completion of something assumed to be associated with learning, often examined at the student cohort level
 - Example of a program output: credit hours completed, grades, degrees produced, retention and graduation rates
- Educational goal or objective - a somewhat general statement of *intent* that includes information about learning parameters, process and content
 - Example of an educational goal/objective: Students in our program will learn about the major theoretical perspectives in psychology
- Student learning outcome statement - a specific description of what a student will be able to do as a *result* of the positive impact on or change in knowledge, skills or attitudes/values produced by learning, and the focus of assessment. An outcome can be thought of as a demonstrated result of learning
 - Example of a learning outcome: Students will be able compare the strengths and weaknesses of major theoretical approaches in psychology for explaining human behavior

Program-level learning outcome assessment measures the degree to which the following statement is true:

As a result of the successful completion of (program coursework, co-curricular experiences or other programmatic activities) a student will be able to (learning outcomes) .

Qualities of learning outcome statements reflecting good practice

- Describe what knowledge, skills, abilities or values students should be able to demonstrate as a result of learning – focus on the end, not the means.
- Use active verbs when possible – avoid words that are difficult to interpret or measure such as “appreciate” and “understand.” Instead, consider the observable behaviors that result from appreciation and understanding.
- Use verbs of appropriate complexity for the level of learning expected – program-level outcomes should be framed in terms of what graduating seniors should be able to do, and allow for distinctions between levels of performance.
- Link to intentional instructional activities and map to the curriculum – determine where particular objectives are introduced, reinforced, and mastered and which assignments allow students to demonstrate this mastery.

- Align with program and institutional goals and mission, as well as professional accreditation standards when appropriate – terminology may differ, but most accrediting standards have some common expectations regarding assessment of learning. Also, while the extent will vary by discipline, some program student learning outcomes will naturally incorporate more advanced versions of general education outcomes since they build upon these skills.
- Be measurable, either quantitatively or qualitatively, by more than one method – allowing for multiple measures helps capitalize on the strengths of a particular assessment approach while helping to compensate for its limitations.
- Be specific enough that they can be assessed, but not so specific that the scope of learning examined is narrowed – a broad outcome such as critical thinking may be too difficult to measure effectively in a way that leads to program improvement, while an outcome that focuses on something as specific as being able to solve a particular type of math problem may not be meaningful when considering overall program outcomes. The level of specificity required for effective assessment may vary depending on the academic area.

Strategies for developing or updating student learning outcome statements

- Review any statements about student learning or characteristics of the graduate in existing program and department mission statements if available and use these statements to start a discussion of what a graduate of the program should be able to do and how it relates to the mission. Determine how courses in the curriculum and co-curricular experiences contribute to these program-level learning outcomes. If these statements do not exist, creating them is a necessary first step in developing learning outcomes for the program.
- Disciplinary and professional organizations may have already developed outcome statements that can be modified and revised to reflect the more specific intentions of a program. AAC&U and other higher education organizations have also established definitions and rubrics for more general outcomes.
- Examine student work, particularly at the midpoint and end of their program of study, and discuss as a program what is important for students to learn.
- Faculty discussion of course-level outcomes and pedagogical strategies in the classroom can provide insight on the curricular strategy and lead to program-level outcome statements. This process can be greatly facilitated by examining (or creating) syllabi that specify course-level objectives or outcomes and can be mapped to the curriculum.
- Examine the individual student path(s) through the curriculum via transcripts to determine when certain milestone achievements and learning occur.

Assessment Processes

As mentioned before, while no specific methods of assessment are endorsed or preferred by HLC, there is an expectation for assessment processes to reflect good practice. “Good practice” will look slightly different depending on the discipline and the type of learning assessed. However, there are several general factors to keep in mind when selecting assessment methods for your program.

Direct vs. indirect measures

For direct measures, students demonstrate their learning in a way that an observer can assess it, such as in exams, performances, presentations and papers. Indirect measures, on the other hand, are ones which are based on perceptions of students (or alumni, or others) about their learning, such as in satisfaction surveys. Both types of measures can provide valuable information about students. It is considered good practice to rely on direct measures of learning outcomes whenever possible, which can then be supplemented by indirect measures to answer the “why” and provide context for the results of direct measures.

Validity and reliability

Two major threats to the quality of data on student learning are the validity and reliability of the assessment methods chosen. Most simply put, validity in the context of assessment refers to the extent to which an instrument measures the learning it is supposed to measure or, as Maki (2010) describes it, "the extent to which a method prompts students to represent the dimension of learning desired" (p. 163). Reliability refers to how consistently a measure leads to the same result after multiple administrations or across multiple scorers/raters. Given that no one test is 100% valid and 100% reliable, knowledge of the strengths and weaknesses of any given approach should be incorporated into the interpretation of the data and balanced in the assessment plan.

Qualitative vs. quantitative approaches

A misconception that sometimes occurs is the belief that accreditors will accept only standardized tests or strictly quantitative comparisons as evidence of learning. Rigorous qualitative approaches should be considered if they provide a better fit for the learning outcome and are within the expertise of the faculty conducting them, although they are often more labor intensive.

Student participation

It is important to choose assessment methods that maximize student participation and motivation by connecting assessment to something students already value. Students are less likely to participate in voluntary low-stakes assessments and are typically less motivated to perform well when they do participate.

Utility

At this point in time the assumption is that most universities have some assessment processes going on and are "closing the loop" in some form, at least by sharing some of that information. Now there is an increasing focus on making the process useful. Much as HLC has done with streamlining the university accreditation process in the Pathways approach and increasing the focus on improvement, the expectation is that universities and their programs are also collecting useful information that is fed back into the programs for improvement.

Strategies for developing assessment processes

- Look at where assessment of student learning already is already taking place within the program. It is likely that faculty are already engaged in examining student learning in a way that could be analyzed or expanded upon as part of a more formal assessment plan.
- Capitalize on existing student assignments and work as the focus of assessment. Determine where learning milestones occur in the curriculum and which assignments require students to demonstrate this learning as a starting point. Usually capstone courses include projects well suited for this purpose.
- Explore existing instruments/approaches to determine if they might be a good fit for learning outcomes. While customizations or new approaches might be required the body of assessment literature is mature enough to include many examples that can be used as a starting point.
- To fit a unique element of the curriculum, create a new method/measure or customize an existing approach.

Assessment Plans

For the purposes of assessing academic programs at CWRU for HLC accreditation, assessment plans should be in place at the level determined within and by each school or College (recommended to be at the department level or level of the major for undergraduates, at the degree level for graduate students) and, again, reflect "good practice."

Qualities of program assessment plans reflecting good practice

- Have clear student learning outcome statements for the program, aligned with program mission, and an indication of where these outcomes are addressed in the curriculum – ideally this takes the form of a complete curriculum map indicating how all courses contribute to the learning outcomes, but a starting point would be to identify courses where particular learning outcomes should be mastered.
- Indicate where each outcome will be assessed – if there is currently no assessment in place for an outcome, start with assessing seniors and then later add a midpoint or milestone assessment based on the curriculum map.
- Include all types of students across all modes of delivery – for larger programs, a representative sample could be used. For smaller programs, a few cohorts of student data might need to be accumulated to identify trends. Given the growth of online and hybrid class formats, special attention should be given to compare student learning across formats for the same course/program to ensure equivalent levels of learning.
- Focus on direct measures of student learning (e.g., rating student work, placement test scores), adding indirect measures (e.g., surveys, interviews) to provide additional context.
- Include multiple measures whenever possible – allowing for multiple measures will balance the strengths and weaknesses of any single assessment approach on its own.
- Measure learning at multiple points in time – a measurement only at the end of the program may not give enough information about how learning is developing over time or give the opportunity to make adjustments to the curriculum where they are needed.
- Articulate a process for collecting and analyzing assessment data – having a clear description of how data collection and storage will occur, and what will be done with the resulting data at the onset allows for more intentional and focused efforts and time savings.
- Include criteria or standards for success set by faculty against which student performance will be evaluated, to provide a framework for interpreting results – a faculty conversation describing the desired learning outcomes for students who have completed the program should create the context in which data are interpreted. A shift away from a general rating of “meets expectations” toward defining what those expectations are leads to more consistent and useful information.
- Describe a mechanism for sharing assessment results in a way that facilitates program improvement, documents the changes made, and includes all stakeholders – given the increasing spotlight on higher education, a communication plan helps a program tell the story of their students’ success to current students, colleagues, potential students, parents, employers, and the general public. In addition to sharing the results of assessment in committee meetings, consideration should be given to additional venues for the sharing of results at levels appropriate for the intended audience.
- Allow for periodic revisiting and revision of the assessment plan – having several years of data collected in the same manner can facilitate the analysis of trends over time, but if a particular approach is not providing the information needed, it should be changed.
- Are sustainable – it is better to have a simpler plan that can be carried out within existing resource constraints than a very elaborate plan that cannot be incorporated into program activities. Additionally, every outcome does not have to be assessed every year, but instead can be placed within a cycle.

Strategies for developing or updating program assessment plans

- Start with articulating questions about student learning that are meaningful and important to faculty.
- Create a curriculum map of where learning outcomes are introduced, practiced and demonstrated if one does not exist.
- Align efforts with requirements from professional accreditors or regular processes such as program review as much as possible.

- Take advantage of existing tools and technology – entering and compiling data by hand can decrease accuracy, enthusiasm, and the time available to explore the data in more depth. Blackboard, Google Apps and Qualtrics all include features that can facilitate assessment, ranging from spreadsheet, rubric, and survey tools to e-portfolios.
- Take advantage of existing data by examining what kinds of information are currently collected about student achievement of specific learning outcomes (typically not grades, since they are more holistic in nature).
- Research external benchmarks to inform setting criteria for student success when appropriate.
- Involve many faculty early on to maximize expertise and insight and to minimize individual workload.

Assessment Plan Template Example

The intent of this example is not to be prescriptive, but to suggest key features of an assessment plan.

| | |
|--------------------------------|---|
| Date: | |
| Contact name: | <i>This will most likely be your current assessment coordinator.</i> |
| Contact e-mail: | |
| School (or College): | |
| School mission: | <i>Ideally, the school mission is aligned with the university mission.</i> |
| Program to be assessed: | |
| Program mission or goals: | <i>Ideally, the program mission is aligned with the college/school mission. If multiple programs are being covered within one assessment plan, the rationale for placing the programs under a single plan should be included here, along with all the corresponding mission statements.</i> |

| Student learning outcomes | Courses intended to contribute to the specified student learning outcome: | Assessment measures | When and how | Criteria for success |
|--|--|--|---|--|
| <i>"As a result of this program, students will be able to..." (one per line). If you list an outcome, it must be assessed.</i> | <i>Use course numbers and titles.</i> | <i>At least one direct measure and one indirect measure should be included in the overall assessment plan.</i> | <i>Describe when and how the assessment will be conducted. Every outcome does not have to be assessed every year.</i> | <i>Specify the standards for how you will know if student achievement is at the appropriate level for each learning outcome.</i> |

Plan for analysis:

Describe the process by which assessment data from the measures above will be collected, compiled, and analyzed. Also include a method of tracking student achievement based on your criteria for success and a process for determining what action steps will be taken as a result of the analysis.

Communication plan:

Describe how assessment results will be shared in order to facilitate program improvement and communicate with constituents.

Resources

For assistance, contact Dr. Mary Quinn Griffin, Assistant Provost for Outcome Assessment and Accreditation (mary.quinngriffin@case.edu)

Additional resources are available at <https://case.edu/assessment/> including a list of the current school and college representatives on the CWRU Outcome Assessment Coordinating Committee.

References

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